Frequently Called Numbers

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**South Dakota State University Non-Discrimination Policy**

It is the policy of South Dakota State University (SDSU) not to discriminate on the basis of race, color, creed, religion, national origin, ancestry, gender, marital status, pregnancy, sexual orientation, age, disability, veteran's status or any other protected class in the offering of all benefits, services, and educational and employment opportunities.

As part of this policy, SDSU has designated a Title IX Coordinator to assist individuals with any concerns about sexual discrimination in education programs or activities. This includes discrimination on the basis of gender in admission to or employment in SDSU's education programs or activities. The grievance process to address these complaints as well as any complaints of discrimination will follow the Board of Regents Human Rights Complaints Procedures.

Discrimination complaints including complaints of harassment or sexual discrimination in educational programs should be directed to: Equal Opportunity Officer/Title IX Coordinator, Human Resources, Administration Building Room 318, South Dakota State University, Brookings SD 57007, Phone 605-688-4128.
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Purposes & Objectives

History & Mission:
The Land-Grant Heritage

Purposes

Educational Objectives

Research, Scholarship, & Creative Activities
Establishment. An act of the Territorial Legislature, approved February 21, 1881, provided that "an Agriculture College for the Territory of Dakota be established in Brookings." The Legislature of 1883 provided for the first building.

The Enabling Act Admitting the State of South Dakota, approved February 22, 1889, provided that 120,000 acres of land be granted for the use and support of the Agricultural College. By the Enabling Act of 1889 Congress granted South Dakota 40,000 additional acres for the Agriculture College in lieu of a grant that had been made to new states in 1841.

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.

Developments. In 1923 SDSU's instructional program was organized under five divisions: Agriculture, Engineering, General Science, Home Economics and Pharmacy. In 1956, the sixth undergraduate division, Nursing, was created and in 1957 all graduate work was organized into a Graduate Division. The University organization was formally recognized when the Legislature changed the name to South Dakota State University on July 1, 1964. At that time the following colleges were created: Agriculture and Biological Sciences, Arts and Sciences, Engineering, Home Economics, Nursing, and Pharmacy as well as the Graduate School. Today SDSU has seven colleges: Agriculture and Biological Sciences, Arts and Science, Education and Human Sciences, Engineering, Honors, Nursing, Pharmacy, and University College, as well as the Graduate School.

In 1974 the College of General Registration (renamed College of General Studies and Outreach Programs in 2001) was established to provide assistance to students who were undecided as to major, were preprofessional, or who wanted a one, two, or four year general studies program. On July 1, 2006, the Office of Continuing and Extended Education was created, thus separating Outreach and Distance Education from the College of General Studies due to the growing college enrollment and an expected increase in the presence of outreach and distance education programs. In 2011, the College of General Studies became University College and the Office of Outreach and Distance Education became the Office of International Affairs and Academic Outreach.

In 1975, the Division of Education was created to provide greater recognition of the part the University plays in preparation of teachers, counselors, and administrators for primary and secondary school systems and higher education. In 1989 this unit officially became the College of Education and Counseling. In 1996, the College of Home Economics became the College of Family and Consumer Sciences to align with the national professional organization (AAECS) and to reflect a newer, more up-to-date image. The proposal to transform the Honors Program into a new and more vital Honors College was approved in May, 1999 and the Honors College was formally inaugurated in the fall of 1999. In 2009, the College of Education and Human Sciences was established. This new college resulted from the combination of the former College of Family and Consumer Sciences and the former College of Education and Counseling. The Health, Physical Education and Recreation department also joined the new college.

In 1994, Land-Grant status was expanded to include tribal colleges and universities. SDSU has developed working relationships with tribal colleges within and beyond the state. Additionally, South Dakota State University is a member of the Sun Grant Initiative that was authorized in the 2002 farm bill. Today SDSU is a national leader in Sun Grant research.

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

The Board implemented SDCL 13-58-1 by authorizing South Dakota State University to serve students and clients through teaching, research, and extension activities. The University's primary goal is to provide undergraduate and graduate programs at the freshman through the doctoral levels. The University complements this goal by conducting nationally competitive strategic research and scholarly and creative activities. Furthermore, South Dakota State University facilitates the transference of knowledge through the Cooperative Extension Service with a presence in every county and through other entities, especially to serve the citizens of South Dakota.

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

Degrees are authorized at the Associate, Baccalaureate, Master, Professional Doctorate, and Doctoral levels.

The following curriculum is approved for South Dakota State University:

A. Undergraduate Programs
   - Associate degree programs in General Studies and Agricultural Science.
   - Baccalaureate programs in the agricultural sciences, aviation, education, engineering and technology, human sciences, humanities and liberal arts, nursing, performing and visual arts, pharmaceutical sciences, physical and biological sciences, and social sciences.

B. Graduate Programs
   - Masters degrees in arts and sciences, agricultural and biological sciences, human sciences, education and counseling, engineering and technology, and nursing.
   - Doctorate of Philosophy degrees in agriculture and engineering, and the physical, biological, and social sciences.
   - Professional programs - the Master of Mass Communication (M.M.C.), the Master of Architecture (M.Arch.), Masters of Public Health (M.P.H.), Doctor of Pharmacy (Pharm. D.), Doctor of Nursing Practice (D.N.P.).

(Mission statement is quoted from Board of Regents Policy 1:10:2, dated May 2011.)
Purposes

In accepting the provisions of the "Morrill Act" of Congress (1862), the State of South Dakota pledged itself to carry out the purposes of the Land-Grant College Act: to endow, support, and maintain one university where a major emphasis is teaching "agricultural and mechanic arts," including "scientific and classical studies," in order to promote a liberal and practical education in the "several pursuits and professions in life."

Within the spirit of the "Morrill Act" and the early legislative acts of South Dakota, the purposes of SDSU are to develop, maintain, and encourage:

1. A strong foundation of general education for all graduates in all majors.
2. Learning in the fields of agriculture; engineering and engineering technology; human sciences; liberal arts; pharmacy; nursing; teacher and counselor education; basic physical, biological, and social sciences; humanities and arts at the undergraduate and graduate levels.
3. Research and scholarship in agriculture; engineering and engineering technology; human sciences; liberal arts; nursing; pharmacy; teacher and counselor education; basic physical, biological and social sciences; humanities and arts at the undergraduate and graduate levels.
4. Extension/outreach programs in agriculture; engineering and engineering technology; human sciences; liberal arts; nursing; pharmacy; teacher and counselor education; basic physical, biological and social sciences; humanities and arts at the undergraduate and graduate levels.
5. Citizenship training and general learning essential for understanding and appreciating and contributing to the American way of life and its relationship to the global community as global citizens.
6. Student self-development in leadership, social, intellectual, recreational, interpersonal, ethical, changeable, socially responsible, and spiritual attributes.
7. Student self-development in international and intercultural understanding consistent with the continually increasing cultural, economic and political interdependence of the modern world.
8. Vocational learning and training in selected areas.
9. Collection, preservation, display and study of artistic, artifactual and documentary materials which are the cultural base for all future programs.
10. Service and social responsibility for the welfare of South Dakota, the region, the nation, and the world.

Educational Objectives

The educational objective of SDSU is primarily to guide each student in attainment of intellectual and professional competence, growth of personal development, cultivation of a sense of social and civic responsibility, and achievement of satisfactory human relationships. Ideally, upon graduation, SDSU students will have attained intellectual autonomy with capabilities to think, read, speak, and write effectively, both within their practiced disciplines and beyond. As individuals on their jobs and as people collectively charged with the responsibility of nurturing a humane, rational, and free republic, our graduates should demonstrate an abiding belief in the value of learning. Graduates should possess both historic and aesthetic perspectives and act in accordance with high ethical and spiritual codes of behavior, even in the face of adversity. Above all, graduates should seek to foster understanding and harmony among their fellow citizens of this diverse nation and world.

Specific objectives that flow from this broad educational objective are:

Intellectual and professional competence is attained when a graduate:
1. Has developed knowledge and skills - including those of clear oral and written expression, evaluative listening and information literacy - required for beginning competence in a vocation or profession.
2. Has acquired those self-reliant character elements that demonstrate a high personal code of ethics and willingness to pursue vocational or professional objectives within a framework of humanitarian and social goals.
3. Has developed the ability to think clearly and speculate imaginatively about both immediate and long-range problems.
4. Is competitive in academic preparation nationally and internationally.

Adequate personal development has been achieved when a graduate:
1. Attempts to reach sound, objective decisions after considering the values and practical and theoretical issues involved, and after exploring reliable sources of information, and then accepts responsibility for these decisions.
2. Has begun to evolve a meaningful personal philosophy of life based upon a growing knowledge of self, a perceptive awareness of the world, and a critical appraisal of relationship to this code.
3. Is change-able, that is, able to embrace change in positive and constructive ways.

A satisfactory sense of social and civic responsibilities has been acquired when a graduate:
1. Has critically examined the ideas of democratic society and their underlying assumptions, which embrace a belief in the worth of the individual, the preservation of free inquiry, free discussion, equality of opportunity, and respect for law.
2. From this examination has applied conclusions to a citizen's role for which he/she keeps informed and attempts to play a constructive role in the dynamics of social change, and the evolving of social and civic values in which she/he believes.
3. Demonstrates social responsibility.

A satisfactory adjustment in human relationships has been achieved when a graduate:
1. Is globally informed and prepared for a diverse world.
2. Supports the dignity of human beings in his/her own and other cultures by respecting their social amenities, rights, abilities, and racial, religious and cultural attributes.
3. Respects the fellowship of many by following the principle of doing to others as he/she would have them do to him/her.

Research, Scholarship & Creative Activities

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

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

Purposes & Objectives
South Dakota State University is classified by the Carnegie Foundation for the Advancement of Teaching as a RU/H Research University (high research activity) and as a national university by most rating organizations. These recognitions reflect the abundant research opportunities available to undergraduate students.

For information, contact Kevin D. Kephart, Vice President for Research, South Dakota State University, Box 2201, Brookings, South Dakota 57007-1998, phone: 605-688-5642, e-mail: kevin.kephart@sdstate.edu.
Admission Policies & Procedures

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Application Procedures

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

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

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

In addition, all transfer applicants must provide:

- Official College Transcript(s)

You must request official transcripts from all non-regental schools you have previously attended. You do not need to have transcripts sent from other SD Regental universities. All transcripts should be sent from the issuing institution directly to the SDSU Admissions Office. If you are currently enrolled at another institution, you may send partial transcripts and be considered for provisional admission until the final transcript arrives.

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

Questions regarding admission can be sent to:
South Dakota State University
Admissions Office Box 2201
Brookings, SD 57007
605-688-4121 1-800-952-3541 (Toll Free)
E-mail: sdsu.admissions@sdstate.edu
www.sdstate.edu

Undergraduate Admission Requirements

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

For admission to a baccalaureate degree program, students must meet requirements A and B:

A. Graduate in the top 60% of their high school graduating class,
   OR
   - Achieve an ACT composite score of 18 (SAT-I score of 870) or above,
   OR
   - Earn a cumulative GPA of at least a 2.6 on a 4.0 scale.
   AND

B. Complete the following required courses with a cumulative grade point average of a "C" or higher (2.0 on a 4.0 scale):

   4 years of English
   - or ACT English sub-test score of 18 or above
   - or AP English score of 3 or above

   3 years of Advanced Mathematics 1
   - or ACT Math sub-test score of 20 or above
   - or AP Calculus score of 3 or above

   3 years of Laboratory Science 2
   - or ACT Science Reasoning sub-test score of 17 or above
   - or AP Science score of 3 or above

   3 years of Social Science
   - or ACT Social Studies/Reading sub-test score of 17 or above
   - or AP Social Studies score of 3 or above

   1 year of Fine Arts for students graduating from South Dakota high schools
   - or AP Fine Arts 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 Advanced math includes algebra or any higher level math.
2 Laboratory science includes biology, chemistry, physics, or other approved science courses in which there is a weekly lab period scheduled.

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

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,
- Achieve an ACT composite score of 18 or above,
OR
Earn a cumulative GPA of at least 2.6 on a 4.0 scale.

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
- Met university minimum progression standards.

**Transfer Students**

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

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

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

**Students who Transfer to Baccalaureate Programs**

A. Transfer students who have completed 24 or more semester credits are eligible for admission if they meet the following requirements:
   - Have a 2.0 (“C”) or higher cumulative grade point average. Students entering the professional program in Education must have a 2.5 GPA. Admission to the professional programs in Nursing or Pharmacy is on a competitive basis.
   - Are in good standing with their most recently attended school.

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

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

**Students who Transfer to Associate Programs**

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

**Former Students**

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

**Non-High School Graduates, including Home Schooled Students**

Applicants who did not graduate from high school must:
- Obtain an ACT composite score of 18, ACT English sub-test score of 18 or above, Math sub-test score of 20 or above, Social Studies/Reading and Science Reasoning sub-tests scores of 17 or above. Students must be at least 18 years of age, or the high school class of which the student was a member must have graduated from high school.
- Complete the General Equivalency Diploma (GED) with the total cumulative standard test scores for all five tests must total 2250 with no standard score below 410.

Applicants under 21 years of age must meet the ACT requirements listed above.

**Non-Traditional Students**

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

**Special Students**

Students who are over 24 years of age and who wish to enroll with a partial load or who do not plan to work toward a degree may be classified as Special Students. Special Students are not eligible to receive federal financial aid.

**Concurrent High School Students**

High school juniors and seniors may be admitted to SDSU as a concurrent high school student once you submit a concurrent admissions application complete with documentation of high school and parent approval.

**U.S. Army Concurrent Admission Program (ConAP)**

SDSU is a participant in the U.S. Army Concurrent Admissions Program (ConAP). This program allows qualified applicants to be admitted to SDSU at the time they enlist in the U.S. Army. For more information contact the local U.S. Army recruiter or the SDSU Admissions Office.

**Regental Policy for Transfer of Credit**

1. Academic courses will be transferred as meeting graduation requirements if the courses parallel the scope and depth requirements for the degree or if the courses meet electives required for the degree. Credit will not be given for duplication of courses.

2. United States Regional Accrediting Associations
   - North Central Association of Colleges and Schools
   - Western Association of Schools and Colleges
   - New England Association of Schools and Colleges
   - Northwest Association of Schools and Colleges
   - Middle States Association of Colleges and Schools
   - Southern Association of Colleges and Schools

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3. **Undergraduate transfer academic courses received from United States colleges and universities accredited by United States regional accrediting associations.**

   - **A.** All undergraduate transfer courses and all transfer grades (whether the grades are passing or not passing) must be recorded and an equivalency specified by the Regental university, calculated into grade point averages according to the Regental grade scheme, and recorded on the student's academic transcript.
   - **B.** Remedial courses (as identified on the sending institution's transcript) received in transfer are recorded, transcripted, and assigned an equivalency at the receiving university but do not calculate into grade point averages.
   - **C.** Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system. (Refer to BOR 2:10, Use of Grade Point Averages).
   - **D.** In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed.
   - **E.** The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.

4. **Undergraduate transfer technical courses received from United States colleges and universities accredited by United States regional accrediting associations.**

   - **A.** University discretion is permitted in acceptance of courses. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
   - **B.** When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the technical institute is not recorded or calculated into the grade point averages.
   - **C.** In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed.
   - **D.** The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.

5. **Graduate transfer courses received from United States colleges and universities accredited by a United States regional accrediting association.**

   - **A.** All graduate transfer courses and transfer grades judged to be acceptable by the evaluating university, are recorded and evaluated by the Regental university, calculated into grade point averages according to the Regental grade scheme, and recorded on the student's academic transcript.
   - **B.** If transfer credits are judged acceptable; these courses will be recorded, and equivalencies granted, using the following guidelines:
     1. If there are specific equivalent graduate courses at the university evaluating the credit, these specific courses should be used when granting equivalencies.
     2. If there are no equivalent graduate courses at the university evaluating the credit, these courses will be recorded, and equivalencies granted, using the following guidelines:
        - **a.** If the academic discipline is available at the university evaluating the credit, but there is no discipline equivalent course, use the discipline prefix and the appropriate course level (700 for masters programs and 800 for doctoral programs).
        - **b.** If the academic discipline is not available at the university evaluating the credit, use the GEN prefix and the appropriate course level (700 for masters programs and 800 for doctoral programs).
   - **C.** Transfer courses not existing in the Regental grading scheme will be equated to the Regental grading system.
   - **D.** In subsequent evaluation, all equivalencies may be re-evaluated, inactivated, or changed. Additional equivalencies may be added and evaluated.
   - **E.** In subsequent evaluation, grades previously recorded cannot be changed.
   - **F.** The university-specific plan of study requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.

6. **Transfer Courses Received from Accredited Postsecondary Technical Institutes.**

   - **A.** An academic course is defined as a course that is equivalent to a Regental general education requirement at the 100 or 200 level.
   - **B.** A technical course is defined as a non-academic course that meets the technical program requirements for a diploma, certificate, or Associate of Applied Science degree.
   - **C.** South Dakota Technical Institutes
     1. **1.** Transfer of academic courses from South Dakota postsecondary technical institutes is governed by BOR policies 2:25, 2:26, 2:27, 2:28, and 2:31.
        a. Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system.
        b. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed.
     2. **2.** Academic courses taken under articulation agreements in effect between July 1, 1999 and June 30, 2005 will be transferred according to those agreements.
     3. **3.** Effective Fall 2005, transfer of technical course credit hours from South Dakota postsecondary technical institutes only occurs as part of a program to program articulation agreement approved by the Board of Regents and South Dakota Board of Education.
        a. The transfer of technical course credit hours occurs as a block of credit hours upon completion of requirements for the university articulated program.
        b. The CR grade is used for the block of technical course credit hours.
   - **D.** Other Technical Institutes
     1. **1.** University discretion is permitted in acceptance of academic courses. Academic courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
        a. When the academic courses are accepted for transfer, equivalent courses are recorded on the transcript.
        b. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
        c. The university-specific degree requirements determine if the academic courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
     2. **2.** Transfer of technical course credit hours from non South Dakota postsecondary technical institutes only occurs as part of a program to program articulation agreement approved by the Board of Regents.
        a. The transfer of technical course credit hours occurs as a block of credit hours upon completion of requirements for the university articulated program.
        b. The CR grade is used for the block of technical course credit hours.

7. **Undergraduate and graduate credits received from United States colleges or universities which are not accredited by a United States regional accrediting association, and undergraduate and graduate credits received from United States colleges or universities which are not accredited by a United States regional accrediting association but are accredited by a national specialized accrediting agency recognized by the US Department of Education.**
A. University discretion is permitted in acceptance of courses. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.

B. When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the non-accredited institution is not recorded or calculated into the grade point averages using the following guidelines:

1. If there are specific equivalent graduate courses at the university evaluating the credit, these specific courses should be used when granting equivalencies.

2. If there are no equivalent graduate courses at the university evaluating the credit, these courses will be recorded, and equivalencies granted, using the following guidelines:
   a. If the academic discipline is available at the university evaluating the credit, but there is no discipline equivalent course, use the discipline prefix and the appropriate course level (700 for masters' programs and 800 for doctoral programs).
   b. If the academic discipline is not available at the university evaluating the credit, use the GEN prefix and the appropriate course level (700 for masters' programs and 800 for doctoral programs).

C. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.

D. The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.

8. Courses submitted in transfer from postsecondary technical institutes that are not accredited by a United States regional accrediting agency will not be accepted.

9. Undergraduate and Graduate Courses from Postsecondary Institutions outside the United States.
   A. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
   B. When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the sending institution is not recorded or calculated into the grade point averages using the following guidelines:
      1. If there are specific equivalent graduate courses at the university evaluating the credit, these specific courses should be used when granting equivalencies.
      2. If there are no equivalent graduate courses at the university evaluating the credit, these courses will be recorded, and equivalencies granted, using the following guidelines:
         a. If the academic discipline is available at the university evaluating the credit, but there is no discipline equivalent course, use the discipline prefix and the appropriate course level (700 for masters' programs and 800 for doctoral programs).
         b. If the academic discipline is not available at the university evaluating the credit, use the GEN prefix and the appropriate course level (700 for masters' programs and 800 for doctoral programs).
   C. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
   D. The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.

10. Credit Received Through Validation Methods
    A. Credit earned through validation methods other than nationally recognized examinations is limited to a maximum of 30 hours of credit for baccalaureate degrees and 15 hours of credit for associate degrees.
      1. Validation of Military credit is limited to an additional 30 hours of credit for baccalaureate degrees and an additional 15 hours of credit for associate degrees.
      2. Credit for college level courses granted through nationally recognized examinations such as CLEP, AP, DANTES, etc., will be evaluated and accepted for transfer if equivalent to Regental courses and the scores are consistent with Regental policies.
      3. Credit received through validation may apply to system general education requirements and institutional graduation requirements.
      4. Credit received through validation may not apply to writing intensive requirements.
    B. Credit for college level courses granted through nationally recognized examinations such as CLEP, AP, DANTES, etc., will be evaluated and accepted for transfer if equivalent to Regental courses and the scores are consistent with Regental policies.
    C. When validation credits are accepted, equivalent courses are recorded on the transcript but are not calculated into the grade point averages.
    D. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
    E. The university-specific degree requirements determine if the validation credits accepted also are applicable to the student's degree program at that university.

11. 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 grade point averages.

12. Total transfer credit for work at a junior, community college (2 year), and/or two-year technical college may not exceed one-half of the hours required for completion of the baccalaureate degree at the accepting institution. Students who have completed more than the acceptable semester hours of junior, community or technical college work may apply completed transferable courses to specific course requirements and thereby may not be required to repeat the courses. The semester hours of credit for those additional courses may not be applied toward the minimum credit hours required for the degree.

13. System general education requirements successfully completed at the sending South Dakota Regental institution will be accepted towards meeting these requirements at the accepting South Dakota Regental institution. In any subsequent evaluation of any transfer or non-course work, equivalencies for system common courses and system general education courses will not be changed.

14. Evaluations of courses will be made by the appropriate institutional officials at the time of admission by comparing descriptions, content, and level of courses completed with those at the accepting institution.

15. Each institution will develop and maintain a procedure for the appeal of transfer credit decisions.

16. A Regental internal transfer process occurs when an undergraduate course is used on a converted credit basis to meet graduate study requirements at Regental universities or when graduate credit is used on a converted or actual credit basis to meet undergraduate degree requirements for a Regental accelerated program. Refer to BOR policy 2:8.3.A and 2:8.3.B.

**Transfer Between Regental Universities**

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

**Articulation Agreements**

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

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

Correspondence Credit

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

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

Servicemembers Opportunity College (SOC)

South Dakota State University has been designated as an institutional member of Servicemembers Opportunity Colleges (SOC), a group of more than 400 colleges and universities providing voluntary postsecondary education to members of the military throughout the world. As a SOC member, SDSU recognizes the unique nature of the military lifestyle and has committed itself to easing the transfer of relevant course credits, providing flexible academic residency requirements, and crediting learning from appropriate military training and experiences. Servicemembers Opportunity College has been developed jointly by educational representatives of each of the Armed Services, the Office of the Secretary of Defense, and a consortium of thirteen leading national higher education associations. It is sponsored by the American Association of State Colleges and Universities (AASCU) and the American Association of Community and Junior Colleges (AACJC).

Admission with Advanced Standing

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

Admission of International Students on Nonimmigrant Visas

SDSU is dedicated to providing educational opportunities for students from abroad and has traditionally enrolled students from over 40 different countries each semester.

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

1. International Student Application
2. Official academic transcripts for all secondary and postsecondary education
3. Official score report for Test of English as a Foreign Language (TOEFL)
4. Financial certification form/supporting financial documentation
5. Application fee of US $20.00

International students generally need to have a secondary or college transfer grade point average of 2.5 for engineering or a 2.25 for other majors. Transfer students from academic programs at other U.S. institutions must have completed at least 25 consecutive semester credits (37.5 quarter credits) at a single institution. A minimum score of 500 on the TOEFL is required for non-native speakers of English (minimum is subject to change). Applicants whose native language is English or those who are from a country where English is the only language are not required to submit results from a TOEFL.

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 scholarships or tuition waivers to international students. Applicants must, therefore, show clear evidence of adequate resources for financing their program of study.

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

International Students have a separate application packet. Complete applications must arrive by: June 1 to be considered for fall admission; October 1 for spring admission, for applicants outside the United States. Applications not meeting the deadline requirement for one semester will remain active and when complete will be considered for the next semester. Contact the International Student Affairs Office for the application packet and further information: International Student Affairs, S 101, SDSU, Brookings, SD 57007. Phone: 605-688-4122; e-mail sdsu.intlstud@sdstate.edu or fax 605-688-6540.

Policy for Transfer of International Undergraduate Credit

College level and advanced secondary level courses taken at international institutions will be evaluated for transfer consideration by an independent credential evaluation service and/or the appropriate institutional officials. Credit will be considered for transfer only when content is determined to be equivalent to SDSU courses. A syllabus from the international institution is required to determine equivalency. No elective credit will be allowed for courses not equivalent to SDSU courses. No English course will be accepted for credit from an international institution. For those international institutions that have an articulation agreement with SDSU, the agreement determines the courses that transfer full credit.

Transfer credit grades from international institutions will not be entered in the cumulative or semester grade point averages, but will be entered on the SDSU transcript as "P" (passing) grades. There will be a limit of 32 credits which may be transferred from international institutions determined to be vocational/technical level programs.

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

14 Admission Policies & Procedures
Non-Native Speakers of English
The Michigan Test of English Proficiency will be administered to undergraduate non-native speakers of English. Testing may be waived with a score of a 600 or higher on the TOEFL.

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 admission and English proficiency requirements may be obtained from the International Student Affairs Office, SAD 101, SDSU, Brookings, SD 57007, Phone: 605-688-4122. E-mail: sdsu.intlstd@sdstate.edu.

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 www.sdstate.edu keywords: residency requirements or by contacting the SDSU Admissions Office at 605-688-4121.
Introduction

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. To the extent possible, the following sections are arranged alphabetically.

Academic Amnesty

Philosophy

Some students attempted college work previously and were not successful in their efforts. They now wish to resume their college careers but are held back by poor academic records. The goal of academic amnesty is to respond to the academic needs of matured 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.

Eligibility

The student must:

- Be an undergraduate, full-time or part-time, degree-seeking student at one of the universities in the South Dakota Regental system.
- Not have been enrolled in any post-secondary institution for a minimum of three calendar years (9 consecutive terms including Fall, Spring, and Summer) prior to the most recent admission to the home institution. Exceptions may be granted in rare cases only by the Board of Regents Vice President for Academic Affairs upon the recommendation by the Vice President for Academic Affairs.
- Have completed a minimum of 24 graded credit hours taken at any Regental university with a minimum grade point average of 2.0 for the 24 credit hours after the most recent admission to the home institution.
- Not have earned a baccalaureate degree from any university.
- Not have been granted any prior academic amnesty at any Regental university.
- Submit a formal Academic Amnesty Petition to his/her home university following the procedures established by that university.

Conditions/Procedure

1. Academic amnesty does not apply to individual courses.
   Academic amnesty may be requested for:
   a. all previous postsecondary education courses, or
   b. all previous postsecondary education courses at a specific postsecondary institution, or
   c. a specified time period not to exceed one academic year (Fall/Spring) completed at any postsecondary institution(s).
2. Academic amnesty, if granted, shall not be rescinded.
3. Courses for which academic amnesty is granted will:
   a. remain on the student's permanent record;
   b. be recorded on the student's undergraduate transcript with the original grade followed by an asterisk (*);
   c. not be included in the calculation of the student's grade point average because no credit is given;
   d. not be used to satisfy any of the graduation requirements of the current degree program.
4. Academic amnesty decisions will be made by the student's home institution, will be honored by all programs within the home institution, and will be honored by all other institutions within the South Dakota Regental system.
5. Universities outside of the South Dakota Regental system are not bound by the academic amnesty decisions made by the South Dakota Regental system.
6. Regental graduate programs and graduate professional schools may consider all previous undergraduate course work when making admission decisions.

Assessment Program

SDSU has a comprehensive Assessment Program to evaluate its educational programs and services. This program is designed to measure the effectiveness of the general education curriculum, the cognitive knowledge and skills acquired in the major program of study, and students' perceptions of their education.

To effectively evaluate programs the University must assess students at various stages of their educational program. Therefore, students are required to participate in assessment activities when requested. Assessment information is collected upon entrance into SDSU and additional assessments occur throughout the academic career. Students participate in an assessment for each major as part of their graduation requirements. For further information contact the Office of Academic Evaluation and Assessment.

Proficiency Examinations

The South Dakota Board of Regents has selected the Collegiate Assessment of Academic Proficiency (CAAP) examination to be administered at all Regental universities. The CAAP assesses knowledge, skills, and abilities in four areas: writing, mathematics, reading, and science reasoning. The proficiency examination will be offered each spring and fall. All degree-seeking students are required to take the proficiency examination during the first semester in which they become eligible. Baccalaureate degree-seeking students will sit for the exam on completion of 48 passed credits at the 100 level or above, and associate degree-seeking students will sit for the exam on completion of 32 passed credits at the 100 level or above. Enrolled students who have already earned a baccalaureate degree are exempt from this requirement if the following conditions are met: 1) the institution awarding the degree is accredited by a United States Department of Education recognized accrediting organization; and 2) the degree required the completion of a minimum of 18 credit hours of general education requirements including the requirements specified in Board Policy 2:7:3 (Lower Division Credit Hour and Course Requirements/Student Proficiencies). A student who chooses not to take the examination will not be allowed to register for two academic terms (fall, spring, or summer) at any Regental institution.

Students failing to achieve the minimum scores established by the South Dakota Board of Regents in one or more areas will be required to develop a remedial plan in conjunction with the remediation adviser and when enrolled, will be allowed two opportunities to retest the failed part(s) during the spring and fall testing periods. For further information contact the Director of Academic Evaluation and Assessment.
Credits

Semester credit hours ("credits") are the numerical values assigned to hours of academic work, according to the amount of time required for lecture or laboratory. One credit is equivalent to 50 minutes of class (lecture, discussion) and two hours of outside preparation per week for one semester.

Typically, two to four hours of laboratory work is assigned one credit hour, depending on the amount of outside work.

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

Examination for University Credit

For students who have studied a subject independently or have done college level coursework for which they are unable to get a transcript acceptable to this institution, they may receive credit through a variety of evaluation programs.

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

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.

NOTE: A grade given at, or transferred to, this university may not be raised by examination for university credit.

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

Nationally Recognized Examinations

Credit may be received in certain subjects through the College Level Examination Program (CLEP), the Excelsior College Examinations, the International Baccalaureate (IB) program, Defense Activity for Non-Traditional Education Support (DANTES), DANTES Standardized Subject Tests (DSST), and the Advanced Placement Program (AP). Participants may be charged a testing fee for each of the testing programs.

In order to have credit earned by examination recorded on the academic transcript, students must complete an "Application for Placement Credit" form at the Academic Evaluation and Assessment Office and pay a recording fee.

University CLEP Policies

Not all courses (credits) earned through CLEP and Advanced Placement (AP) exams may meet the System General Education Requirement and Institutional Graduation Requirements. CLEP and AP exams do not meet the globalization or writing intensive requirements.

Local Challenge Exams

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" form at the Academic Evaluation and Assessment Office 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 the appropriate dean to determine whether credits earned by examination in the proposed subject will be accepted toward the degree.
3. Pay the examination fee before taking the examination. Specific details are enumerated on the application form which is available at the Academic Evaluation and Assessment Office, 688-4217.

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:

- Only one retest is allowed.
- There will be a waiting period of one academic term before retesting may be done.
- The department will administer a test that is completely different from the examination used in the original challenge attempt.
- The petition must be approved by the department head, dean, and Office of Academic Evaluation and Assessment.
- 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.

Challenge By Portfolio

A "portfolio" may be used to document competencies learned through non-transferable courses at Technical Institutes or other institutions if a grade of C or better was earned. A portfolio may also be used to verify skills learned through prior work experiences. A portfolio is a detailed, written document prepared by a student to demonstrate knowledge and skills. A portfolio may contain both prior coursework and employment experiences relevant to the course being challenged. A Challenge by Portfolio application can be obtained through the Academic Evaluation and Assessment Office. Students will need to receive departmental approval and pay a fee prior to portfolio review.

For information about credit through any of these programs contact the Academic Evaluation and Assessment Office. South Dakota State University cannot guarantee that credit earned via exam 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 exam. In some cases, a certain test or score level acceptable at SDSU may not qualify a student for credit at another institution.

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.

Academic Evaluation 19
Dean's List and Honors Designation

Dean's List Designation
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:

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

Honors Designation at Graduation
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 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 Board of Regents policy 2:29.)

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 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 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 BOR Policy 2:29.)

Academic Recognition for Undergraduate, Part-Time Students
Undergraduate, part-time students taking fewer than 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:

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

Modern Language Credit
Students with prior knowledge of a modern language shall take courses commensurate with their abilities. To determine this, the Department of Modern Languages and Global Studies administers a free placement test in French, German and Spanish. Upon completion of any modern language course except Spanish 211 and 212, students with a grade of "C" or higher may receive credit for lower level courses up to 202. Only 14 credits (16 credits in French) may be received in this fashion. Students must apply for this credit at the Academic Evaluation and Assessment Office. A recording fee is charged for each lower level credit hour.

Students who have studied a modern language other than those offered by the Department of Modern Languages and Global Studies may petition to have that study satisfy the modern language requirement for the B. A. degree.

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 Department of Modern Languages and Global Studies and/or the Office of International Affairs before undertaking such study. 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 Department of Modern Languages and Global Studies and/or the Office of International Programs may not receive SDSU credit for these courses.

Credits for modern language for international and non-international native speakers of languages other than English.

Enrollment/Credits not allowed:
1. For native language courses at the 100 and 200 levels (at SDSU or from other institution as transfer credits)
2. For Challenge by Exam® in the native language
3. For CLEP in the native language

Enrollment/Credits allowed:
1. Enrollment/credit may be allowed at the 300 level and above.

Determination of native language skills is typically based on the language used in a student's secondary school instruction. The Department of Modern Languages and Global Studies will determine the appropriate faculty member/s who will have the sole discretion to determine whether or not a student is considered to be a native speaker based on the student's background, experience and level of linguistic competency. Ultimately, the Department has the responsibility to place the student at the appropriate level.
**Grading**

The grading system is based on achievement of expectations in a class. Undergraduate grades will be assigned to the undergraduate academic level and to all courses and sections with course numbers ranging from 001 to 499. Plus and minus grades are not used. A grade report is available for each registered student on WebAdvisor at https://wa-sdsu.prod.sdbor.edu/webadvisor or by requesting an unofficial transcript from the Registrar's Office.

**Undergraduate 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.

**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

**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
- inadequate expression—written or oral—with significant lapses in precision, fluency, and clarity
- numerous and significant errors in grammar, punctuation, documentation, and format

1.00 Grade Points

**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

0.00 Grade Points

**Grade Descriptions and Grade Point Values**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade Point Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Satisfactory</td>
<td>Does not calculate into any GPA</td>
</tr>
<tr>
<td>U</td>
<td>Unsatisfactory</td>
<td>Does not calculate into any GPA</td>
</tr>
<tr>
<td>RI</td>
<td>Incomplete (Remedial)</td>
<td>Does not calculate into any GPA</td>
</tr>
<tr>
<td>RS</td>
<td>Satisfactory (Remedial)</td>
<td>Does not calculate into any GPA</td>
</tr>
<tr>
<td>RU</td>
<td>Unsatisfactory (Remedial)</td>
<td>Does not calculate into any GPA</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal</td>
<td>Does not calculate into any GPA, no credit granted</td>
</tr>
<tr>
<td>AU</td>
<td>Audit</td>
<td>Does not calculate into any GPA</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
<td>Does not calculate into any GPA</td>
</tr>
</tbody>
</table>

**Academic Amnesty**

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.
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 his/her Department Head and Dean, and then approval must be obtained from the Vice President for Academic Affairs.
- A definite date for completion of the course must be established in the course syllabus.

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

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

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

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).

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

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).

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).

Satisfactory/Unsatisfactory System. 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.

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.

A satisfactory progress (SP) 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.

A grade of SP is awarded the following conditions apply:

- The grade is an alternative to RS and RU.
- The student must have made satisfactory progress during the course but the student did not develop mastery of all the required content. If the student successfully mastered the materials, the grade of RS should be assigned. If progress was not made, the grade of RU should be assigned.

A grade of SP is awarded the following conditions apply:

- The grade is an alternative to RS and RU.
- The student must have made satisfactory progress during the course but the student did not develop mastery of all the required content. If the student successfully mastered the materials, the grade of RS should be assigned. If progress was not made, the grade of RU should be assigned.

Grade Points and GPA. Grade points are related to grades as illustrated in this example:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIL 101</td>
<td>1</td>
<td>A(4)</td>
<td>4</td>
</tr>
<tr>
<td>MATH 115</td>
<td>5</td>
<td>B(3)</td>
<td>15</td>
</tr>
<tr>
<td>CHEM 112</td>
<td>4</td>
<td>C(2)</td>
<td>8</td>
</tr>
<tr>
<td>FREN 101</td>
<td>4</td>
<td>C(2)</td>
<td>8</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>3</td>
<td>D(1)</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td></td>
<td>38</td>
</tr>
</tbody>
</table>

GPA - 38 divided by 17 = 2.23

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

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

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

The normal progress rate toward graduation requires 12-15 semester credits and 24-30 grade points each semester. To be in good scholastic standing you must meet the following Minimum Grade Point Average Standard; Freshman - 2.00; Sophomore - 2.00; Junior - 2.00; Senior - 2.00. To graduate, a student must have a CGPA (Cumulative Grade Point Average) of 2.00 or above. (See General Degree Requirements).

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.

### Minimum Progression Standards

<table>
<thead>
<tr>
<th>Class</th>
<th>Credit Hour Range</th>
<th>GPA Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>0-29.99</td>
<td>2.0</td>
</tr>
<tr>
<td>Sophomore</td>
<td>30-59.99</td>
<td>2.0</td>
</tr>
<tr>
<td>Junior</td>
<td>60-89.99</td>
<td>2.0</td>
</tr>
<tr>
<td>Senior</td>
<td>90+</td>
<td>2.0</td>
</tr>
</tbody>
</table>

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

1. A student with a cumulative grade point average of 2.0 or better is considered to be in **good academic standing**.
2. If a student's cumulative grade point average falls below 2.0 in any academic term (i.e. fall, spring, summer), the student is placed on **academic probation** the following term.
3. While on academic probation, the student must earn a system term grade point average of 2.0 or better.
4. When a student on academic probation achieves a cumulative grade point average of 2.0 or better, the student is **returned to good academic standing**.
5. A student on academic probation who fails to maintain a system term grade point average of 2.0 or better is placed on **academic suspension** for a minimum period of two academic terms.
6. Students on academic suspension will not be allowed to register 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 policy 2.3.3.C Probation/Suspension of Students.)
7. Only Academic Suspension will be entered on the student's transcript. Academic probation will be noted in the internal academic record only.

Progression and graduation are contingent upon satisfactory performance on the Proficiency Examination.

Academic Honesty

South Dakota State University has taken a strong and clear stand regarding academic dishonesty. The consequence of academic dishonesty ranges from disciplinary probation to expulsion. The full policies are found in Chapter 1 of the Student Code (01:10:27) within the Student Policy Manual. A student charged with academic dishonesty who wishes to appeal that charge may follow the Appeals Procedure outlined in Chapter 2 of the Student Policy Manual (Academic Appeals and Classroom Standards) or contact the Vice President for Academic Affairs Office, SAD 230, 605-688-4173.

Attendance

The University is obligated to encourage its primary constituents, the students, to meet their responsibilities to themselves, their families, classmates, instructors, and the taxpayers and donors who support higher education in South Dakota. This policy and its procedures set forth the University protocol for class attendance.

**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 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. If a student has an accident, falls ill, or suffers some other emergency over which he/she has 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. Absences for vacations or breaks, 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).

Class Definition

1. Sophomore status requires 30 semester credit hours.
2. Junior status requires 60 semester credit hours.
3. Senior status requires 90 semester credit hours.

Electives

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

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

Rate of Progress

Each student is advised by a member of the faculty or 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 credits 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, total credits attempted and completed, specific courses, and time to graduation.
Academic Changes

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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.

Drop-Add Procedure

1. Dropping or adding courses should be discussed with one’s academic advisor. Refer to the semester course schedule and the registrar's office for drop-add procedures.
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, or withdraw from the System, 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. Likewise, a student who withdraws from the system during that time period also shall receive grades of "W" for all the courses in which he/she is registered. (Exception: a student who completely withdraws from the Regental system from the first day of a class(es) until the census date of the class(es) will also have a pseudo course of WD 101 (Undergraduate) or WD 801 (graduate) with a "W" grade entered on their Transcript.) 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.

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

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

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.

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

Repeated Courses

All courses taken appear on the student's academic record, but when a course is repeated, only the most recent grade is calculated into the cumulative GPA. This policy applies to both undergraduate and graduate coursework. Relative to number of repeats allowed:
1. A student may enroll in an undergraduate course (for which credit is granted only once) no more than three times without permission of the Vice President for Academic Affairs.
2. A student may enroll in a graduate course (for which credit is granted only once) no more than two times without permission of the Dean of the Graduate School.
3. A student will be allowed unlimited enrollments in an undergraduate or graduate course for which credit toward graduation may be received more than once. An institution may limit the number of credit hours for courses that may be taken more than once that apply toward the requirements for a major. (BOR Policy 2:8:3D)

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

Petitions and Appeals

South Dakota State University has an established University Petition Process for students to follow in seeking exceptions to established academic and administrative policies. There are four areas of appeal: Drop/Add Appeals, Academic Appeals, Graduation Appeals, and Financial Appeals.

The petition process begins with the student obtaining a University Petition form from the Registrar's Office and then processing it through the appropriate steps as indicated on the petition form.

Withdrawal

Those finding it necessary to withdraw from the University are urged to consult with a faculty advisor to work out the best plan possible and then contact the Registrar's Office, Enrollment Services Center to process a withdrawal. Those who leave the University without processing an official withdrawal will be reported as having failed the semester's work. Grades transcripted are based on the date of application for withdrawal. 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 state-support and self-support 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 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 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 prorated refund.
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Academic Advising Role Statements

The overall educational objective of South Dakota State University is to guide each student in the attainment of intellectual and professional competence, growth of personal development, a sense of social and civic responsibility, and satisfactory adjustments in human relationships. Individualized attention to this objective is delivered through academic advising. Each student is assigned an academic adviser and is encouraged to meet with that adviser at least twice each semester to review plans/progress and to schedule classes. Academic advising, formal or informal, is provided by teaching, research, administrative, or service appointed faculty and staff. Academic advising is included in faculty workload assignments.

Purpose of Academic Advising
Academic advising is formal and informal guidance intended to help students investigate, identify, and accomplish individual academic and career plans.

Goals of Academic Advising
1. Assist students in the exploration and definition of immediate and lifelong goals.
2. Encourage students to explore and become involved in beneficial experiences that contribute to a complete university experience.
3. Inspire students to understand their freedom of choice and accept their responsibility for academic progress and planning.

Role of the Advisee
The advisee role in academic planning is to be involved, responsible, and committed to developing and implementing a future career, academic, and employment plan.

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

Responsibilities of the Advisor
1. Assist students in the exploration and definition of immediate and lifelong goals.
2. Know Advisees. Know assigned advisees and their individual educational and career goals.
3. Guide Major Program Planning. Recommend courses which correspond with advisees' academic background and educational goals.
4. Maintain Advisee Records. Keep current advisee records and personal information in accordance with confidentiality requirements.
5. Monitor Academic Decision-Making. Inform advisees about relevant alternatives, limitations, and possible consequences of academic decisions, including information on academic standards, appeals, and changes of academic dishonesty.
6. Refer to Campus and Community Resources. Encourage and guide advisees to utilize available campus and community student help and student development resources.
7. Encourage Timely Progress Toward Degree. Advocate timely planning and progress toward educational goals with prompt attention to problems.
8. Advocate Professional Responsibilities. Help advisees recognize relevant institutional and / or professional responsibilities. Make recommendations to appropriate university officials when advisee behavior compromises professional and/or institutional standards to such an extent that professional disclosure is necessary.
9. Retention. Support student through advising to increase probability of degree completion.
10. Develop Advising Knowledge and Skill. Participate in professional development activities that will enhance advising knowledge and skills.

Affirmative Action/Equal Employment Opportunity Policy/Title IX

In recognition of its legal and moral responsibilities, South Dakota State University reaffirms its commitment to provide equal opportunity for the education and employment of all persons, without regard for age, race, color, creed, ancestry, religion, gender, marital status, pregnancy, sexual orientation, national origin, disability or veteran's status through a continuing policy of Affirmative Action and non-discrimination. Positive efforts to further equality of opportunity in education and employment will be: 1) vigorously pursued; 2) conform to current legal requirements; and 3) be consistent with university standards of excellence and quality.

The "affirmative action" required to meet our responsibilities will include the statement and continual review of university policies relating to equal opportunity and non-discrimination, the collection and analysis of data, the formulation and implementation of procedures to ensure compliance with stated policy, and the continual monitoring of all administrative practices relating to these procedures.

It is recognized that the real success of an affirmative action program is measured more by good faith efforts in achieving compliance, and not solely in the accumulation of data, analysis, and reports. Analysis, planning, and programming help bring about desired results, identify problem areas, and permit rational scheduling of corrective action. Moreover, these activities give new insights into the dynamics of the university community and help sensitize all of us to the goal of equal opportunity.

In specific terms, this commitment to provide equal opportunity for all persons requires:
1. The eradication of the effects of any past discrimination; and,
2. The prevention of any present or future discrimination, including any potential discrimination which may arise as a result of the improper implementation of affirmative action practices.
In the final analysis, "affirmative action" is focusing of the University's creative energies on the task of developing processes that enhance human development and institutional effectiveness. 

Equal Opportunity questions and concerns regarding discrimination/harassment prevention information, reporting discrimination, discrimination in education programs or activities, or complaint procedures can be directed to: Sarah Meusburger - Equal Opportunity Officer/Title IX Coordinator (SAD 318; telephone 605-688-4128; Fax 605-688-5822).

Disability Policy Statement

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 Coordinator for Disability Services has been designated the SDSU "Responsible Employee" to coordinate institutional compliance with the non-discrimination requirements of the Americans with Disabilities Act (ADA) of 1990. In that capacity, the Coordinator is committed to ensuring that SDSU provides an inclusive learning environment.

The Coordinator will also be responsible for the effective integration of ADA procedures, and Section 504 of the Rehabilitation Act of 1973. The Coordinator serves as the personal contact for students seeking information concerning the provisions of the ADA and their respective duties and rights provided therein. The phone number for the Office of Disability Services is 605-688-4504; E-mail: sdsu.disability@sdstate.edu

Email Policy Statement

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. 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.

Family Educational Rights and Privacy Act of 1974

The Family Educational Rights and Privacy Act of 1974 (FERPA) (also known as the Buckley Amendment) is a Federal law designed to protect the privacy of a student's personal education records kept at the University. The law provides that the institution will maintain the confidentiality of each student's education records and covers matters relating to access to student records and the disclosure of such records. For complete information about these policies, please refer to the SDSU Student Policies Manual and the Records and Registration website.

Graduation Policies & Procedures

A. Graduation Application - Date Due in Dean's Office.
B. Check the University Calendar in the Catalog or the Fall, Spring, and Summer Course Schedules for dates.
C. Incomplete grades in courses required for graduation.
   Graduating Seniors and Graduating Graduate Students
   1. Any graduating senior or graduating graduate student
      a. 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
      b. 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.
   2. 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.
D. Incomplete grades in courses not required for graduation.
   1. 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).
   2. 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.
   3. This policy has always been in effect but is reinforced in this policy statement.
E. Graduation List.
   Submission by the Deans of the final verified graduation list to the Registrar's Office.
   1. Deadline for verification of degrees to the Registrar by the Deans will be 3 weeks after grades are due for the semester.
   2. 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.
   3. It is the Dean's responsibility to ensure all requirements are met prior to entering the student's name on the final verified list.
F. Notification to the student of above policies and procedures.
   1. Every student will receive an information letter and will sign off on these policies and procedures at the time the graduation application is filed with the Dean.
   2. The Registrar will include this policy and procedures statement with the graduation information sent to all graduating students each semester.
Non-Degree Courses

In addition to courses leading to degrees, the University offers special and outreach courses in several areas of interest. Some of these may be given for academic credit; others may be offered for Continuing Education Units. Consult the department head involved or International Affairs and Outreach - Continuing and Extended Education, Briggs Library Room 119, Box: 2115 Brookings, SD 57007; 605-688-4154. E-mail: distance@sdstate.edu.

Policy on Sexual Harassment & Other Forms of Harassment

Introduction

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 his/her dignity as a person.

For these reasons, it is this institution's policy that no form of harassment of employees, students, and others associated with SDSU is permitted under any circumstances. All reported incidents will be investigated promptly and acts of prohibited behavior will result in corrective action, including disciplinary action pursuant to the South Dakota Board of Regents Human Rights Complaint Procedures. Sanctions for employees include formal reprimands, suspensions without pay, reductions in responsibilities, and termination. Sanctions for students include disciplinary probation, suspension, and expulsion.

Policy Statement: Harassment on any grounds, directed against individuals, is prohibited.

I. Sexual harassment in either of its recognized forms is proscribed:
   A. Sexual harassment may be established by showing that an individual has been subjected to unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature where:
      1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's participation or use of an institutionally sponsored or approved activity, employment, or resource; or
      2. Submission to or rejection of such conduct by an individual is used as the basis for educational, employment, or similar decisions affecting an individual's ability to participate in or use an institutionally sponsored or approved activity, employment, or resource.
   B. Sexual harassment may also be established by showing participation in the creation of an intimidating, hostile, or demeaning environment established under Section II below.

II. Harassment on the basis of race, color, creed, religion, national origin, ancestry, citizenship, gender, sexual orientation, age, or disability, or harassment on any grounds, directed against individuals, may be established by showing:
   A. Conduct toward another person that has the purpose of creating an intimidating, hostile, or demeaning environment and that interferes with his/her ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.
   B. Conduct toward another person that has the effect of creating an intimidating, hostile, or demeaning environment that adversely interferes with his/her ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.
      1. Harassment consists, in most cases, of more than casual or isolated incidents.
      2. Consideration should be given to the context, nature, scope, frequency, duration, and location of the incidents, whether they are physically threatening or humiliating as opposed to merely offensive utterances, as well as to the identity, number, and relationships of the persons involved.
      3. Harassment shall be found where, in aggregate, the incidents are sufficiently pervasive or persistent or severe that a reasonable person with the same characteristics of the victim of the harassing conduct would be adversely affected to a degree that interferes with his/her ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.
         a. The reasonable person standard includes consideration of the perspective of persons of the alleged victim's race, gender, or other circumstances that relate to the purpose for which he/she has become the object of allegedly harassing conduct.
         b. If the victim does not subjectively perceive the environment to be hostile, the conduct has not actually altered the conditions of participation and there will be no violation of this policy.
            1. It is not necessary to show psychological harm to the victim to establish that the conduct would interfere with the person's ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.
   C. Other conduct that is extreme and outrageous exceeding all bounds usually tolerated by polite society and that has the purpose or the substantial likelihood of interfering with another person's ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.

Reporting Complaints/Grievance Procedure

University employees are required to refer all harassment complaints they receive (formal or informal, resolved or not) to SDSU's Equal Opportunity Officer (Phone: 605-688-4128, SAD 324). Confidentiality will be maintained to the maximum extent possible in resolving the problem. If a complainant chooses to exercise his/her right to file a formal complaint, the South Dakota Board of Regents Human Rights Complaint Procedure will be used in the investigation and resolution.

Non-Retaliation/Non-Coercion

Complainants, witnesses, and other persons who have assisted, testified, or participated in any manner in any phase of an investigation will be protected. This policy and applicable Board of Regents, State, and Federal regulations prohibit retaliation, coercion, interference and/or intimidation, or any other adverse act. Persons committing such adverse actions will be subject to disciplinary actions.

Policy on Institutional Record of Student Complaints

North Central Association (NCA) Policy

To comply with federal regulations, the Higher Learning Commission of NCA expects an affiliated institution to maintain records of formal, written student complaints filed with the offices of the Chief Executive Officer, Chief Academic Officer, or Chief Student Affairs Officer. The records should include information about the disposition of the complaints, including those referred to external agencies for final resolution. These records will be available to the next NCA comprehensive evaluation team for review.
Purpose of These Guidelines
To comply with NCA policy IV. B.4 Institutional Records of Student Complaints adopted by the NCA, February 1998. The NCA has established this policy to comply with federal regulations for the maintenance of records of formal, written student complaints. SDSU, in turn, needs to be in compliance with the NCA policy.

Definition of a Complaint
This policy applies to complaints that are made formally, in writing, signed by the student and addressed to and submitted to an institutional officer with the responsibility to handle the complaint. Formal written complaints shall mean hand-delivered, mailed, or faxed written complaint. At SDSU, email complaints do not meet the definition of a formally submitted written complaint. (This process will not duplicate efforts of Human Resources on human rights complaints, Student Affairs on judiciary issues, or Academic Affairs or academic appeals.)

Responsible Institutional Officers or Their Representatives
For the purposes of this policy, these are the President or his/her designee or successor, Vice President for Academic Affairs, designee or successor, Vice President for Student Affairs, designee or successor. Also key in recording these complaints are the Program Assistant in the Office of Academic Affairs and the Senior Secretary in the Office of Student Affairs.

Record of Student Complaints
The format established is a spreadsheet maintained in each of the three major offices to which a complaint can be submitted. It includes: the date the complaint was first formally submitted to an appropriate officer, the nature of the complaint (e.g., dispute about a grade, complaint about unfair class schedule, etc.), the steps taken by the institution to resolve the complaint, the institution's final decision regarding the complaint including referrals to outside agencies, any other external actions initiated by the student to resolve the complaint if known to the institution (e.g., lawsuit, EEOC investigation, etc.).

Dates
The policy is effective beginning with September 1, 1998. Data will be merged from the three offices on an annual basis. The institution will provide evidence of tracking for a two-year period, at which time, the records will be kept, but will be placed in dormant status. (Office of Student Affairs will merge data annually and file it.)

Method of Notification to Students
This policy will be included in the student policy manual, which is a responsibility of the Vice President for Student Affairs. It will be addressed in the University catalog, which is a responsibility of the Vice President for Academic Affairs. It shall be regularly posted in residence halls, (responsibility of Office of Student Affairs). It will be distributed to the Students' Association, (responsibility of Office of Student Affairs). It will be published in the Collegian, (responsibility of Office of Student Affairs).

Student Code of Freedom & Responsibility
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 Code, which appears in the Student Policies Manual, is the basic guideline reflecting university-student relations. The Code defines student behavior, expectations and related university conduct and judicial procedures.

Complete details concerning disciplinary procedures and regulations pertaining to residence halls, parking and traffic, student organizations and activities will be found in the Student Policies Manual.

Copies of the manual are available on the SDSU web site by searching Student Code.

Trip Regulations

A. Students involved in trips related to university-sponsored activities as defined in the catalog under Purposes of the University or university-affiliated activities as scheduled by the Director of Student Activities or the Director of Residential Life must receive approval for the trip. The authorized request form is available via the Academics site on Inside State. The Authorization Request form must be signed by the faculty sponsor and approved by the department head or his/her designate. This must be forwarded and must be approved by the Office of the Vice President for Academic Affairs one week prior to the trip.

B. State-owned vehicles may be utilized if criteria established in the policy regulating use of state owned vehicles are met.

C. Students are eligible for trips if the trip sponsor affirms the following on the official "Student Activities/Trips Authorized Request Form for University-Sponsored/Recognized Trip" form:
   - He/she believes that the trip if of greater importance to the student than the classes and other work that the student will miss;
   - He/she has advised each student that, before taking the trip, each student must make arrangements for any work which will be missed because of the trip and has given each student a "trip absence card" to facilitate these requirements;
   - The trip will not cause the student to miss more than five class days or to be absent during finals week;
   - He/she has attained and has in their possession for the trip a signed Release and Waiver of Liability; Assumption of Risk Agreement; Indemnity Agreement; and Consent to Medical Treatment and Emergency Contact Form on each student; and an itinerary of the trip is in their possession

D. Faculty will honor trip absences approved by university officials where individuals or groups are absent in the interest of the University. Differences encountered between student and instructor will be arbitrated by the department head, dean, or Provost and Vice President for Academic Affairs, in that order.

E. Trip Absence Card for each student involved in the trip will be issued by the Office of Academic Affairs and given to the faculty sponsor. The faculty sponsor will provide these to each student. Other faculty members are not required to honor incomplete cards. The student should show the card to his/her instructors in making arrangements to make up any work missed because of a trip, previous to going on the trip. The student should retain the Trip Absence Card until after final grades are received by the student.
All intradepartmental trips (i.e., laboratory field trips, clinical experiences, etc.) that do not involve students missing classes shall also be submitted to the Vice President for Academic Affairs office for approval via the authorized request form by the date of the trip.

University-Sponsored Student Athletic Trip Regulations

A. 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.

B. 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.

C. 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.

D. 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.
Graduation Requirements

General Degree Requirements

General Education

General Education Requirements for Baccalaureate Degree

System General Education Requirements (SGRs)

SDSU Institutional Graduation Requirements (IGRs)

Globalization Requirement

Advanced Writing Requirement

General Education Requirements for Associates Degree

Policies Applicable to System General Education Requirements (SGRs)

Transfer Students

College & Major Field Requirements
General Degree Requirements

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

The General Degree Requirements

A. Completion of at least 120 semester credit hours for the baccalaureate degree (see individual professional college requirements) and 60 semester credit hours for the associate degree. Remedial course credits are not counted as meeting degree requirements.

B. A Cumulative Grade Point Average (CGPA) of 2.00. The CGPA is based on all courses attempted within the Regental system, transfer or at SDSU. If a course is repeated, F95 or later, only the last grade received will be included in the calculation of the CGPA.

C. Institutional requirement. An institutional credit is a course offered by SDSU at any of its approved sites using any approved method of delivery. Courses that are a part of a formal collaborative agreement among Regental Institutions are considered to be institutional. The minimum number of credit hours that must be earned from the institution granting the degree are 30 credits for the baccalaureate degree and 15 credits for the associate degree. The number of the last credit hours earned preceding completion of the degree that must be earned from the institution granting the degree are 15 of the last 30 credits for the baccalaureate degree and 8 of the last 15 credits for the associate degree. The minimum number of credit hours specified in the major or minor requirements that must be completed from the institution granting the degree is 50 percent. Credits earned by examination are not counted as resident credit unless an exception has been made because of special program features. A student must have 20 upper division level credits, 14 of which need to be at SDSU.

D. Completion of University general education requirements as described below.

E. Completion of all college and major field requirements.

F. Demonstration of satisfactory performance in writing, mathematics, reading, and science reasoning as evidenced by receiving a passing score on all sections of the Collegiate Assessment of Academic Proficiency (CAAP) exam or alternative assessment. This requirement must be met by both associate and baccalaureate degree-seeking students.

G. Demonstration of proficiency in Information Literacy (IL) by receiving a satisfactory on the system IL examination.

H. 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.

General Education

The required General Education Curriculum for all undergraduate students is further explained in the Graduation Requirements section of the Catalog. The System General Education Requirements (SGRs) are designed to achieve these seven goals.

System Goal #1: Written Communication
Students will write effectively and responsibly and will understand and interpret the written expression of others.

System Goal #2: Oral Communication
Students will communicate effectively and responsibly through listening and speaking.

System Goal #3: Social Sciences/Diversity
Students will understand the organization, potential, and diversity of the human community through study of the social sciences.

System Goal #4: Humanities and Arts/Diversity
Students will understand the diversity and complexity of the human experience through study of the arts and humanities.

System Goal #5: Mathematics
Students will understand and apply fundamental mathematical processes and reasoning.

System 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.

System Goal #7: Information Literacy
Students will recognize when information is needed and have the ability to locate, organize, critically evaluate, and effectively use information from a variety of sources with intellectual integrity.

In addition to the System General Education Requirements, SDSU has Institutional Graduation Requirements (IGRs) designed to achieve two major goals.

IGR Goal #1: First Year Seminar
Students will understand their emerging role and responsibilities as educated persons through a common intellectual experience.

IGR Goal #2: Cultural Awareness and Social and Environmental Responsibility
Students will acquire knowledge about the world's peoples - their cultures, arts, and environments - that prepares them for further study, deepens their understanding of the human condition, and strengthens their commitment to social and environmental responsibility.

Note:

- The course used to meet IGR Goal #2 must have a different prefix than the courses used to meet System Goals #3, 4, and 6.
- Other than for System General Education Goal #7, no given course may satisfy more than one of these requirements, unless the minimum number of credits is exceeded. Credits in excess of the minimum credits needed may be applied in another area.

Globalization: Globalization is defined as a process of interaction and integration among different people, organizations, and governments that takes place outside of and above the level of national boundaries. The primary result of this process is the interdependence of capital, technology, information, and people across national borders. This interdependence of economic and cultural activities has implications for a variety of issues around the world, including, but not limited to, political systems, economic systems, the environment, agriculture, public health, health care, information technology, social networking, communications, transportation, education, governance, and prosperity. Through the process of globalization, people and organizations communicate, conduct business, and address challenges, across and irrespective of national borders.

Graduation Requirements
Students will be able to identify global issues and how they impact their lives and discipline.

**Advanced Writing**: Advanced writing courses are discipline based and require students to build upon concepts learned in courses addressing System General Education Goal #1. Students will refine their writing skills appropriate to the discipline. These courses will have a scholarly focus.

Students will build upon concepts learned in courses covering System General Education Goal #1 and refine their skills through research and writing in a discipline specific context.

### General Education Requirements for Baccalaureate Degree

(Effective for new degree-seeking students Fall 2005 and later)

#### I. System General Education Requirements: 30 credits

- **Goal #1: Written Communication** (6 credits)
- **Goal #2: Oral Communication** (3 credits)
- **Goal #3: Social Sciences/Diversity** (6 credits)
- **Goal #4: Humanities and Arts/Diversity** (6 credits)
- **Goal #5: Mathematics** (3 credits)
- **Goal #6: Natural Sciences** (6 credits)
- **Goal #7: Information Literacy** (0 credits)

#### II. Institutional Graduation Requirements: 5 credits

- **Goal #1: First Year Seminar** (2 credits)
- **Goal #2: Cultural Awareness and Social and Environmental Responsibility** (3 credits)

#### III. Globalization Requirement

Each program area/major specifies how to meet the globalization goal and student learning outcomes.

#### IV. Advanced Writing Requirement

Each program area/major specifies how to meet the additional writing requirement goal and student learning outcomes.

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**I. System General Education Requirements (SGRs)**

(These Requirements are common across the entire South Dakota Regental System.)

**System 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:

1. Write using standard American English, including correct punctuation, grammar, and sentence structure;
2. Write logically;
3. Write persuasively, with a variety of rhetorical strategies (e.g., expository, argumentative, descriptive);
4. 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: #1, #2, #3, and #4.

**Credit Hours: 6**

**Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 101 - Composition I *</td>
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<td>ENGL 277 - Technical Writing in Engineering *</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 201 - Composition II *</td>
<td>3</td>
<td>ENGL 283 - Creative Writing I ** (COM)</td>
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</tr>
</tbody>
</table>

**System 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:

1. Prepare and deliver speeches for a variety of audiences and settings;
2. Demonstrate speaking competencies including choice and use of topic, supporting materials, organizational pattern, language usage, presentational aids, and delivery;
3. Demonstrate listening competencies by summarizing, analyzing, and paraphrasing ideas, perspectives and emotional content.

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

Required: #1, #2, and #3

**Credit Hours: 3**

**Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Course</th>
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<tbody>
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<td>SPCM 101 - Fundamentals of Speech * (COM)</td>
<td>3</td>
<td>SPCM 215 - Public Speaking (COM) *</td>
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</tbody>
</table>
System Goal #3
Social Sciences/Diversity

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

Student Learning Outcomes: As a result of taking courses meeting this goal, students will:
1. Identify and explain basic concepts, terminology and theories of the selected social science disciplines from different spatial, temporal, cultural and/or institutional contexts;
2. Apply selected social science concepts and theories to contemporary issues;
3. Identify and explain the social or aesthetic values of different cultures.

In addition, as a result of taking courses meeting this goal, students will be able to demonstrate a basic understanding of at least one of the following:
4. The origin and evolution of human institutions;
5. The allocation of human or natural resources within societies;
6. The impact of diverse philosophical, ethical or religious views.

Each course meeting this goal includes the following student learning outcomes:
Required: #1, #2 and #3. At least one of the following: #4, #5, or #6.

Credit Hours: 6 (in 2 disciplines)

Courses
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
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<td>ABS 203</td>
<td>Global Food Systems * ** (G)</td>
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<tr>
<td>ANTH 210</td>
<td>Cultural Anthropology * (COM)</td>
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<td>ANTH 220</td>
<td>Physical Anthropology * (COM)</td>
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<tr>
<td>CJUS 201</td>
<td>Introduction to Criminal Justice * (COM)</td>
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<tr>
<td>ECON 201</td>
<td>Principles of Microeconomics * ** (COM)</td>
<td></td>
</tr>
<tr>
<td>ECON 202</td>
<td>Principles of Macroeconomics * ** (COM)</td>
<td></td>
</tr>
<tr>
<td>GEOG 101</td>
<td>Introduction to Geography * (COM)</td>
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<td>GEOG 200</td>
<td>Introduction to Human Geography * ** (COM)</td>
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<td>GEOG 210</td>
<td>World Regional Geography * ** (COM)</td>
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<tr>
<td>GEOG 212</td>
<td>Geography of North America * (COM)</td>
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<tr>
<td>GEOG 219</td>
<td>Geography of South Dakota *</td>
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<tr>
<td>GLST 201</td>
<td>Global Studies I * ** (G)</td>
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<tr>
<td>HDFS 141</td>
<td>Individual and the Family *</td>
<td></td>
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<tr>
<td>HDFS 210</td>
<td>Lifespan Development * (COM)</td>
<td></td>
</tr>
<tr>
<td>HIST 151</td>
<td>United States History I * ** (COM)</td>
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</tr>
</tbody>
</table>

Note: The course used to meet IGR #2 must have a different prefix than the courses used to meet System Goals #3, #4, and #6.

System Goal #4
Humanities and Arts/Diversity

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

Student Learning Outcomes: As a result of taking courses meeting this goal, students will:
1. Demonstrate knowledge of the diversity of values, beliefs, and ideas embodied in the human experience;
2. Identify and explain basic concepts of the selected disciplines 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:
3. Identify and explain the contributions of other cultures from the perspective of the selected disciplines within the arts and humanities;
4. Demonstrate creative and aesthetic understanding;
5. Explain and interpret formal and stylistic elements of the literary or fine arts;
6. Demonstrate foundational competency in reading, writing, and speaking a non-English language.

Each course meeting this goal includes the following student learning outcomes:
Required: #1, #2. At least one of the following: #3, #4, #5, or #6.

Credit Hours: 6 (in 2 disciplines or a sequence of foreign language courses)

Courses
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
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<td>AIS 101</td>
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<td>AIS 102</td>
<td>Introductory Lakota II *</td>
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<td>ARCH 241</td>
<td>Building History I * (G)</td>
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<tr>
<td>ART 111</td>
<td>Drawing I * ** (COM)</td>
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<tr>
<td>ART 112</td>
<td>Drawing II * ** (COM)</td>
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<tr>
<td>ART 121</td>
<td>Design I 2D * ** (COM)</td>
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<tr>
<td>ART 123</td>
<td>Three Dimensional Design * ** (COM)</td>
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<tr>
<td>ARTH 100</td>
<td>Art Appreciation * ** (COM)</td>
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<tr>
<td>ARTH 120</td>
<td>Film as Art *</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 211</td>
<td>History of World Art I * ** (COM)</td>
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</tr>
<tr>
<td>ARTH 212</td>
<td>History of World Art II * ** (COM)</td>
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<tr>
<td>ENGL 210</td>
<td>Introduction to Literature * ** (COM)</td>
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<tr>
<td>ENGL 211</td>
<td>World Literature I * ** (COM)</td>
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<td>ENGL 212</td>
<td>World Literature II * ** (COM) (G)</td>
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<tr>
<td>ENGL 221</td>
<td>British Literature I * ** (COM) (G)</td>
<td>3</td>
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<td>ENGL 222</td>
<td>British Literature II * ** (COM) (G)</td>
<td>3</td>
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<tr>
<td>ENGL 240</td>
<td>Juvenile Literature *</td>
<td>3</td>
</tr>
</tbody>
</table>

Credits: 3

40 Graduation Requirements
HIST 121 - Western Civilization I * ** (COM) Credits: 3 
HIST 122 - Western Civilization II * ** (COM) (G) Credits: 3 
LAKL 101 - Introductory Lakota I * (COM) Credits: 4 
LAKL 102 - Introductory Lakota II * (COM) Credits: 4 
MCOM 151 - Introduction to Mass Communication * (COM) Credits: 3 
MUS 100 - Music Appreciation * (COM) Credits: 3 
MUS 201 - History of Country Music * Credits: 3 
PHIL 200 - Introduction to Logic * (COM) Credits: 3 

Note: The course used to meet IGR #2 must have a different prefix than the courses used to meet System Goals #3, #4, and #6.

System 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:
1. Use mathematical symbols and mathematical structure to model and solve real world problems;
2. Demonstrate appropriate communication skills related to mathematical terms and concepts;
3. Demonstrate the correct use of quantifiable measurements of real world situations.

Each course meeting this goal includes the following student learning outcomes:
Required: #1, #2 and #3.

Credit Hours: 3

Courses
MATH 102 - College Algebra * (COM) Credits: 3 
MATH 103 - Quantitative Literacy * Credits: 3 
MATH 115 - Precalculus * (COM) Credits: 5 
MATH 120 - Trigonometry * (COM) Credits: 3 
MATH 121-121L - Survey of Calculus and Lab* (COM) Credits: 5

Note: Student enrollment in the initial Mathematics course is determined by the Board of Regents placement policy (2:7.6).

System 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:
1. Demonstrate the scientific method in a laboratory experience;
2. Gather and critically evaluate data using the scientific method;
3. Identify and explain the basic concepts, terminology and theories of the selected natural sciences;
4. Apply selected natural science concepts and theories to contemporary issues.

Each course meeting this goal includes the following student learning outcomes:
Required: #1, #2, #3 and #4.

Credit Hours: 6

Courses
BIOL 101-101L - Biology Survey I and Lab * (COM) Credits: 3 
BIOL 103-103L - Biology Survey II and Lab * (COM) Credits: 3 
BIOL 151-151L - General Biology I and Lab * (COM) Credits: 4 
BIOL 153-153L - General Biology II and Lab * (COM) Credits: 4 
BOT 201-201L - General Botany and Lab * (COM) Credits: 3 
CHEM 106-106L - Chemistry Survey and Lab * (COM) Credits: 3,1
CHEM 108-108L - Organic and Biochemistry and Lab * (COM) Credits: 4,1
CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3, 1
CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3, 1
CHEM 115-115L - Atomic and Molecular Structure and Lab * Credits: 3,1 
CHEM 120-120L - Elementary Organic Chemistry and Lab * Credits: 3,1
CHEM 127-127L - Struct. & Function of Org. Molecules & Lab * Credits: 3, 1 
GEOG 131-131L - Phys. Geog.: Weather & Climate & Lab * Credits: 4 
GEOG 132-132L - Phys. Geography: Nat. Landscapes & Lab * Credits: 4

Note: The course used to meet IGR #2 must have a different prefix than the courses used to meet System Goals #3, #4, and #6.
System Goal #7

Information Literacy

Students will recognize when information is needed and have the ability to locate, organize, critically evaluate, and effectively use information from a variety of sources with intellectual integrity.

Student Learning Outcomes: Students will:
1. Determine the extent of information needed;
2. Access the needed information effectively and efficiently;
3. Evaluate information and its sources critically;
4. Use information effectively to accomplish a specific purpose;
5. Use information in an ethical and legal manner.

Assessment: Students fulfill this requirement by demonstrating competency through an assessment designated by the Regental universities.

Credit hours: 0

Courses

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ENGL 101 - Composition I *</td>
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<td>ENGL 263 - Creative Writing I ** (COM)</td>
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<tr>
<td>SPCM 101 - Fundamentals of Speech * (COM)</td>
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II. SDSU's Institutional Graduation Requirements (IGRs)

(These requirements are unique to SDSU.)

IGR Goal #1

First Year Seminar

Students will understand their emerging role and responsibilities as educated persons through a common intellectual experience.

Student Learning Outcomes:

As a result of taking courses meeting this goal, students will:
1. Identify areas of self-responsibility that contribute to personal and professional goals and success.
2. Design a plan and identify appropriate strategies that will guide engagement in their education, community, and world.
3. Explain how to achieve and maintain personal and professional wellness.
4. Articulate how knowledge of contemporary issues and exposure to diversity impacts personal and professional life.
5. Explain how South Dakota State University is defined by the Land Grant Mission (Morrill Act).

Each course meeting this goal includes the following student learning outcomes:
Required: #1, #2, #3, #4, and #5

Credit Hours: 2

Courses

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<tr>
<td>ABS 109 - First Year Seminar **</td>
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<td>AGED 109 - First Year Seminar - Agricultural Education**</td>
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<td>ARCH 109 - First Year Seminar **</td>
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<td>AS 109 - First Year Seminar **</td>
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<td>AST 109 - First Year Seminar **</td>
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<tr>
<td>BIOL 109-109L - First Year Seminar and Lab **</td>
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<td>CHEM 109 - First Year Seminar **</td>
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<td>DS 109 - First Year Seminar **</td>
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<td>EHS 109 - First Year Seminar **</td>
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IGR Goal #2

**Cultural Awareness and Social and Environmental Responsibility**

Students will acquire knowledge about the world's peoples - their cultures, arts, and environments - that prepares them for further study, deepens their understanding of the human condition, and strengthens their commitment to social and environmental responsibility.

**Student Learning Outcomes:**

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

1. Articulate the ways in which different peoples express an understanding of the human condition and respond to environmental opportunities and constraints.
2. Describe how personal choices derive from and affect social, cultural, and environmental contexts.
3. Engage in aesthetic experience in order to understand artistic expression and to learn how meaning emerges from the cultural contexts of both artist and audience.
4. Explain the ethical consequences of decisions and actions concerning the environment to strengthen commitment to local, national, and global citizenship.

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

- Required: #1, #2, and #3, or #1, #2, and #4

**Credit Hours: 3**

**Courses**

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<td>WMST 367</td>
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Note: The course used to meet IGR #2 must have a different prefix than the courses used to meet System Goals #3, #4, and #6.

**Clarification of "Educational Experiences" Alternative**

Educational Experiences (EdEx) are an option to meet SDSU's IGRs. The Educational Experiences will parallel the guidelines for credit, requiring 45 hours of experiential learning per credit hour earned. Departments will present proposals describing Educational Experiences for approval to the SDSU Academic Affairs subcommittee who will forward a recommendation to the full Academic Affairs Committee for approval to assure that the student learning outcomes of the specific IGR has been achieved. This Educational Experiences Alternative is not to be designed to meet the needs of an individual student, but rather to meet the needs of groups of students within a department-major, throughout the University.

**Graduation Requirements 43**
III. Globalization Requirement

Globalization is defined as a process of interaction and integration among different people, organizations, and governments that takes place outside of and above the level of national boundaries. The primary result of this process is the interdependence of capital, technology, information, and people across national borders. This interdependence of economic and cultural activities has implications for a variety of issues around the world, including, but not limited to, political systems, economic systems, the environment, agriculture, public health, health care, information technology, social networking, communications, transportation, education, governance, and prosperity. Through the process of globalization, people and organizations communicate, conduct business, and address challenges, across and irrespective of national borders.

Students will be able to identify global issues and how they impact their lives and discipline.

Student Learning Outcomes:
The primary objective of this requirement is to offer courses that present meaningful global content of contemporary relevance (i.e., content based on trends, events or interactions from the post-WWII era to the present). Each course that fulfills this requirement must include ONE of the following two student learning outcomes.

Students will be able to:
1. Demonstrate a basic understanding of modern-day globalization, including outlining the benefits and cost implications of globalization, and interpret consequences of global issues through various forms of analysis.

   or

2. Express knowledge of the customs and cultures of a particular country or a specific region outside of one’s own national borders. (The emphasis in this SLO is the more in-depth study of one particular country or region.)

Credit Hours: Students can select a course to meet the globalization requirement which also meets one of the SGR/IGR requirements or a major requirement. Selected courses do not add to the total number of credits required for the major.

Courses listed below have been approved to meet this goal. Each program area/major determines how to best address the globalization goal and student learning outcomes; therefore, you should consult your department regarding how this goal and its expectations are accomplished within your specific program of study.

Courses

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44 Graduation Requirements
Advanced writing courses are discipline based and require students to build upon concepts learned in courses addressing System General Education Goal #1. Students will refine their writing skills appropriate to the discipline. These courses will have a scholarly focus. Students will build upon concepts learned in courses covering System General Education Goal #1 and refine their skills through research and writing in a discipline specific context.

**Student Learning Outcomes:**

Students will:

1. Read extensively and respond critically in the written discourse of a discipline; formulate research questions, refine topics, develop a plan for research and organize what is known about the topic; articulate a position through a thesis statement and advance it using evidence from primary and secondary sources, examples, and counterarguments that are relevant to the audience or issues at hand.

2. Use a style manual and other writing conventions specific to a discipline; avoid plagiarism by adhering to the rules for paraphrasing, summarizing, and the use of quotations, as well as the conventions for incorporating information from Internet-based resources.

3. Evaluate sources critically, both print and electronic, discern the strength of evidence and arguments, determine credibility, and identify potential bias and overall quality.

4. Present the results of research or project, either collaboratively or individually, to the class, department, faculty, community members, or at a student research or professional conference.

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

**Credit Hours:** Integrated in the major or may select a specific advanced course (i.e., ENGL 379, Technical Communication) which addresses the advanced writing goal and student learning outcomes. Selected course(s) do not add to the total number of credits required for the major.

Each program area/major determines how to best address the advanced writing goal and student learning outcomes; therefore, you should consult your department regarding how this goal and its expectations are accomplished within your specific program of study. Courses used across the various programs at SDSU include the following:

| Courses | Credits |  
|---------|---------|---
| ABE 411 - Design Project III | 2 |
| ABE 222 - Design Project IV | 2 |
| ABS 475-475L - Integrated Natural Resource Mgmt & Lab | 3 |
| ADV 371-371L - Advertising Copy and Layout & Studio | 3 |
| AGED 404 - Methods in AGED | 3 |
| AIS 490 - Seminar | 3 |
| ARCH 310 - Building History III | 2 |
| AM 473-473L - Global Sourcing and Lab | 3 |
| ARTH 310 - History of United States Art and Architecture | 3 |
| ARTH 320 - Modern Art and Architecture Survey (G) | 3 |
| ARTH 490 - Seminar | 1-3 |
| AS 489 - Current Issues in Animal Science | 2 |
| AST 463 - Agricultural Waste Management | 3 |
| AT 474 - Interventions III | 3 |
| AVIA 440 - Curriculum Design in Aviation | 3 |
| BIOL 490 - Seminar | 1 |
| CA 340 - Work Family Interface | 3 |
| CEE 465 - Civil Engineering Capstone Design II (COM) | 2 |
| CHEM 498 - Undergraduate Research/Scholarship (AW) | 1-12 |
| CM 473 - Construction Law and Accounting (AW) | 3 |
| CSC 485 - Software Engineering II (AW) | 3 |
| DS 490 - Seminar (AW) | 2 |
| ECE 361-361L - Methods & Materials/ECE & Lab | 2, 1 |
| EE 465 - Senior Design II (COM) | 2 |
| ENGL 379 - Technical Communication (COM) | 3 |
| ENGL 424 - 7-12 Language Arts Methods | 3 |
| ENGL 479 - Capstone Course and Writing in the Discipline | 3 |
| ET 471-471L - Capstone Experience and Lab | 2 |
| FCSE 411 - Phil. & Methods Family & Consumer Sciences | 4 |
| FREN 433 - French Culture and Civilization | 3 |
| GEOG 382 - Quantitative Research Methods in Geography | 3 |
| GEOG 421 - Qualitative Research Methods in Geography | 3 |
| GER 434 - German Civilization II (COM) | 3 |
| GLST 401 - Global Studies II ** | 3 |
| GS 490 - Seminar | 3 |
| HIST 480 - Historical Methods and Historiography (COM) | 3 |
| HNS 490 - Seminar | 1-3 |
| HO 465 - Senior Project II | 2 |
| ID 498 - Undergraduate Research/Scholarship | 1-3 |
| IDL 479 - Interdisciplinary Studies Capstone | 2 |
| MATH 401 - Senior Capstone and Advanced Writing | 1 |
| MCOM 316 - Magazine Writing and Editing | 3 |
| MCOM 433-433L - Advanced TV News Reporting and Lab | 3 |
| MCOM 438-438L - Public Affairs Reporting & Studio (COM) | 3 |
| ME 479-479L - Mechanical Systems Design II and Lab | 2 |
| ME 487 - Pharmaceutical Practice III and Lab | 3 |
| MIN 471-471L - Capstone Experience and Lab | 3 |
| MUS 433 - Music Literature and History III | 3 |
| NURS 416 - Community Health Nursing | 5 |
| NURS 495-495L - Practicum and Clinical Lab | 6 |
| OM 471-471L - Capstone Experience and Lab | 2 |
| PE 490 - Seminar | 1-3 |
| PHA 467-467L - Pharmacy Practice III and Lab | 3 |
| PHA 468L - Pharmacy Practice IV and Lab | 3 |
| PHIL 423 - Early Political Philosophy | 3 |
| PHIL 462 - Modern Political Philosophy (COM) | 3 |
| PHYS 316-316L - Measurement Theory & Exp. Design & Lab | 2 |
| POLS 461 - Early Political Philosophy (COM) | 3 |
| POLS 462 - Modern Political Philosophy (COM) | 3 |
| PSYC 376-376L - Research Methods II and Lab | 4 |
| SOC 350 - Race and Ethnic Relations (COM) | 3 |
| SPAN 433 - Spanish Civilization and Culture (COM) | 3 |
| SPAN 435 - Latin American Civilization and Culture | 3 |
| SPCM 305 - Communication Research (COM) | 3 |
| THEA 364 - Literature and History of the Theatre II (COM) | 3 |

**Graduation Requirements 45**
General Education Requirements for Associate Degree

(System General Education Requirements for Associate Degree Programs)

1. **Associate of Arts Degree**
   This program requires the same 30 credits of System General Education as required in the Baccalaureate Degree.

2. **Associate of Science Degree**
The general education component of all Associate of Science programs shall consist of a minimum of 18 credit hours as specified in Board of Regents policy 2:7(3).

**Required Courses from the System General Education List for Associate of Science degrees:**
- Goal #1: Written Communication (3 credits)
- Goal #2: Oral Communication (3 credits)
- Goal #3: Social Sciences/Diversity (3 credits)
- Goal #4: Humanities and Arts/Diversity (3 credits)
- Goal #5: Mathematics (3 credits)
- Goal #6: Natural Sciences (3 credits; 6 recommended)

**Institutional Graduation Requirements NOT Required for Associate Degree Programs**
The SDSU Institutional Graduation Requirements (IGRs) do not apply to either the Associate of Arts degree or the Associate of Science degree programs.

**Policies Applicable to System General Education Requirements**

**Guidelines for Baccalaureate and Associate Degrees**
1. The System General Education Requirements will be effective for students entering in Fall 2005.
2. Only 100/200 level courses will be included. Exceptions based on student background may be made utilizing the established university academic appeal process.
3. Honors courses equivalent to identified System General Education courses will meet the System requirements.
4. System General Education Requirements successfully completed at the sending South Dakota Regental institution will be accepted towards meeting these requirements at the receiving South Dakota Regental institution.
5. Under common course practices, a course that counts toward a General Education System Requirement at one of the Regental campuses will count toward the same General Education requirement at another campus regardless of whether or not the campus offered the course.

**Additional Guidelines for Baccalaureate Degrees**
1. The following 18 credit hours of the System General Education Requirements must be completed in the first 48 hours.
   - Goal #1: Written Communication 3
   - Goal #2: Oral Communication 3
   - Goal #3: Social Sciences/Diversity 3
   - Goal #4: Humanities and Arts/Diversity 3
   - Goal #5: Mathematics 3
   - Goal #6: Natural Sciences 3
   - Total 18
2. Transfer students with more than 18 credit hours entering from outside the Regental system must complete the above specified 18 credit hours of general education within the first 30 credit hours taken at a Regental institution.
3. All 30 credits of the System General Education Requirements must be completed within the first 64 hours. A list of program exceptions at SDSU are:
   - Agricultural and Biosystems Engineering
   - Biology - Pre-professional Specialization
   - Civil Engineering
   - Computer Science
   - Electrical Engineering
   - Interior Design
   - Mathematics Education
   - Mechanical Engineering
   - Music
   - Music Education
   - Nursing
4. Students transferring from non-Regental institutions must enroll in pre-general education courses during the first 30 attempted Regental credit hours. These students may enroll in other courses concurrently with the pre-general education courses. If the student does not complete the pre-general education courses during the first 30 Regental credit hours attempted, during the next 12 credit hours attempted, the student must enroll in and complete the pre-general education course(s). If the student does not successfully complete the pre-general education course(s) within 42 attempted Regental credit hours, the only course(s) in which a student may enroll is the pre-general education course(s); and the student's status is changed from degree seeking to non-degree seeking. The Vice President for Academic Affairs may grant an exception.
5. Students who are placed into pre-general education MATH are expected to successfully complete MATH 095 or both MATH 021 and MATH 101 before enrolling in MATH 102. However, a student who performs exceptionally well in MATH 021 may petition the Vice President for Academic Affairs to bypass MATH 101 and enroll in MATH 102 as their next mathematics course. These students must sit for the Math placement exam and earn scores that meet or exceed the placement score necessary for enrolling in MATH 102.

**Additional Guidelines for Associate Degrees**
1. The 18 hours of System General Education Requirements specified below must be completed within the first 32 hours as preparation for the Proficiency Examination:
   - Course Requirements
   - Credit Hours
   - Goal #1: Written Communication 3
   - Goal #2: Oral Communication 3
   - Goal #3: Social Sciences/Diversity 3
   - Goal #4: Humanities and Arts/Diversity 3
Transfer Students

Fraction of Credits
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.

College and Major Field Requirements

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

Associate Degree
An Associate of Arts (AA) degree is typically a two-year transfer degree, which indicates the completion of a student’s lower division general education requirements and forms the foundation for baccalaureate degree programs. Up to 16 credit hours at the 300 and 400 level may be required. More than 16 credit hours at the 300 and 400 level may be required if specified by an accrediting agency.

An Associate of Science (AS) degree is a terminal degree. However, it is transferable when a specific degree articulation agreement exists between a given AS degree and a specific baccalaureate degree. (BOR Policy 2:26.) Up to 16 credit hours at the 300 and 400 level may be required. More than 16 credit hours at the 300 and 400 level may be required if specified by an accrediting agency.

At South Dakota State University, the associate's degree programs are:
• Associate of Science (A.S.) in Agricultural Science
• Associate of Arts (A.A.) in General Studies

Bachelor's Degree
The bachelor's degree is awarded to a student by a university for satisfactory completion of a prescribed course of study ranging from 120-138 credits. It is verified by a diploma and transcript signifying a measure of achievement. The bachelor's degree enables a student to acquire a certain amount of general learning and to also become proficient in a particular field of study or a profession. The curricular structure of a bachelor's degree program includes a system general education core curriculum, institutional graduation requirements, support courses, major courses, and electives.

At South Dakota State University, the bachelor's degrees offered are:
• Bachelor of Arts (B.A.)
• Bachelor of General Studies (B.G.S.)
• Bachelor of Music Education (B.M.E.)
• Bachelor of Science (B.S.)
• Bachelor of Science in Education (B.S.E.)

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 Master of Arts and Master of Science are academic degrees designed to provide 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.), Master of Business Administration (M.B.A.) or Master of Music (M.M.) While similar to the MA and MS, 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 Education (M.Ed.)
• Master of Arts (M.A.)
• Master of Mass Communication (M.M.C.)
• Master of Science (M.S.)

Professional Graduate Degree
The professional graduate degree is earned by 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 Doctor of Medicine (M.D.), Juris Doctor (J.D.), Doctor of Veterinary Medicine (D.V.M.) and Doctor of Education (Ed.D.) degrees.

At South Dakota State University, the professional graduate degrees offered are:
• Doctor of Pharmacy (Pharm.D.)
• Doctor of Nursing Practice (D.N.P.)

Doctoral Degree
The Doctor of Philosophy program (Ph.D.) is designed to prepare 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 will have developed the ability to understand and evaluate critically 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 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.)

Major
An academic major or primary area of study within a degree program enables students to make an in-depth inquiry into a discipline or a professional field of study. It is organized around a specific set of goals and objectives that are accomplished through an ordered 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 area 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 encompasses a professional field of study or is interdisciplinary 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. In the Regental system majors typically consist of 47-89 semester credit hours with the mean at 68.5 hours. Credits required for the major are supported by the general education core and electives and together meet the total degree requirement.

**Minor**

An academic minor within a degree program enables a student to make an inquiry into a discipline or field of study beyond the major or to investigate a particular content theme. It too should be organized around a specific set of objectives that are achieved through a series of courses. Minors are intended to provide limited competency in the subject. Course offerings in a minor may be centered in a specific department or drawn from several departments as in the case of a topical or thematic focus. Some specific requirements are included. Regental undergraduate minors typically consist of 18 semester credit hours. Flexibility typically is achieved by offering the student a choice from among a group of courses to complete the credits.

**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. It is specified in the institutional catalog and is designated on the transcript.

**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.

**Degrees and Associated Majors by College**

SDSU offers degrees the from the following colleges. Listed below are the major areas of study organized by college.

- College of Agriculture and Biological Sciences
- College of Arts and Sciences
- College of Education and Human Sciences
- Jerome J. Lohr College of Engineering

**College of Agriculture and Biological Sciences**

- Associate of Science in Agriculture
  - Agricultural Science
- Bachelor of Science in Agriculture
  - Agricultural and Resource Economics
  - Agricultural Business
  - Agricultural Education, Communication, and Leadership
  - Agricultural Science
  - Agricultural Systems Technology
  - Agronomy
  - Animal Science
  - Dairy Manufacturing
  - Dairy Production
  - Horticulture
  - Landscape Architecture
  - Range Science
- Bachelor of Science in Biological Science
  - Biology
  - Biotechnology
  - Ecology and Environmental Science
  - Microbiology
  - Wildlife and Fisheries Sciences

**College of Arts and Sciences**

- Associate of Arts in Arts and Sciences
  - General Studies
- Bachelor of Arts in Arts and Sciences
  - Advertising
  - American Indian Studies
  - Architectural Studies
  - Art Education
  - Economics
  - English
  - French Studies
  - German
  - Global Studies
  - Graphic Design
  - History
  - Journalism
  - Music
  - Political Science
  - Spanish
  - Studio Art

- Bachelor of Music Education
  - Music Education
- Bachelor of General Studies
  - General Studies
- Bachelor of Science in Arts and Sciences
  - Advertising
  - Architectural Studies
  - Art Education
  - Biochemistry
  - Chemistry
  - Economics
  - Entrepreneurial Studies
  - Geographic Information Sciences
  - Geography
  - Graphic Design
  - History
  - Interdisciplinary Studies
  - Journalism
  - Physics
  - Political Science
  - Psychology
  - Sociology
  - Speech Communication
  - Studio Arts
  - Theatre

**College of Education and Human Sciences**

- Bachelor of Science
  - Apparel Merchandising
  - Athletic Training
  - Aviation
  - Consumer Affairs
  - Dietetics
  - Early Childhood Education
  - Exercise Science
  - Family and Consumer Sciences Education
  - Health Education
  - Hospitality Management
  - Human Development and Family Studies
  - Interior Design
  - Nutrition and Food Science
  - Physical Education Teacher Education
  - Sport, Recreation and Park Management

- Bachelor of Music Education
  - Music Education
- Bachelor of General Studies
  - General Studies
- Bachelor of Science in Arts and Sciences
  - Accounting
  - American Indian Studies
  - Architectural Studies
  - Art Education
  - Economics
  - English
  - French Studies
  - German
  - Global Studies
  - Graphic Design
  - History
  - Journalism
  - Music
  - Political Science
  - Spanish
  - Studio Art

- Bachelor of Music Education
  - Music Education
- Bachelor of General Studies
  - General Studies
- Bachelor of Science in Arts and Sciences
  - Accounting
  - American Indian Studies
  - Architectural Studies
  - Art Education
  - Economics
  - English
  - French Studies
  - German
  - Global Studies
  - Graphic Design
  - History
  - Journalism
  - Music
  - Political Science
  - Spanish
  - Studio Art

**Jerome J. Lohr College of Engineering**

- Bachelor of Science
  - Agricultural and Biosystems Engineering
  - Civil Engineering
  - Computer Science
  - Construction Management
  - Electrical Engineering
  - Mathematics
  - Mechanical Engineering
  - Operations Management

**College of Nursing**

- Bachelor of Science
  - Accelerated Nursing
  - Nursing
  - RN Upward Mobility

**College of Pharmacy**

- Bachelor of Science
  - Pharmaceutical Sciences
  - Medical Laboratory Science

**Graduate School**

- Master of Architecture
- Master of Arts
- Master of Education
- Master of Mass Communication
- Master of Science
- Doctor of Nursing Practice
- Doctor of Pharmacy
- Doctor of Philosophy

* See Graduate School Catalog for information about majors and degrees

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**Degrees & Associated Majors**

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Majors Sorted by General Degree Type

Associate of Arts (A.A.)
General Studies
Associate of Science in Agriculture (A.S.)
Agricultural Science
Bachelor of Arts (B.A.)
Advertising
American Indian Studies
Art Education
Economics
English
French Studies
German
Global Studies
Graphic Design
History
Journalism
Music
Political Science
Spanish
Studio Art
Bachelor of General Studies (B.G.S.)
General Studies
Bachelor of Music Education (B.M.E.)
Music Education
Bachelor of Science (B.S.)
Accelerated Nursing
Advertising
Agricultural and Biosystems Engineering
Agricultural and Resource Economics
Agricultural Business
Agricultural Education, Communication and Leadership
Agricultural Science
Agricultural Systems Technology
Agronomy
Animal Science
Apparel Merchandising
Architectural Studies
Art Education
Athletic Training
Aviation
Biochemistry
Biology (Biol Sci)
Biotechnology (Biol Sci)
Chemistry
Civil Engineering
Computer Science
Construction Management
Consumer Affairs
Dairy Manufacturing
Dairy Production
Dietetics
Early Childhood Education
Ecology and Environmental Science
Economics
Electrical Engineering
Exercise Science
Family and Consumer Sciences Education
Geographic Information Sciences
Geography
Graphic Design
Health Education
History
Horticulture
Hospitality Management
Human Development and Family Studies
Interdisciplinary Studies
Interior Design
 Journalism
Landscapes Science
Mathematics (ENGR)
Mechanical Engineering
Medical Laboratory Science
Microbiology (Biol Sci)
Nursing
Nutrition and Food Science
Operations Management
Pharmaceutical Sciences
Physics
Physical Education Teacher Education
Political Science
Psychology
Range Science
RN Upward Mobility
Sociology
Speech Communication
Studio Art
Sport, Recreation and Park Management
Theatre
Wildlife and Fisheries Sciences

Master of Architecture (M.Arch.)*
Master of Arts (M.A.)*
Master of Education (M.Ed.)*
Master of Mass Communication (M.M.C.)*
Master of Science (M.S.)*
Doctor of Nursing Practice (D.N.P.)*
Doctor of Pharmacy (Pharm.D.)*
Doctor of Philosophy (Ph.D.)*

* See Graduate School Catalog for further detail about certificate programs, major specializations, emphasis, minors.

Majors, Minors, Certificates and Specializations by Department

Aerospace Studies
Aerospace Studies Minor
(Air Force ROTC)

Agricultural and Biosystems Engineering
Agricultural and Biosystems Engineering Major
Agricultural Systems Technology Major
Engineering for Precision Agriculture Minor

Animal Science
Animal Science Major - Business and Production Specialization
Animal Science Major - Science Specialization
Equine Studies Minor
Swine Science Certificate

Architecture
Architectural Studies Major

Biology and Microbiology
Biology Major

Chemistry and Biochemistry
Biochemistry Major
Chemistry Minor
Chemistry Major
Civil and Environmental Engineering
Civil Engineering Major

College of Agriculture and Biological Sciences
Agricultural Science Major (AS & BS)
Agricultural Education, Communication and Leadership Major - Communication Specialization
Agricultural Education, Communication and Leadership Major - Leadership Specialization
Agricultural Education, Communication and Leadership Major - Agricultural Education Specialization

College of Arts and Sciences
American Indian Studies Major
American Indian Studies Minor
General Studies AA & BGS (Administered by University College and Continuing and Extended Education)
Interdisciplinary Studies Major
Women’s Studies Minor
Communication Studies and Theatre
Communication Studies & Theatre Minor
Dance Minor
Health Communication Minor
Speech Communication Major
Speech Communication Major - Speech Education specialization
Theatre Arts Administration Certificate
Theatre Major
Construction and Operations Management
Construction Minor
Construction Management Major
Operations Management Major
Electronics Technology Major
Consumer Sciences
Apparel Merchandising Major
Aviation Major - Aviation Education Specialization
Aviation Major - Aviation Maintenance Management Specialization
Aviation Minor
Consumer Affairs Major - Consumer Services Management Specialization
Consumer Affairs Minor - Family Financial Management Specialization
Events and Facilities Administration Minor
Hospitality Management Major
Interior Design Major
Interior Design Minor
Leadership & Management of Nonprofit Organizations Minor
Leadership Minor
Counseling and Human Development
Human Development and Family Studies Major
Human Development and Family Studies Minor
Gerontology Minor
Rehabilitation Services Minor
Dairy Science
Dairy Manufacturing Major
Dairy Manufacturing Major - Microbiology Specialization
Dairy Production Major
Economics
Accounting Minor
Agricultural and Environmental Law Certificate
Agricultural and Resource Economics Major
Agricultural Business Major
Agricultural Business Minor
Agricultural Marketing Minor
Economics Major
Economics Major - Business Specialization
Economics Minor
Entrepreneurial Studies Major
Entrepreneurial Studies Minor
Entrepreneurship Certificate
Management Minor
Marketing Minor
Electrical Engineering and Computer Science
Computer Science Major
Computer Science Minor
Electrical Engineering Major
Informatics Minor
Software Engineering Minor
English
English Major
English Major - English Education Specialization
English Major - Writing Specialization
English Minor
Peace and Conflict Studies Minor
Professional Writing Minor
Geography
Geographic Information Sciences Major
Geographic Information Sciences Minor
Geographic Information Sciences Certificate
Geography Major
Geography Minor
Health and Nutritional Sciences
Athletic Coaching Certification
Athletic Training Major
Dietetics Major
Exercise Science Major
Food Safety Minor
Health Education Major
Health Education Minor
Nutrition Minor
Health and Nutritional Sciences
Nutrition and Food Science Major
Physical Education Teacher Education Major
Recreation Administration Minor
Sport, Recreation and Park Management Major
(Pre-) Occupational Therapy Interest Area
(Pre-) Physical Therapy Interest Area
History, Political Science, Philosophy, and Religion
History Major
History Major - Teaching Specialization
History Minor
Political Science Major
Political Science Minor
Philosophy Minor
Religion Minor
(Pre-) Law Interest Area
(Pre-) Ministerial Interest Area
Jerome J. Lohr College of Engineering
Biomedical Engineering Minor
Journalism and Mass Communication
Advertising Major
Advertising Minor
Journalism Major
Journalism Minor
Mathematics and Statistics
Mathematics Major
Mathematics Major - Teaching Specialization
Mathematics Minor
Statistics Minor
Mechanical Engineering
Mechanical Engineering Major
Sustainable Energy Systems Minor
Military Science
Military Science Minor
(Army ROTC)
Modern Languages and Global Studies
French Studies Major
French Studies Major - Teaching Specialization
French Studies Minor
German Major
German Major - Teaching Specialization
German Minor
Global Studies Major
Global Studies Minor
Spanish Major
Spanish Major - Teaching Specialization
Spanish Minor
Music
Music Education Major
Music Major - Music Entrepreneurship Specialization
Music Major - Music Studies Specialization
Music Minor
Natural Resource Management
Botany Minor
Ecology and Environmental Science Major
Range Science Major
Range Science Minor
Wildlife and Fisheries Sciences Major
Nursing
Nursing Major
Health Science Minor
Pharmacy
Pharmaceutical Sciences Major
Medical Laboratory Science Major
Physics
Nuclear Engineering Minor
Physics Major
Physics Major - Science Teaching Specialization
Physics Minor
Plant Science
Agronomy Major
Agronomy Minor
Horticulture Major
Horticulture Minor
Landscape Architecture Major
Pest Management Minor
Precision Agriculture Minor
Soil Science Certification
Soil Science Minor
Psychology
Psychology Major
Psychology Major - Teaching Specialization
Psychology Minor
Sociology and Rural Studies
Criminal Justice Minor
Sociology Major
Sociology Major - Human Resources Specialization
Sociology Major - Human Services Specialization
Sociology Major - Teaching Specialization
Sociology Minor
Teaching, Learning and Leadership
Early Childhood Education Major - Birth to 5 Specialization
Early Childhood Education Major - Birth to 8 Specialization
Early Childhood Education Kindergarten Education Endorsement
Early Childhood Education Major – Elementary Education Certification Cooperative Program with DSU or NSU
Early Childhood Special Education Endorsement
Family and Consumer Sciences Education Major
Teacher Education-Certification
Van D. & Barbara B. Fishback Honors College
Honor’s Designation
Veterinary and Biomedical Sciences
(Pre-) Veterinary Medicine Interest Area
Visual Arts
Animation Certificate
Art Education Major
Art History Certificate
Ceramics Certificate

Film Studies Minor
Graphic Design Certificate
Graphic Design Major
Painting Certificate
Printmaking Certificate

Sculpture Certificate
Studio Arts Major
Studio Arts Minor

PRE-PROFESSIONAL AREAS OF STUDY
Pre-Chiropractic
Pre-Dental
Pre-Law
Pre-Medicine
Pre-Ministerial
Pre-Mortuary
Pre-Occupational Therapy
Pre-Optometry
Pre-Physical Therapy
Pre-Physician Assistant
Pre-Veterinary Medicine

ADMINISTERED BY
ABS/Biology and Microbiology
ABS/Biology and Microbiology
A&S/History and Political Science
ABS/Biology and Microbiology
A&S/History and Political Science
ABS/Biology and Microbiology
EHS/Health and Nutritional Sciences
ABS/Biology and Microbiology
EHS/Health and Nutritional Sciences
ABS/Biology and Microbiology
ABS/Veterinary and Biomedical Sciences

Key to Units Administering Individual Curriculums
A&S College of Arts and Sciences
ABS/AG College of Agriculture and Biological Sciences, Agriculture Curriculum
ABS/BS College of Agriculture and Biological Sciences, Biological Science Curriculum
ENGR College of Engineering
EHS College of Education and Human Sciences
HC Honors College
GRAD Graduate School
NURS College of Nursing
PHARM College of Pharmacy
UC University College
* Specialization (area within a major)
(E) Education curriculum available with these majors

Academic Organizational Structure

College of Agriculture and Biological Sciences
Agricultural and Biosystems Engineering
Animal Science
Biology and Microbiology
Dairy Science
Economics
Natural Resource Management
Plant Science
Veterinary and Biomedical Sciences

College of Arts and Sciences
Air Force ROTC
Architecture
Army ROTC
Chemistry and Biochemistry
Communication Studies and Theatre
English
Geography
History, Political Science, Philosophy, and Religion
Journalism and Mass Communication
Modern Languages and Global Studies
Music
Physics
Psychology
Sociology and Rural Studies
Visual Arts

College of Education and Human Sciences
Consumer Sciences
Counseling and Human Development
Health and Nutritional Sciences
Teaching, Learning and Leadership

Jerome J. Lohr College of Engineering
Agricultural and Biosystems Engineering
Civil and Environmental Engineering
Electrical Engineering and Computer Science
Construction and Operations Management
Mathematics and Statistics
Mechanical Engineering

College of Nursing
Graduate Nursing
Nursing Student Services
Undergraduate Nursing

College of Pharmacy
Pharmacy Practice
Pharmaceutical Sciences

Graduate School
Van D. & Barbara B. Fishback Honors College

Office of Continuing and Distance Education
Distance Education
Outreach Programs

University College
Exploratory Studies Program
First Year Advising Center
Colleges

Agriculture and Biological Sciences

Arts and Sciences

Education and Human Sciences

Jerome J. Lohr College of Engineering

Graduate School

Van D. and Barbara B. Fishback Honors College

Nursing

Pharmacy

University College
Introduction

Undergraduate academic programs in the College of Agriculture and Biological Sciences lead to a Bachelor of Science Degree in Agriculture or Biological Science with a variety of majors and minors. An Associate of Science Degree in Agriculture is also available. Graduate degrees are offered in several disciplines. Students in agriculture enter into a wide array of technical, professional, and business careers, many of which deal with producing, processing, and marketing agricultural products. Biological sciences students also enter into a variety of career areas, such as wildlife biology, lab technologist, health fields, food safety and quality assurance, and environmental management. Many graduates in agriculture and biological sciences are recruited by public agencies for employment in such services as forestry, parks, fish and wildlife, public health, conservation of natural resources, research laboratories, and many others. Many graduates pursue advanced degrees in graduate schools or professional schools such as medicine, dentistry, optometry, 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 agricultural production, natural resource management, biotechnology, and biomass-based energy and products. The Cooperative Extension Service provides educational services statewide to promote the beneficial use and development of human, economic, and natural resources.

Departments

Agricultural and Biosystems Engineering
Animal Science
Biology and Microbiology
Dairy Science
Economics
Natural Resource Management
Plant Science
Veterinary and Biomedical Sciences
Agricultural Experiment Station
Animal Disease Research & Diagnostic Lab
SDSU Extension Service
Water Resources Institute

Degrees Offered

Associate of Science
Bachelor of Science in Agriculture
Bachelor of Science in Biological 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)
National Institute of Food and Agriculture (NIFA)
Society for Range Management

Programs

One of the hallmarks of the College of Agriculture and Biological Sciences is its diversity with multiple departments, numerous majors and specializations, and hundreds of different courses from which to choose. The college offers premier curricula dispensed by faculty who are committed to student success.
Landscape Architecture  
Microbiology  
Range Science  
Wildlife and Fisheries Sciences

Minors  
Accounting  
Agricultural Business  
Agricultural Marketing  
Agronomy  
Animal Health  
Animal Science  
Biology  
Biotechnology  
Botany  
Economics  
Entrepreneurial Studies  
Equine Studies  
Horticulture  
Management  
Marketing  
Microbiology  
Pest Management  
Precision Agriculture  
Range Science  
Soil Science

Pre-Professional Areas of Study  
Pre-Chiropractic  
Pre-Dental  
Pre-Medicine  
Pre-Mortuary  
Pre-Occupational Therapy  
Pre-Optometry  
Pre-Physician Assistant  
Pre-Veterinary Medicine

Department  
Agriculture  
Biological Science

Pre-Science in Agriculture  
Students who wish to complete a Bachelor of Science in Agriculture must complete a minimum of 11 credits from at least four courses on the approved list of Group 1 courses in Agriculture.

Group 1 Courses in Agriculture  
A minimum of 11 credits from at least four courses listed below must be completed. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS 203</td>
<td>Global Food Systems</td>
<td>3</td>
</tr>
<tr>
<td>ABS 482-582</td>
<td>International Experience</td>
<td>2-4</td>
</tr>
<tr>
<td>ABS 475-475L</td>
<td>Integrated Natural Resource Management and Lab (AW)</td>
<td>3</td>
</tr>
<tr>
<td>AGSC 271-271L</td>
<td>Farm and Ranch Management and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 354</td>
<td>Agricultural Marketing and Prices</td>
<td>3</td>
</tr>
<tr>
<td>AS 101-101L</td>
<td>Introduction to Animal Science and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AS 223-223L</td>
<td>Applied Animal Nutrition and Lab</td>
<td>4</td>
</tr>
<tr>
<td>AS 241-241L</td>
<td>Introduction to Meat Science and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AST 202-202L</td>
<td>Construction Technology and Materials and Lab</td>
<td>2</td>
</tr>
<tr>
<td>AST 213-213L</td>
<td>Ag, Industrial and Outdoor Power and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AST 333-333L</td>
<td>Soil and Water Mechanics and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AST 342-342L</td>
<td>Applied Electricity and Lab</td>
<td>3</td>
</tr>
<tr>
<td>DS 110-110L</td>
<td>Introduction to Dairy Science and Lab</td>
<td>3</td>
</tr>
<tr>
<td>DS 231</td>
<td>Dairy Foods</td>
<td>3</td>
</tr>
<tr>
<td>HO 111-111L</td>
<td>Introduction to Horticulture and Lab</td>
<td>1</td>
</tr>
<tr>
<td>LA 101</td>
<td>Introduction to Landscape Architecture</td>
<td>3</td>
</tr>
<tr>
<td>MICR 311-311L</td>
<td>Food Microbiology and Lab</td>
<td>3</td>
</tr>
<tr>
<td>NRM 110</td>
<td>Environmental Conservation **</td>
<td>3</td>
</tr>
<tr>
<td>REC 101</td>
<td>Parks and Society</td>
<td>3</td>
</tr>
<tr>
<td>PS 103-103L</td>
<td>Crop Production and Lab</td>
<td>3</td>
</tr>
<tr>
<td>PS 213-213L</td>
<td>Soils and Lab **</td>
<td>2</td>
</tr>
<tr>
<td>PS 222-222L</td>
<td>Principles of Plant Pathology and Lab</td>
<td>3</td>
</tr>
<tr>
<td>PS 305-305L</td>
<td>Insect Biology and Lab (COM)</td>
<td>3</td>
</tr>
<tr>
<td>PS 307-307L</td>
<td>Insect Pest Management and Lab</td>
<td>3</td>
</tr>
<tr>
<td>RANG 105-105L</td>
<td>Introduction to Range Management and Lab *</td>
<td>3</td>
</tr>
</tbody>
</table>

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

1. The requirements of one of the college's majors must be met. Specific requirements are listed under each program of study.
2. 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total.
Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.

Students who wish to complete a Bachelor of Science in Biological Sciences must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings.

Secondary Education Courses
Students planning to teach at the secondary level should start taking professional education courses during their sophomore year. Students must apply for admission to the Supervisor of Student Teaching before being admitted to the education sequence. (See College of Education and Human Sciences for details.)

Student Engagement
Most departments in the College of Agriculture and Biological Sciences have one or more student organizations. Most of these organizations sponsor educational, social, and service activities, and provide students opportunities to develop leadership skills and other important abilities. Nationally known agricultural fraternities for men (Alpha Gamma Rho and Farmhouse) and women (Ceres) are organized and provide living accommodations near campus. A living-learning community in Ag-Bio Sciences is also available. During the first semester of the sophomore year, students with outstanding scholarship, leadership, and character may be initiated into Alpha Zeta, Sigma Alpha, and Beta Beta Beta honor societies. Gamma Sigma Delta, an agricultural honor society for seniors with high academic ability, also has an SDSU chapter.
Introduction
The College of Arts and 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 enable them to continue the learning process as educated citizens. Students study the ways of thinking and expression that are intrinsic to the arts, humanities, social sciences, and natural sciences. Students receive education on the scientific method, critical thinking, analysis, synthesis, and cogent expression. They develop intellectual skills, humanistic understanding, and aesthetic appreciation. Such an education increases the usefulness of career planning and specialization by laying a foundation for lifelong values. The departments and programs in the College of Arts and Sciences offer major and/or minor programs leading to certificates and associate, bachelor, master's, and doctoral degrees.

Departments
Aerospace Studies
Architecture
Chemistry and Biochemistry (and Medical Laboratory Science)
Communication Studies and Theatre
Economics
English
Geography
History, Political Science, Philosophy, and Religion
Journalism and Mass Communication
Military Science
Modern Languages and Global Studies
Music
Physics
Psychology
Sociology and Rural Studies
Visual Arts

Degrees Offered
Associate of Arts
Bachelor of Arts
Bachelor of General Studies
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.

Accreditations and Certification
The Journalism and Mass Communication Department is accredited by the Accrediting Council on Education in Journalism and Mass Communication.
The Music Department is accredited by the National Association of Schools of Music.
The Chemistry programs are certified by the American Chemical Society.
The Architecture Program has been admitted to candidacy by the National Architectural Accrediting Board.
The Teacher education programs in the College of Arts and Sciences are accredited by the National Council for Accreditation of Teacher Education.

Programs
Majors
Advertising
American Indian Studies
Architectural Studies
Art Education
Biochemistry
Chemistry
Economics
English
Entrepreneurial Studies
French Studies
General Studies
Geographic Information Sciences
Geography

Department
Journalism and Mass Communication
College of Arts and Sciences
Architecture
Visual Arts
Chemistry and Biochemistry
Chemistry and Biochemistry
Economics
English
Economics
Modern Languages and Global Studies
College of Arts and Sciences
Geography

Degree Offered
Bachelor of Arts; Bachelor of Science
Bachelor of Arts
Bachelor of Arts; Bachelor of Science
Bachelor of Arts
Bachelor of Science
Bachelor of Arts; Bachelor of Science
Bachelor of Arts
Bachelor of Arts; Bachelor of Science
Bachelor of Science
Bachelor of Arts
Bachelor of General Studies
Bachelor of Science
Bachelor of Science

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Department</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animation</td>
<td>Journalism and Mass Communication</td>
<td>College of Arts and Sciences</td>
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<tr>
<td>Art History</td>
<td>Aerospace Studies</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Ceramics</td>
<td>Communication Studies and Theatre</td>
<td>College of Arts and Sciences</td>
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<tr>
<td>Entrepreneurship</td>
<td>Sociology and Rural Studies</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Geographic Information Services</td>
<td>English</td>
<td>College of Arts and Sciences</td>
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<tr>
<td>Geography</td>
<td>Economics</td>
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</tr>
<tr>
<td>German</td>
<td>History</td>
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<tr>
<td>Global Studies</td>
<td>Political Science</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Graphic Design</td>
<td>Philosophy</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>History</td>
<td>Professional Writing</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Journalism</td>
<td>Psychology</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Marketing</td>
<td>Religion</td>
<td>College of Arts and Sciences</td>
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<tr>
<td>Military Science</td>
<td>Sociology</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Music</td>
<td>Spanish</td>
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<tr>
<td>Peace and Conflict Studies</td>
<td>Studio Arts</td>
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<tr>
<td>Philosophy</td>
<td>Theatre</td>
<td>College of Arts and Sciences</td>
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<td>Physics</td>
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<tr>
<td>Political Science</td>
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<tr>
<td>Professional Writing</td>
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<tr>
<td>Psychology</td>
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<tr>
<td>Religion</td>
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<tr>
<td>Spanish</td>
<td>Visual Arts</td>
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<tr>
<td>Studio Arts</td>
<td>Visual Arts</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Women's Studies</td>
<td>Visual Arts</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>College of Arts and Sciences</td>
<td>Communication Studies and Theatre</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>Certificate</td>
<td>Department</td>
<td>College of Arts and Sciences</td>
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<td>Animation</td>
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<tr>
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<tr>
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<td>Religion</td>
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<tr>
<td>Spanish</td>
<td>Visual Arts</td>
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</tr>
<tr>
<td>Studio Arts</td>
<td>Visual Arts</td>
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</tr>
<tr>
<td>Theatre</td>
<td>Communication Studies and Theatre</td>
<td>College of Arts and Sciences</td>
</tr>
</tbody>
</table>
Degree Requirements

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

1. The requirements of one of the College of Arts and Sciences departmental majors must be met. Specific requirements are listed under each department. Courses taken in the major may be used to fulfill university core requirements if the department does not state otherwise.

2. Bachelor's degrees in the College of Arts and Sciences must include 33 semester credits from upper division courses (300 and above).

Students seeking B.S., B.A., and B.M.E. degrees in the College of Arts and Sciences must complete the System General Education Requirements (SGRs), the SDSU Institutional Graduation Requirements (IGRs), and the College of Arts and Sciences requirements. Specific requirements for each degree also include:

Bachelor of Science

<table>
<thead>
<tr>
<th>Natural Science*</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>With 6 credits of Biological Sciences</td>
<td></td>
</tr>
<tr>
<td>With 8 credits of Physical Sciences**</td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td>12</td>
</tr>
<tr>
<td>Humanities</td>
<td>8*</td>
</tr>
</tbody>
</table>

*Bachelor of Science students in the Arts and Sciences College must complete 6 credits from the System General Education (SGR) Natural Science list and an additional 8 credits (from the list below) to meet the College of Arts and Sciences requirements for the Bachelor of Science degree. In order to meet the College B.S. requirements, students must complete a minimum of 8 Physical Science credits and a minimum of 6 Biological Science credits for the required total of 14 credits.

**Students may count 5 credits of Math courses (Math prefix, that are in addition to the System General Education (SGR #5) requirement of 3 credits toward the Physical Science requirement.

Bachelor of Arts

<table>
<thead>
<tr>
<th>Modern Languages* (completion &amp; competency in one language at the 202 level or a department-approved advanced upper division language course)</th>
<th>3-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sciences</td>
<td>8</td>
</tr>
<tr>
<td>Humanities</td>
<td>6</td>
</tr>
</tbody>
</table>

* International students whose native language is not English may substitute 14 credits in "American Culture" courses for the modern language requirement. These courses in the humanities and social sciences are in addition to the normal B.A. requirements. Students must visit with the Assistant Dean of the College of Arts and Sciences for permission to follow this option.

Bachelor of Music Education

<table>
<thead>
<tr>
<th>HIST/AIS 368 - History and Culture of the American Indian</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>or ANTH/AIS 421 Indians of North America</td>
<td></td>
</tr>
<tr>
<td>SOC 100 - Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>or PSYC 101 - General Psychology</td>
<td></td>
</tr>
</tbody>
</table>

Secondary Education Courses

Students planning to teach at the high school level should start taking professional education courses during their sophomore year. Students must apply for admission to the Supervisor of Student Teaching before being admitted to the education sequence. (See the College of Education and Human Sciences and the Department of Teaching, Learning, and Leadership for further details.)

Student Engagement

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

- Dramatics and Forensics. The Communication Studies and Theatre Department supervises a forensics program in debate, public address, and oral interpretation of literature. State University Theatre presents a program of major and experimental productions each year. During the summer a season of plays in repertory are given by the Prairie Repertory Theatre in Brookings and Brandon.

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

- The Ritz Art Gallery. The Ritz Gallery sponsors an annual program of professional and student exhibitions, including the Juried Student Exhibition which is open to all SDSU students.
# Approved Courses for the College of Arts and Sciences Requirements

## Biological Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 220</td>
<td>Physical Anthropology * (COM)</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 101-101L</td>
<td>Biology Survey I and Lab * (COM)</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 103-103L</td>
<td>Biology Survey II and Lab * (COM)</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 151-151L</td>
<td>General Biology I and Lab * (COM)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 153-153L</td>
<td>General Biology II and Lab * (COM)</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 200-200L</td>
<td>Animal Diversity and Lab</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 221-221L</td>
<td>Human Anatomy and Lab (COM)</td>
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## Physical Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CHEM 106-106L</td>
<td>Chemistry Survey and Lab</td>
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</tr>
<tr>
<td>CHEM 108-108L</td>
<td>Organic and Biochemistry and Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 112-112L</td>
<td>General Chemistry I and Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 114-114L</td>
<td>General Chemistry II and Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 115-115L</td>
<td>Atomic &amp; Molecular Struct. &amp; Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 120-120L</td>
<td>Elmentry Organic Chemistry and Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 127-127L</td>
<td>Structure &amp; Function of Org Molecules &amp; Lab</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 131-131L</td>
<td>Phys. Geog: Weather &amp; Climate &amp; Lab</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 132-132L</td>
<td>Phys. Geog: Natural Landscapes &amp; Lab</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 101-101L</td>
<td>Survey of Physics and Lab</td>
<td>4</td>
</tr>
</tbody>
</table>

## Humanities

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIS 101</td>
<td>Introductory Lakota I</td>
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</tr>
<tr>
<td>AIS 102</td>
<td>Introductory Lakota II</td>
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Introduction
The College of Education and Human Sciences (EHS) develops human potential by enhancing individual, family, school, and community well-being. Graduates from the College work in diverse work settings which span business, education, government and non-profit or community agencies. Examples of careers in EHS include an educator who provides leadership and instruction in our schools, a dietitian who counsels others to establish a healthy or specialized diet, an interior designer who designs residential or commercial spaces, a wellness professional who works with adults to promote good health practices for people of all ages, a pilot serving our country or a professional counselor supporting the development of others.

The College of Education and Human Sciences works to advance teaching, learning, and scholarship through:

- Exemplary student-centered undergraduate and graduate education that prepares tomorrow's professionals.
- Basic, applied, and translational scholarship that addresses vital issues of health, development, learning, leadership, sustainability, and quality of life across the lifespan.
- Engagement with individuals, families, schools, organization and communities which transform knowledge and discovery into practice and provides meaningful impacts.
- To be a recognized leader in teacher education and the human sciences and innovative in advancing new science, pedagogy and design.

Departments
Consumer Sciences
Counseling and Human Development
Health and Nutritional Sciences
Teaching, Learning and Leadership

Degrees Offered
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.

Accreditations
Accreditation Council for Education of Nutrition and Dietetics (ACEND)
Academy of Nutrition and Dietetics (ACEND)
Aviation Accreditation Board International (AABI)
Commission on Accreditation of Allied Health Education Programs (CAAHEP)
Commission on Accreditation of Athletic Training Education (CAATE)
Council for Accreditation of Counseling and Related Educational Programs (CACREP)
Council for Interior Design Accreditation (CIDA)
Council on Rehabilitation Education (CORE)
National Association for Education of Young Children (NAEYC)
National Council for the Accreditation of Teacher Education Programs (NCATE)
National Institute of Food and Agriculture (NIFA) recognition
South Dakota Department of Education (DOE)

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.

Major
Agricultural Education, Communication and Leadership Major - Agricultural Education Specialization
Apparel Merchandising
Athletic Training
Aviation Major - Aviation Education Specialization
Aviation Major - Aviation Maintenance Management Specialization
Consumer Affairs - Consumer Services Management Specialization
Consumer Affairs - Family Financial Management Specialization
Dietetics
Early Childhood Education
Family and Consumer Sciences Education
Exercise Science
Health Education

Department
Teaching, Learning and Leadership
Consumer Sciences
Health and Nutritional Sciences
Consumer Sciences
Consumer Sciences
Consumer Sciences
Consumer Affairs
Health and Nutritional Sciences
Teaching, Learning and Leadership
Teaching, Learning and Leadership
Health and Nutritional Sciences
Health and Nutritional Sciences
Consumer Sciences
Hospitality Management
Human Development and Family Studies
Interior Design
Nutrition and Food Science
Physical Education Teacher Education
Sport, Recreation and Park Management

Minors
Aviation
Events and Facilities Administration
Food Safety
Gerontology
Health Education
Human Development and Family Studies
Interior Design
Leadership
Leadership and Management of Nonprofit Organizations
Nutrition
Recreation Administration
Rehabilitation Services

Counseling and Human Development
Consumer Sciences
Health and Nutritional Sciences
Health and Nutritional Sciences and Teaching, Learning and Leadership
Health and Nutritional Sciences

Department
Consumer Sciences
Consumer Sciences
Health and Nutritional Sciences
Counseling and Human Development
Health and Nutritional Sciences
Counseling and Human Development
Consumer Sciences
Consumer Sciences
Consumer Sciences
Health and Nutritional Sciences
Consumer Sciences
Counseling and Human Development

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 Departments of Education. The secondary certificate qualifies the holder to teach particular subjects in secondary and middle school/junior high grades. 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. Curriculum to prepare students for endorsements are available in English as a Second Language, coaching, reading, and over 20 discipline-specific content areas.

Student Engagement
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.
Jerome J. Lohr College of Engineering

Introduction
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
- Agricultural and Biosystems Engineering
- Civil and Environmental Engineering
- Construction and Operations Management
- Electrical Engineering and Computer Science
- Engineering Extension
- Mathematics and Statistics
- Mechanical Engineering
- Mountain Plains Consortium (MPC)
- Office of Engineering Research
- SD Local Transportation Assistance Program (LTAP)
- Water and Environmental Engineering Research Center (WEERC)

Degrees Offered
- 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
The programs in Agricultural and Biosystems Engineering, Civil Engineering, Electrical Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.
The Construction Management program is accredited by the American Council for Construction Education (ACCE).

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.

Majors
- Agricultural and Biosystems Engineering
- Civil Engineering
- Computer Science
- Construction Management
- Electrical Engineering
- Electronics Technology
- Mathematics
- Mathematics Major - Teaching Specialization
- Mechanical Engineering
- Operations Management

Minors
- Biomedical Engineering
- Computer Science
- Construction
- Engineering for Precision Agriculture
- Informatics
- Mathematics
- Nuclear Engineering
- Software Engineering
- Statistics
- Sustainable Energy Systems

Departments
- Agricultural and Biosystems Engineering
- Civil and Environmental Engineering
- Electrical Engineering and Computer Science
- Construction and Operations Management
- Mechanical Engineering
- Mathematics and Statistics
- Physics
- Software Engineering
- Sustainable Energy Systems
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, and the goals of the Institutional 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.

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

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

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

Licensure
Many students choose an engineering career requiring professional licensure, and SDSU students score very well in the required examinations. Engineering majors typically score above the national average on the Fundamentals in Engineering examination required for becoming a registered Professional Engineer.
Graduate School

Kinchel Doemer, Dean of the Graduate School
SAD 130, Box 2201
605-688-4181
Fax: 605-688-6171
E-mail: sdsu_gradschool@sdstate.edu

Introduction
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, 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.

Graduate Credit for Seniors
A senior within 30 credits of completing a baccalaureate degree with a grade point average of 2.5 or a junior-senior grade point average of 3.0 may enroll in graduate courses numbered 500-699 in addition to the courses necessary to complete a baccalaureate degree. Courses in the 700 and 800 series are not open to undergraduate students. Total course load of undergraduate and graduate coursework may not exceed 18 credits. Courses must be designated for graduate credit at the time of registration. Forms requesting permission to register for graduate courses are available at the Graduate School website and must be approved prior to enrolling in the course. Permission to take courses for graduate credit does not constitute admission to the Graduate School. Graduate courses are not applied to an undergraduate degree unless by permission of the Registrar.

Admission to the Graduate School
For information regarding admission to the Graduate School, departments offering graduate instruction, graduate courses available, as well as information on graduate fellowships and assistantships, call the Graduate School Office 605-688-4181 or visit http://www.sdstate.edu/graduate/

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

Degrees Offered
The Master of Science, Master of Arts, and Master of Education degrees are offered in approximately 30 majors. The Doctor of Philosophy is offered in Animal Science; Biological Sciences; Chemistry; Computational Science and Statistics; Electrical Engineering; Geospatial Science and Engineering; Nursing; Nutritional Sciences; Pharmaceutical Sciences; Plant Science; Sociology; and Wildlife and Fisheries Sciences. Two professional doctorates are also offered in Nursing and Pharmacy.

Programs
See the separate Graduate Catalog available online at http://catalog.sdstate.edu/.
Van D. and Barbara B. Fishback Honors College

Timothy Nichols, Dean
Honors Hall 119, SHON Box 2705A
605-688-5268
E-mail: timothy.nichols@sdstate.edu
www.sdstate.edu/honors

Committee
Timothy Nichols, Dean; Committee Members: Larry Janssen (ABS), David Cartrette (A&S), Leda Cempellin (A&S), Kathryn Penrod (EHS), Donna Flint (ENG), Nancy Fahrenwald (NUR), Chandradhar Dwivedi (PHA), and Jody Owen (UC)

College Overview
The Van D. and Barbara B. Fishback Honors College at South Dakota State University provides talented motivated students in any major with an enriched, personalized curricular pathway and experiential learning opportunities which allow them to maximize their learning at South Dakota State University.

Objectives
Follow the link to review the College's Mission, Vision, Guiding Values, and Strategic Intent.

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

College Facilities
The Van D. and Barbara B. Fishback Honors College is headquartered in Honors Hall. Facilities include Dean's Office/Administrative suite, conference room, and student library. The Hall is also home to the Honors College classroom, a basement community building space, outdoor courtyard, and kitchens, group study rooms and lounges on each wing of the hall. Honors Hall is the hub of academic and enrichment programming for Honors College students and faculty.

Student 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, they can be found on athletic teams, in musical ensembles, student government, research laboratories, and faith-based organizations, among others. In addition, special Fishback Honors College student engagement opportunities include the Honors College Student Organization, Honors Hall Government, and Dean's Student Advisory Council. Annual events include a Hike and Read Retreat, Faculty Potluck, Town Hall Meeting, Convocation, Quiz Bowl, Talent Show, Undergraduate Research, Scholarship and Creative Activity Day, and Medallion Ceremony. Students and faculty are also actively engaged in regional and national Honors organizations.
Introduction
The Mission of the College of Nursing at South Dakota State University is to improve human health and quality of life for people in the state of South Dakota, the region, the nation, and the world. The College strives for excellence in undergraduate and graduate education, research, scholarship, and health services to diverse individuals, communities, and populations across the life span. Faculty, students, and graduates of the College value scholarly activities that expand nursing science, nursing knowledge, and nursing practice and provide leadership in the delivery of nursing and health care for individuals across the life span, in communities and populations. The College engages in strategic and inter-professional partnerships to improve human health and foster diversity in the people and perspectives shaping the discipline.

The mission serves to:
- Recruit and retain students who reflect a qualified, diverse student body.
- Prepare graduates who are internationally competitive, globally informed, ethically grounded and socially responsible.
- Provide an environment rich in research to improve nursing practice and health care outcomes.
- Provide expertise to consumers, health care professionals and health systems.

Departments
Graduate Nursing
Nursing Student Services
Nursing Research
Undergraduate Nursing
West River Nursing

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

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

Programs
Majors
Nursing Major
Nursing Major - Accelerated Program
Nursing Major - RN Upward Mobility

Minors
Health Science

Graduate Programs
Master of Science in Nursing
Doctor of Nursing Practice
PhD in Nursing
Certificates

Diversity Statement
Recognizing the growing diversity of the nation’s population, and in support of a key goal from many national organizations to eliminate health disparities, the College of Nursing faculty and staff seek to admit and graduate students who value, respect and reflect the diversity of the society in which they will learn and practice.
Introduction
The South Dakota State University College of Pharmacy is nationally recognized for excellence in preparing students to provide high quality, patient-centered, and population-based pharmacist care. In the area of problem-solving research, the College has great momentum. Research teams led by faculty are making progress on projects that can enhance the health and wellbeing of people around the world. The College's growing research portfolio includes oncology, unique drug delivery systems, addiction to drugs and alcohol, cardiovascular health, dementia, ophthalmic medicine, and new models of pharmacy care.

Departments
Pharmaceutical Sciences
Pharmacy Practice

Degrees Offered
Pharmaceutical Sciences
Doctor of Pharmacy
Doctor of Philosophy

Accreditations
Accreditation Council for Pharmacy Education (ACPE)
The Medical Laboratory Science program is accredited by the National accrediting Agency for Clinical Laboratory Sciences.

Programs
Majors
Medical Laboratory Science, BS
Pharmaceutical Sciences, BS

Graduate Programs
Doctor of Pharmacy, PharmD*
Pharmaceutical Sciences, PhD*

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

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

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

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

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

Keith Corbett, Dean
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605-688-4153
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www.sdstate.edu/gs

Faculty
Professor Corbett, Dean; Lectures Bayer, Sydow; Instructors Kurtenbach, Pedersen, Shinn.

Introduction
Many students enrolling in the University College have elected to explore their abilities, interests and educational alternatives before declaring a major. Most First Year Students are advised by a group of Professional First Year Advisors to help them determine areas of interest. Through University College, a student will receive assistance that helps them make wise major/career choices. Most undeclared major students who enroll in University College will transfer to one of the degree granting colleges at SDSU before they reach sophomore status. The College also provides advising and general support to students enrolled in distance education programs.

Departments
The University College is organized through the following programmatic delivery structure: Academic Programs and Academic Support such as Academic Advising, Mentoring, and Tutoring.

Degrees Offered
The University College does not offer a degree; rather staff assist students in finding the right fit for a degree. The University College serves students in the following categories: undeclared pre-majors, special non-degree seeking students, first and second year students, and students admitted in the academic success program.

Accreditations and Certifications
The University College activities are covered by the institutional accreditation through the Higher Learning Commission of the North Central Association. The Tutor Training program is certified through the College Reading and Learning Association’s International Tutor Training Program, with certification at the highest level (Level 3 – Master Tutor Certification).

Programs
Associate of Arts
University College supervises the Associate of Arts degree in General Studies. This degree provides a foundation of general education courses at the university level supporting bachelor's degree programs, lifelong learning, leadership, service, and careers requiring general education coursework.

Undeclared Majors
University College allows students without declared majors to begin college work through its program for undeclared/deciding students. Deciding students are assisted in planning their college program and encouraged to explore various fields of study. Deciding student enrollment is normally for the freshman year as they are encouraged to choose a major within two semesters. Students are expected to be in good Academic Standing as they explore academic options and declare majors.

Academic advisors assist First Year Students in the process of identifying their interests, aptitudes and abilities. Students work with advisors to plan out a program that will meet their interests and needs. The University College offers a two-credit course entitled "UC 109 First Year Seminar," which helps them acclimate to college life and learn about SDSU resources. A suggested first year schedule follows:

<table>
<thead>
<tr>
<th>Freshman Year</th>
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<tbody>
<tr>
<td>UC 109, First Year Seminar</td>
<td>2</td>
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<tr>
<td>UC 102-102L, Exploratory Studies</td>
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<td>or</td>
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<tr>
<td>ENGL 101, Composition I</td>
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<td>or</td>
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<td>MATH 102, College Algebra</td>
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<td>or</td>
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<tr>
<td>SPCM 101, Fundamentals of Speech</td>
<td>3</td>
<td>or</td>
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<tr>
<td>UC 143, Mastering Lifetime Learning Skills</td>
<td>2</td>
<td>or</td>
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<tr>
<td>Humanities Core Courses</td>
<td>3</td>
<td>or</td>
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<tr>
<td>Social Sciences Core Courses</td>
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<tr>
<td>Biological or Physical Science Core Courses</td>
<td>3-4</td>
<td>or</td>
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<tr>
<td>Interest Area Courses</td>
<td>3</td>
<td>or</td>
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72 Colleges
Departments

Aerospace Studies
Agricultural & Biosystems
Engineering
Animal Science
Architecture
Biology & Microbiology
Chemistry & Biochemistry
Civil & Environmental Engineering
Communication Studies & Theatre
Construction & Operations
Management
Consumer Sciences
Counseling & Human Development
Dairy Science
Economics
Electrical Engineering & Computer Science
English
Geography
Health & Nutritional Sciences
History, Political Science, Philosophy & Religion
Journalism & Mass Communication
Mathematics & Statistics
Mechanical Engineering
Military Science
Modern Languages & Global Studies
Music
Natural Resource Management
Nursing
Pharmaceutical Sciences
Pharmacy Practice
Physics
Plant Science
Psychology
Sociology & Rural Studies
Teaching, Learning & Leadership
Veterinary & Biomedical Sciences
Visual Arts
Aerospace Studies

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Faculty
Colonel Pleasants, Professor of Aerospace Studies, Head; Captain Beaudoin.

Department Overview
The Department of Aerospace Studies is dedicated to training college students for successful careers as officers in the United States Air Force. The department is home of the Flying Jacks – Air Force ROTC Detachment 780 at South Dakota State University. The detachment has had 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
Aerospace Studies Minor

Facilities and Services
The detachment is headquartered in the basement level, Room 3 of DePuy Military Hall at SDSU's main campus in Brookings, South Dakota.

Student Support Opportunities
Air Force ROTC scholarships are available for qualified undergraduate students. These scholarships pay full tuition and fees at SDSU, $600 per year for textbooks, and a monthly stipend ranging from $250 to $500 per month. All non-scholarship students in the Professional Officer Course who are on contract with Air Force ROTC qualify for the monthly stipend ranging from $350 to $450.

Student Engagement Opportunities
In addition to military and academic training, students have opportunities to travel, connect with vets, and serve the local community.

• Flying Irish AFROTC Basketball Tournament - Annually the cadets will take a trip to The University of Notre Dame and compete in a basketball tournament with other detachments from across the country.
• Royal Blue Drill Team - Cadets have an opportunity to work with the drill team. Upon proving proficiency they perform at various ceremonies in the local community.
• Vets Vigil - Cadets guard the Brookings Veterans Memorial to honor America's military members on Veterans' Day.

Agricultural and Biosystems Engineering

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Faculty
Associate Professor Kelley, Head; Professors Anderson, Humburg, Julson, Pohl, Troieon; Distinguished Professor Muthukumaranpan; Professors Emeriti Chu, DeBoer, Hellickson, Werner; Associate Professor Todey; Assistant Professors Cortus, Gu, Hay; Assistant Professors Emeriti Schipull.

Department 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 and to 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.

Student Learning Outcomes
Graduates will do the following:
• Advance within the agricultural and biosystems engineering profession as practicing engineers and consultants to positions of management, supervision, or leadership in a diversity of organizations or companies within the areas of agricultural and off-road machines; processing of food, fiber, and energy products; management of natural resources; structural systems; information and control systems; or other related areas.
• Obtain graduate degrees at recognized research universities in agricultural and biosystems engineering or related fields.
• Obtain professional registration or other professional certification where appropriate.

Programs
Majors
Agricultural and Biosystems Engineering, S (College of Engineering)
Agricultural Systems Technology, BS (College of Agriculture and Biological Sciences)

Minors
Engineering for Precision Agriculture
Precision Agriculture

Graduate Programs
Agricultural and Biosystems Engineering, MS
Biological Sciences, PhD
Agricultural and Biosystems Engineering Specialization
Bioenergy and Sustainable Technology, Certificate

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 Water Resources Institute is co-located with the Department of Agricultural and Biosystems Engineering in the Agricultural Engineering building, office 211 on the South Dakota State University campus in Brookings, SD.

Student Engagement Opportunities
The department provides opportunities for students engagement and support through student clubs, scholarships, and internship coordination.

Animal Science
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Faculty
Professor and Department Head Cassidy; Distinguished Professor Pritchard; Distinguished Professors Emeriti Costello, McFarland, Wahlstrom; Professors Clapper, Helt, Marshall, Olson, Perry, Thaler, Wright; Professors Emeriti Bailey, Dearborn, Gartner, Gee, J. Johnson, Kohler, Libal, Plumart, Slyter; Associate Professors Blair, Gonda, Walker, Associate Professors Emeriti Bonzer; Assistant Professors Bott, Brake, Grings, Levesque, Scramlin, Underwood, Instructor Cribs.

Department Overview
Tomorrow's animal and natural resources 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, product enhancement, and natural resources management, both undergraduate and graduate students gain strong skill sets. Graduates from the department find career options unfold in a diverse and growing range of employment areas, from animal-related industries to natural resources management.
Biology and Microbiology
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Faculty
Professor Brozel, Head; Professors Bleakley, Erickson, Gibbons, Gibson, Hildreth, Kayongo-Male, Pedersen, Reese, Wake, West, Yen; Professors Emeriti Chen, Evenson, Granholm, Haertel, McMullen, Myers, Peterson, Pengra, Whalen; Associate Professors Auger, Bücking, Kaushik, F. Li, W. Li, Wang, Wu, Zhou; Associate Professor Emeritus Morrill; Assistant Professors Fang, Hill, W. Li, Nepal, Rohila, Wu; Instructors Ellis, Kennedy, Ladonski, Lenertz, McCutcheon, Mediger, Murphy, Smith, Warren; Adjunct faculty

Chase, Cooper, Dwivedi, Epperson, Fennell, Francis, Henry, Hughes, Johnson, Kightlinger, Lundgren, McFarland, Nelson, Reidel, Rietz, Sergeev, Steece, Specker, Todd, Wixon.

Department 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 multidisciplinary and multi-national teams to seek solutions for pressing problems in agriculture, health and energy.

Programs
Majors
Biology, BS
Biology Major - Pre-professional Specialization, BS
Biology Major - Secondary Education Specialization, BS
Biotechnology, BS
Microbiology, BS

Minors
Biology
Biotechnology
Microbiology

Pre-Professional Interest Areas
(Pre-) Dental
(Pre-) Chiropractic
(Pre-) Physician Assistant

Graduate Programs
Biological Sciences, MS
Biological Sciences, PhD

Facilities
The Department of Biology and Microbiology and its faculty members are located in three buildings, Northern Plains Biostress (SNP), Alfred Dairy Science Hall (SDS) and Berg Agricultural Hall (SAG) 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 biotic and abiotic stresses to plants, infectious diseases, microbiology, and bioproducts.

Student 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

Programs
Majors
Animal Science Major - Business and Production Specialization, BS
Animal Science Major - Science Specialization, BS

Minors
Animal Science
Equine Studies
Swine Science

Graduate Programs
Animal Science, MS
Animal Science, PhD

Facilities
Students gain hands-on experiences at several departmental facilities including the in-house Meat Science Lab, purebred beef, sheep, and swine teaching units, as well as at the Oak Lake Field Station.

Student 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
- Meat Science Club
- Swine Club
- Judging Teams

Architecture
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www.sdstate.edu/arch

Faculty
Associate Professor Rex, Head; Assistant Professor MacBride; Instructors Garcia Fritz, Graff, Lum.

Department Overview
The whole department is focused on an interactive, haptic, and performance based curriculum rooted in fundamental issues of professional architecture and design practice. The undergraduatedegree program begins with a unique design based liberal arts education. The program's professional graduates will know how to make buildings well; how to make good drawings and models of architecture; and how to make places by building. The core mission is to bolster the profession; local building practices; design culture; and urban fabric in South Dakota through good teaching, service, and scholarly work.

Programs
Architectural Studies, BS
Architecture, MArch
Chemistry and Biochemistry
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David Cartrette, Assistant Department Head for Undergraduate Programs
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chembiochem.sdstate.edu

Faculty
Professor Rice, Head; Professors Cole-Dai, Halaweish; Professors Emeriti Emerick, Gehrke, Grove, Hecht, Hilderbrand, Jensen, Palmer, Rue, Spinard, Wadsworth; Associate Professors Cartrette, Hoppe, Logue, Miller, Shore, Tille; Research Associate Professor Raynie; Assistant Professors Chakravy, Dimovski, Gupta, Robinson; Research Assistant Professor Jing; Lecturers Brandhagen, Grove, Hirko, Jewell, Madsen, Williams; Instructors Lansink.

Department Overview
The mission of the Department of Chemistry and Biochemistry is to provide high-quality, technologically relevant educational opportunities for students desiring to pursue careers in chemistry, biochemistry, medical laboratory science, and related scientific areas through degree programs at the baccalaureate, masters, and doctoral levels. In addition, the Department provides support to other academic majors and programs on campus through the coursework it offers. In both its major's and service curricula, the Department provides a robust and challenging program of instruction that addresses the needs of students by broadening their perspectives and enabling them to continue the learning process as scientifically educated citizens. Furthermore, the SDSU Department of Chemistry and Biochemistry is a founding signatory to the Green Chemistry Commitment (www.greenchemistrycommitment.org). Specific examples of green chemistry are presented in general chemistry, organic chemistry laboratory experiments, a chemical toxicology course, and graduate and undergraduate research. Through the courses offered by the Department, students will be proficient in oral and written communication; they will be technologically literate; they will be addresses the needs of students by broadening their perspectives and enabling them to continue the learning process as scientifically educated citizens. Furthermore, the SDSU Department of Chemistry and Biochemistry is a founding signatory to the Green Chemistry Commitment (www.greenchemistrycommitment.org). Specific examples of green chemistry are presented in general chemistry, organic chemistry laboratory experiments, a chemical toxicology course, and graduate and undergraduate research. Through the courses offered by the Department, students will be proficient in oral and written communication; they will be technologically literate; they will be

Department Objectives
- To address the needs of a scientifically literate citizenry in South Dakota, the Upper Midwest, nationally, and globally;
- To facilitate students' communication skills in both oral and written formats;
- To encourage the technological literacy of students such that they become global workforce competitors;
- To provide opportunities for professional development of students at the baccalaureate, masters, and doctoral levels;
- To provide premier leadership in the chemical sciences dedicated to excellence in learning, discovery, and outreach.

Programs
Majors
Biochemistry
Chemistry
Minors
Chemistry

Graduate Programs
Chemistry, MS
Chemistry Major - Chemical Education Specialization, MS
Biochemistry, PhD
Chemistry, PhD

Student 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.

Civil and Environmental Engineering
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Faculty
Professor Webhe, Head; Professors Burckhard, Jones, Reid, Schmit, Ting; Professors Emeriti De Boer, Hassoun, Rollag, Selim, Sig; Associate Professors Mahgoub, Qin; Associate Professor Emeritus Tiltrum; Assistant Professors Hua, Seo; Instructors Gutzmer, Min; Lecturer Seyed Ardakani.

Department Overview
Civil Engineering includes the location, design, construction, and the 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 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 the following program educational objectives that describe the expected accomplishments of our graduates after graduation.

Educational Objectives
The Civil Engineering Program at SDSU prepares students to achieve the following educational objectives within the first five years of their career:
1. Completion of professional licensure or specialized certification.
2. Completion of advanced academic degrees and/or active participation in professional development societies, and
3. Assume leadership positions within organizations in their profession, in their communities, and in the global society.

Programs
Majors
Civil Engineering, BS
Graduate Programs
Civil Engineering, MS
Geospatial Science & Engineering, Ph.D.

Facilities and Services
The Civil and Environmental Engineering department is housed in Brothers 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, Concrete Lab, Structural Materials Lab, Bituminous Lab, Design Studio Laboratories and Student Computer Lab.

Student Engagement Opportunities
Additionally, the program strives to assist students in developing a commitment to high standards of professional conduct by maintaining a strong, active American Society of Civil Engineers Student Chapter Program, promoting summer, cooperative education, and internship employment experiences in civil engineering.

Communication Studies and Theatre
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www.sdstate.edu/cst

Faculty
Professor Haleta, Head; Distinguished Professor Emeriti Johnson; Professors Ackman, Shelsta, Tolman; Professors Emeriti Hefling, Hoogestraat, Peterson, Schliessmann, Widvey; Associate Professor Wilburn; Assistant Professors Anderson, Hauschild Mork, Hunter, Klemp, Kuehl, Westwick, Wood; Instructors Carlile, Kleinjant.

76 Departments
Department Overview
The mission of the Department of Communication Studies and Theatre is to provide education in the fields in which communication skills are a primary component and to provide training in universally necessary communication skills. Additionally, students may select courses for self-improvement, take courses to meet humanities requirements, or participate in speech or theatre activities.

Programs
Majors
Speech Communication
Speech Communication Major - Speech Education Specialization
Theatre
Minors
Communication Studies and Theatre
Dance
Health Communication
Certificates
Theatre Arts Administration
Graduate Programs
Communication Studies and Journalism - Communication Studies Specialization
Advanced Placement in Speech
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 Department to take an advanced course in Speech and earn credit for 101 concurrently. The disposition of the application for advanced placement rests with the departmental administrator. Application must be made by the end of the third semester or prior to the fourth semester of residence.

Student Engagement Opportunities
Being involved in a student organization is a great way to spend time with other students in the department, promote activities on campus and gain leadership skills. The departments have three organizations for qualified students: Pi Kappa Delta (Forensics), Alpha Psi Omega (Theatre), and Lambda Pi Eta (Communication Studies). Additionally, while pursuing a degree in any major, students have the opportunity to get involved in Dance, Forensics, and 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.

Forensics - Opportunities are provided for participation in SDSU's nationally recognized intercollegiate Forensics program. Local, regional, and national participation is sponsored. Activities include debate, public speaking, and oral interpretation in contests, workshops, and public performances. Any regularly enrolled undergraduate student is eligible to participate. University credit may be earned regardless of major. For more information contact instructor Andrea Carlile, Director of Forensics.

Theatre - There are several major, experimental and student productions each year. Students may be cast in or assist with a production. University credit may be earned. Summer theatre also offers undergraduate credit through Prairie Repertory Theatre. For more information contact Professor J.D. Ackman, Director of Theatre.

Construction and Operations Management
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Faculty
Professors Hall, Head, Lu; Professors Emeriti Heusinkveld, Skubic, Sorensen; Associate Professors Garry; Assistant Professor Koromyslova; Senior Lecturer Steinlicht; Lecturers Nusz-Chandler, Yordanova; Instructors Bertolini, Merriman, Miller, Prout, Weist.

Department Overview
The Department of Construction and Operations Management offers theoretical and applications-based programs to prepare graduates for technical 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, department also delivers the non-degree General Engineering (GE) program for the College of Engineering. The General Engineering program provides advising for students who are undecided in their choice of a specific engineering or industry sector management major.

Programs
Majors
Electronics Technology, BS
Operations Management, BS
Construction Management, BS
Minors
Construction
Graduate Programs
Operations Management, MS
Management Foundations, Certificate
Systems Management, Certificate

Facilities and Services
The department is located in historic Solberg Hall, where Stephen Briggs built his prototype for what would become the Briggs & Stratton engine. Solberg Hall was constructed in 1901 and has been fully renovated with new classrooms, active learning labs, and faculty offices. We will have new shops and lab spaces in the Architecture, Mathematics and Engineering building opening in fall 2015.

Student Engagement Opportunities
The department supports two professional honor society chapters to provide recognition for outstanding students. The SDSU chapter of Sigma Lambda Chi is the international honor society for students in construction management. Undergraduate and graduate students in the department are also eligible for nomination to Epsilon Mu Eta, the national honor society for engineering management. Students are also encouraged to participate in the two affiliated student clubs, the Society of Electronics Engineering Technology (SEET) and the Construction Management Club. The CM club includes student chapters of the Associated General Contractors (AGC) and the National Association of Home Builders (NAHB).

Consumer Sciences
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Faculty
Professor Hegland, Head; Professor Boulware; Professors; Emeriti Enevoldsen, Kamstra, Nasrhauber, Semeniuk, Stollet; Associate Professors Lyons, Strickler; Associate Professors Emerita Gorham, Rose; Assistant Professors Beckman, Bell, Cho, Christensen, Johnson, McKillip, Park, Saboe-Wounded Head, Yoe; Assistant Professor Emerita Swedlund; Instructors Leonard, Patel; Lecturer Boersma.

Department Overview
The Department of Consumer Sciences enhances the quality of life for consumers, with particular emphasis on the sustainable management of resources in a global context. While the department is home to a diverse collection of disciplines, all the programs are professionally based. All academic and extension programs have integrated elements of leadership, management, customer service, design, and technology. Consumer Sciences strives for high quality dynamic, and innovative teaching, scholarship, and outreach in its quest to develop successful professionals in the areas of apparel

Departments 77
merchandising, aviation, consumer affairs, hospitality management, interior design, and leadership. In addition, a strong general education curriculum is part of all majors, which aids students in learning to assimilate all of their educational components.

Consumer Sciences faculty are committed to SDSU's tripartite mission of teaching, scholarship, and outreach, where the focus is on integrating students into the learning environment under close supervision of qualified faculty. As well as teaching and mentoring students, faculty are researchers and scholars who produce new knowledge and serve related professional organizations in leadership capacities. Faculty and students commit themselves to fostering scholarship and outreach efforts that reflect local, regional, national, and/or global contexts; promoting careers in an ever-changing global marketplace; inspiring critical thinking and theory building; encouraging activities with socially responsible impacts on individuals, households, communities, and environments; and celebrating diversity.

Three major themes underpin the Consumer Sciences vision and mission:
- Commerce: Consumer Sciences students learn about design and production processes and consumption patterns and behavior in the global marketplace;
- Creativity: Consumer Sciences students engage in problem-solving activities that produce experiential work within project constraints that is a result of creative collaboration; and
- Resource Management: Consumer Sciences students understand the need for prioritization of resources to help consumers and businesses make optimal decisions.

Programs

Majors

- Apparel Merchandising, BS
- Aviation Major - Aviation Education Specialization, BS
- Aviation Major - Aviation Maintenance Management Specialization, BS
- Consumer Affairs Major - Consumer Services Management Specialization, BS
- Consumer Affairs Major - Family Financial Management Specialization, BS
- Hospitality Management, BS
- Interior Design, BS

Minors

- Aviation
- Events and Facilities Administration
- Interior Design
- Leadership
- Leadership and Management of Nonprofit Organizations

Graduate Programs

- Human Sciences, MS
- Family Financial Planning Specialization
- Merchandising Specialization
- Financial and Housing Counseling Certificate
- Family Financial Planning Certificate
- Merchandising Certificate

Student Engagement Opportunities

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, SDSU Flying Jacks, National Consumers League, Hospitality Management Club, American Society of Interior Designers, Nonprofit Leadership Alliance. 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.

Counseling and Human Development

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Faculty

- Professor Trenhaile, Head; Professors Bridnick, Britzman, Davis, Harper, Muxen, Nichols; Emeritus Professor Smith; Associate Professors H. Bridnick, W. Bridnick, Daniels, Ocarson; Emerita Associate Professors Penor-Ceglian, Rasmussen; Assistant Professors Kang, Letcher; Instructor Graves and Emeritus Assistant Professor Fellner.

Department Overview

The mission of the Counseling and Human Development department is to provide high quality educational programs to learners who will work in human science fields, and to generate knowledge of human behavior, cognition, and interaction.

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.

The Department of Counseling and Human Development is one of the few public university departments in South Dakota that delivers programs at the main campus in Brookings, at the University Centers in Rapid City and Sioux Falls, and on-line.

Programs

Majors

- Human Development and Family Studies, BS

Minors

- Gerontology
- Human Development and Family Studies
- Rehabilitation Services

Graduate Programs

- Counseling and Human Resource Development, MS
- Clinical Mental Health Counseling Specialization
- College Counseling Specialization
- Rehabilitation and Mental Health Counseling Specialization
- School Counseling Specialization
- Administration of Student Affairs Specialization, M.Ed.
- Human Sciences, MS
- Adult Development in the Workplace Specialization
- Family and Community Services Specialization

Dairy Science

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Faculty

- Professor Mistry, Head; Professors Anand, Metzger; Professor Emeritus Baer, Parsons; Distinguished Professor Emeritus Schingoethe; Associate Professor Emeritus Henning; Associate Professor Hassan; Assistant Professors Anderson, Casper, Patel; Lecturer Bonnemann; Farm Manager Crego; Plant Manager Haberkorn.

Department Overview

The mission of the Dairy Science Department is to help create a prosperous future for the dairy industry of South Dakota, the region, nation, and world. With expertise in both Dairy Production and Dairy Manufacturing, the department covers the entire spectrum of the dairy industry; from farm to product. The faculty are well recognized in their areas of expertise in research and are excellent instructors. The newly remodeled facilities offer both undergraduate students as well as graduate students opportunities for training on state-of-the-art technologies.
Programs

Majors
Dairy Production, BS
Dairy Manufacturing, BS
Dairy Manufacturing Microbiology Specialization, BS

Graduate Programs
Biological Sciences, MS
Dairy Science Specialization
Biological Sciences, PhD
Dairy Science Specialization

Facilities
The department is housed in the newly renovated Alfred Dairy Science Hall. The Dairy Research and Training Facility (DRTF) of the Dairy Science Department houses 300 Holstein and Brown Swiss cattle and is a research center in feeding, breeding, and managing a dairy herd. Equally important, it is the site for basic education in dairy cattle evaluation and other aspects of dairy farming. Milk produced at the DRTF is delivered to the new state of the art Davis Dairy Plant where it is processed into fluid milk, ice cream, butter, cheese, and other dairy products. These products are sold through the Dairy Sales Bar and used in campus dining facilities.

Student Engagement Opportunities
Students are encouraged to supplement their class instruction with summer internships and extracurricular activities. Leadership opportunities are available through participation in the Dairy Club, Dairy Cattle Judging, Intercollegiate Dairy Challenge, and Dairy Products Evaluation Teams. The Department has strong research programs in both areas. It is an active member of the Midwest Dairy Foods Research Center. Research opportunities for undergraduate students are also available.

Economics
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Faculty
Professor Jones, Head; Professors, Cumber, Diersen, Fausti, Janssen, Klein, Langelett, O'Brien, Santos, Van der Sluis, Zimmerman; Professors Emeriti Allen, Dobbs, Greenbaum, Kim, Lambertson, Lundeen, Murra, Peterson, Shane, Taylor; Associate Professors Adamson, Davis, Gustafson, Qasmi, Taylor; Assistant Professors Chang, Elliot, Miller, Silvernagel, Singh, Wang; Instructors, Clark, Heller, Koch, Meyer, Swain; Field Specialists Davis, Dillivan, Gessner, Sand.

Department Overview
The Department of Economics plays a vital role in the life of the university and the state through its commitment to quality teaching, research, and outreach. The department resides administratively in the College of Agriculture and Biological Sciences, but also maintains close ties to the College of Arts and Sciences, through which several of its degrees are conferred. Departmental coursework includes Accounting, Agricultural and Resource Economics, Business Administration, Economics, Entrepreneurial Studies, and Management. The curriculum provides students with experience in agribusiness, agricultural finance, banking, business finance, business management, entrepreneurship, farm and ranch management, marketing, sales, and related fields. Faculty members are strongly dedicated to preparing students for successful careers.

Department Objectives
The Department of Economics’ expects all its students to:
• Demonstrate the ability to apply concepts of economics and management that underlie the global economy and commerce;
• Demonstrate the ability to apply quantitative and qualitative analytical methods from economics and management to decision-making;
• Interpret and articulate analysis and decisions orally and in writing;
• Make and support ethical decisions.

Electrical Engineering and Computer Science
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Faculty
Professor Hietpas, Head; Associate Professor Hamer, Assistant Department Head; Professors Brown, Galipeau, Helder Salehnia, Shin; Professors Emeriti A. Andrawis, M. Andrawis, Bergum, Ellerbruch, Knabch, Sander; Associate Professors Fan, Farrokh Baroughi, Fournier, Li, Min, Qiao, Tan; Assistant Professors Sun, Tonkoski; Lecturers Gannradt, Kurtenbach, Prohaska; Instructors Cooley, Mettler; Research Associate Sternhagen.

Department Overview
The Electrical Engineering and Computer Science Department combines all aspects of electricity, electronics, hardware, and software into one multidisciplinary unit. The department has well-established, nationally and internationally-known research programs in materials.

Department Objectives
The EE and CS program educational objectives are to equip individuals who, after graduation and initial work experience:
1. provide innovative and state-of-the-art approaches in solving complex technical problems through application of sound electrical engineering and computer science principles and make high quality technical decisions based on accumulated knowledge, experience, wisdom and common sense.
2. create positive organizational impact through individual contribution and teamwork with a commitment to working with others of diverse culture and interdisciplinary backgrounds.
3. demonstrate professional stewardship and ethical responsibility and exemplify a productive member of society by serving their communities and society.
4. illustrate initiative and successful career growth through measureable and impactful contributions that strongly support the organization's core high-level goals, accompanied by lifelong learning through graduate work,

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professional development, and self-study, leading to increases in organizational responsibility.

Programs
Majors
Electrical Engineering, BS
Computer Science, BS

Minors
Computer Science
Software Engineering
Informatics

Graduate Programs
Computer Science, MS
Electrical Engineering, MS
Electrical Engineering, PhD

Facilities
The department is housed in a 30,000 sq. ft. state-of-the-art engineering facility, with over 15,000 sq. ft. in laboratory space. Students will 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 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 Eta Kappa Nu for electrical engineering majors.

English
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Faculty
Professor McEntee, Head; Distinguished Professor Woodard; Professors Brandt, Dunker, Donovan, Keller, Taylor; Professors Emeriti Alexander, Brown, Duggan, Evans, Flynn, Kildahl, O'Connor, Ryder, Williams, Withington, West, Yarbrough; Associate Professor Emeriti Mary Hanke, Associate Professor Baggett, Nagy, Stewart; Assistant Professors Flynn, Malone, Smith, Wingate; Lecturers Bielfeldt, Michael Haug, Hublou, Madsen; Instructors Anderson, Biever, Brown, Ferrell, Halverson, Horsley, Kluck, Myrick, Nordquist, Serfling.

Department Overview
The English Department offers instruction in clear thinking and expression; in the history and use of language; in literature (British, American, World, Native American, Women's, Ethnic, etc.); in literary criticism; and in creative writing and technical and professional communication. Courses in the English Department are divided into two areas: English and Linguistics.

Programs
Majors
English, BA
English Major - English Education Specialization, BA
English Major - Writing Specialization, BA

Minors
English
Professional Writing
Peace and Conflict Studies

Graduate Programs
English, MA

Facilities and Services
The department is housed in historic Pugsley Hall (as of Spring 2014). The English Department also sponsors and supports community and state-wide events with speaking and teaching engagements through service learning, by educating students to become world citizens, and through campus and/or community and/or state/regional events. Finally, the English Department awards a number of scholarships to its majors thanks to the generosity of its alumni and friends.

Student Engagement Opportunities
In addition to the academic programs, the English Department offers other activities and support for students. Oakwood features creative writing and original artwork by students. The English Club hosts a number of social and literary events. Finally, the English Department awards a number of scholarships to its majors thanks to the generosity of its alumni and friends.

Geography
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Faculty
Professor White, Head; Professors, Napton; Associate Professor Watrel; Assistant Professor Jackson, Hungerford, Lin; Professors Emeriti Berg, Hogan, and Sandness; Distinguished Professor Emeritus C. Gritzner.

Department Overview
The Department of Geography 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 tools and techniques including computer cartography, remote sensing, Global Positioning Systems and Geographic Information Systems. These are recognized increasingly as essential for solving many contemporary societal questions. This also makes graduates from the department marketable in numerous business and governmental careers, as well as graduate schools for those seeking advanced degrees.

Programs
Majors
Geography, BS
Geographic Information Sciences, BS

Minors
Geography
Geographic Information Sciences

Certificates
Geographic Information Sciences

Graduate Programs
Geography, MS
Geospacial Science and Engineering, PhD
Remote Sensing Engineering Specialization
Remote Sensing Geography Specialization
Geographic Information Sciences, Graduate minor

Facilities and Services
The Geography department is located in Wecota Hall and the Wecota Hall Annex. The department also hosts the the Geographic Information Sciences Center of Excellence and produces its own annual Geography Convention, the longest running such event in the United States.

Student 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. SDSU Geography also has a connection with a university in Romania. The exchanges that result from this relationship provide invaluable international experience for students, which is critical in the increasingly globalized world.

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Health and Nutritional Sciences

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Faculty
Professor Vukovich, Head; Professor Cassel, Dalalay, Hacker, Kattelmann, Krishnan, Sergeev, Specker, Wake, Wang; Professors Emeriti Forsyth, Huether; Associate Professor Dey, Droke, Fokken, Olson; Assistant Professor Binkley, Bowser, Meendering, Roiger, Van Guilder, Zwart; Instructors Brandenburger, Gengler, Hegerfeld-Baker, Kirby, Nelson, Stluka.

Department Overview
The Department of Health and Nutritional Sciences is dedicated to improving quality of life regionally, nationally, and globally by fostering life long learners, conducting innovative science, and delivering effective outreach in the areas of health and nutrition. The integration of academic programs, which focus on nutrition, food science, health, recreation, exercise, and human performance, provides students and faculty with unique opportunities to collaborate and to promote interaction among students in different majors with a common focus on promoting health through proper nutrition and physical activity.

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.

Department Objectives
• to improve the quality of life regionally, nationally, and globally by fostering life long learners, conducting innovative science, and delivering effective outreach in the areas of health and nutrition.
• to provide premier leadership in health and nutritional sciences dedicated to excellence in learning, discovery, and outreach.

Programs
Majors
Athletic Training
Dietetics
Exercise Science
Health Education
Nutrition and Food Science
Physical Education Teacher
Education
Sport, Recreation and Park Management

Minors
Food Safety
Health Education
Nutrition
Recreation Administration

Graduate Programs
Athletic Training, MS
Dietetics, MS
Sport and Recreational Studies, MS
Nutrition, Exercise, and Food Sciences, MS & PhD

Student Engagement Opportunities
The department 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 department also awards scholarships to incoming and current students.

History, Political Science, Philosophy, and Religion

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Faculty
Prigge, Head; Professors Aguiar, Schmidt; Associate Professor Murphy, Peterson, Vollan; Assistant Professors Agostini, Lane, Potts, D. Wilte, E. Wilte, York; Instructors R. Dickson, Haag, Hummel, Otterm, Rynearson, Tinguely, Tittle, Tsakiridis; Distinguished Professor Emeritus Bums; Professors Emeriti Bahr, Bell, Cheever, Crain, Funchion, Lonowski, Miller, Nelson, Sweeney, Tolle.

Department Overview
The Department of History, Political Science, Philosophy, and Religion complements the vision of South Dakota State University and the College of Arts and Sciences to be nationally distinctive and locally relevant through faculty teaching, service and scholarship. Departmental faculty efforts support a challenging curriculum which encourages civic participation to perpetuate the values and historic traditions of democracy. Its members encourage and prepare students, through a liberal education, to live in an increasingly interconnected world and to understand and appreciate the human diversity created by cultures, geography and time. The political science faculty engenders an awareness and understanding of global events, while the history faculty identifies the historic background and historical trends that influence these events. 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. 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 department's majors as scholars and engaged citizens.

Programs
Majors
History BA, BS
Political Science BA, BS
Minors
History
Philosophy

Pre-Professional Areas
(Pre-) Law
(Pre-) Ministerial

Facilities
The Department of History, Political Science, Philosophy, and Religion is housed in the historic West Hall.

Student Engagement Opportunities
The department has clubs and activities for students such as:
• History Club
• Political Science Club
• Phi Alpha Theta (History's national honor society)
• Arrowhead Model United Nations program

Journalism and Mass Communication

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Faculty
Professor Arnold, Head; Professors Lucchesi, McEntee, Olson; Professors
Department Overview
South Dakota State University's Department of Journalism and Mass Communication's mission is educating the next generation of media professionals — including journalists, strategic communicators, teachers and researchers. To fulfill our land-grant university mission, the department works closely with journalism and advertising professionals and the scholastic and the Native American community.

Accreditation
The Department is accredited by the national accrediting body of journalism and mass communication, the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC). The Department has been accredited continuously since accrediting began in 1948.

Programs
Majors
Advertising
Journalism
Agricultural Education, Communication and Leadership Major - Communication
Specialization with the College of Agriculture and Biological Sciences

Minors
Advertising
Journalism
Marketing with the Department of Economics

Graduate Programs
MMC Mass Communication
MS in Communication Studies and Journalism - Journalism Specialization

Facilities
The former Printing and Rural Journalism Building was renamed Yeager Hall in recognition of the contributions of Anson and Ada May Yeager. Mr. Yeager was longtime editor of the Argus Leader in Sioux Falls. The Department moved into expanded and renovated facilities in 2000 that cost $2.4 million. The Yeager Media Center, completed in 2012, is a high-definition television and new media facility and the primary center for SDSU campus television and media production. There are also three computer laboratories with equipment connected to digital video and audio production suites. Second floor of Yeager Hall includes a conference room, a reading room, a student lounge, and individual offices for the Department's faculty members.

Student Engagement Opportunities
Students are invited to participate in one of the student organizations advised by faculty in the Department:
- Advertising Club (Advised by Professor Roxanne Lucchesi and Assistant Professor Didem Koroglu)
- Journalism Club (Advised by Instructor Jim Helland)

Mathematics and Statistics
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Faculty
Mathematics: Professor Cogswell, Head; Professor Flint, Assistant Head; Professors Abraham, Kempf, Kindermann, Larson, Schaal, Schmitz; Professors Emeriti Ayers, Lacher, Mosahan, Nielsen, Yocom; Associate Professors Biesecker, Djina, Ge, Kimm, D. Vestal, S. Vestal; Associate Professors Emeriti Broschat, Clever; Assistant Professors Hatfield, Neumann, Pan, Roe, Saunders, Struck, Ye; Instructors Ahrendsen, Alsaker, Bahr, Christensen, Clark, Düssicher, Hales, Hinton, Ji, Leiferman, Omord, Ulvestad, Werner; Statistics: Professors Kindermann; Associate Professor Djira, Ge; Assistant Professors Brandenburg, Hattfield, Roe, Saunders, Struck, Wu; Instructors Ahrendsen, Bahr.

Department Overview
The SDSU Department of Mathematics and Statistics is a large, diverse, and active organization. The Department's mission is to provide excellent instruction, conduct high-quality research and scholarly activity, and prepare graduates and provide mathematical and statistical services that are both regionally relevant and internationally competitive. The curriculum includes a broad range of challenging and highly applicable undergraduate courses, allowing students to specialize in financial engineering, computational science, mathematics education, or statistics. The consistent high placement rate of graduates into K12 and university teaching positions, financial institutions, 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
Mathematics, BS
Mathematics Major - Teaching Specialization, BS
Minors
Mathematics
Statistics
Graduate Programs
Mathematics, MS
Statistics, MS
Mathematics Major - Statistics Specialization
Statistics, MS
Computational Science and Statistics, PhD

Facilities and Services
The department offices are located in Harding Hall. The Math Help Center, located in Harding Hall 128 and in the Biostress Basement 0020, provides free walk-in tutoring for students in MATH 095, 102, 103, 115, 120, 121, 123, 125, and STAT 281. In January 2015, the department will move into facilities in the newly constructed Architecture, Mathematics, and Engineering Building.

Student Engagement Opportunities
Math majors can engage in research through the summer Research Experiences for Undergraduates. Students can also participate in the two student organizations, Math Club and the student chapter of the National Council of Teachers of Mathematics that combine fun with professional development opportunities.

Mechanical Engineering
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Faculty
Professor Bassett, Head; Professors Delhiaous, Duan, Hu, Moutsogouli; Assistant Professors Du, Gent, Michna; Lecturers Letcher, Twedd; Instructor Versteeg.

Department Overview
The Department of Mechanical Engineering offers programs of study leading to the Bachelor of Science (B.S.) and Master of Science (M.S.) degrees in Mechanical Engineering, as well as a minor in Sustainable Energy Systems. The department is focused on developing students' problem-solving talents, built upon a solid understanding of the scientific and mathematical principles that guide engineers. The faculty members are dedicated to providing a challenging and effective learning environment. They continue to build upon their considerable expertise through engineering research and practice.

Throughout the curriculum, classroom theory is extended and applied with learning activities in well-equipped laboratories. Team-oriented design courses prepare students to apply engineering principles to the solution of real-world problems. Most students participate in at least one internship or cooperative work experience during a summer or semester away from campus. Opportunities are also available for students to participate in research projects guided by faculty members working with state-of-the-art engineering equipment.
Department Mission
The mission of the Department of Mechanical Engineering, in support of the mission of the College of Engineering, is to provide a highly respected, rigorous, and practical professional education for Mechanical Engineering students oriented toward applied problem solving; to conduct meaningful research which broadens the base of engineering and scientific knowledge with a regional emphasis; and to provide technical assistance to existing and emerging businesses, industry and government.

Programs
Majors
Mechanical Engineering, BS
Graduate Programs
Mechanical Engineering, MS

Facilities
In addition to the instructional laboratories, the department houses the following research laboratories:
- Biofuels Laboratory
- Materials Evaluation and Testing Laboratory
- Simulation-Based Engineering and Analysis Laboratory

Student Engagement Opportunities
The department provides opportunities for student engagement through engineering design projects, participation in research, and participation in student organizations. The following student branches of professional societies are active in the department:
- American Society of Mechanical Engineers
- American Society of Heating, Refrigerating and Air-Conditioning Engineers
- Society of Automotive Engineers
- Pi Tau Sigma (Mechanical Engineering Honor Society)

In addition, mechanical engineering students are active in the following engineering organizations:
- Society of Women Engineers
- Engineers Without Borders
- Tau Beta Pi (Engineering Honor Society)
- Alpha Omega Epsilon (Engineering Sorority)
- Sigma Phi Delta (Engineering Fraternity)

Military Science
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Faculty
Professor, LTC Schultz, Department Head; Assistant Professors Ness, Guthrie; Adjunct Instructors Mahlen, White.

Department 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. These leaders often become Army officers. Army ROTC has a long proud tradition of commissioning outstanding officers for the Active Army, the Army National Guard and the United States Army Reserve.

Program
Minors
Military Science

Training Programs
Army ROTC Scholarships
Qualified students can compete for 4-year, 3-year, and 2-year scholarships that cover full tuition, laboratory and instructional fees, university student fees, transcript, cap and gown, diploma, and selected graduation fees. A flat book rate of $1200 a year plus a monthly subsistence allowance of $300, $350, $450, or $500 a month are provided each semester. Four Year Scholarship competition is conducted by the Department of the Army for university bound high school students. Applications are available from high school counselors, on line at www.armyrotc.com or directly from SDSU Army ROTC by contacting the department.

Student Engagement Opportunities
The Department of Military Science provides students the opportunity to explore a wide variety of training options. The Department offers participation in the Cateau Ranger Club and Drill Team as well as a Ranger Challenge Team. Training for qualified individuals include Airborne, Air Assault, Cadet Troop Leader Training, Nurses Summer Training, Cultural Understanding and Language Proficiency and professional Internships for specific majors. The Cateau Ranger Club specializes in small unit tactical training. The Drill Team's focus is drill and ceremony and performing color guard duties on campus and in the community. The Ranger Challenge Team is an elite group of students that train for competition in marksmanship, orienteering, weapons assembly, a ruck march and physical fitness testing. Training, competition, and performance all sharpen skills sets and prepare the Cadets for the future.

Modern Languages and Global Studies
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Faculty
Professor Haleta, Interim Head; Professors Emeriti Baker, Beattie, Cardenas, Redhead, Richter, Sunde; Professor Baggett, Ramos; Associate Professors Enz, Owens, Rolz, Spitz; Assistant Professors Alvarez, Garst-Santos, Zhang
Instructors Adanyan, Amaya, Arneson, Escondrillas.

Department Overview
The Department of Modern Languages & Global Studies has as its primary mission the undergraduate teaching of languages, literatures, and cultures to SDSU students, both as majors and minors, and offering service courses for all other degrees on campus. The Department offers courses French, German, Spanish, Chinese, Lakota and Global Studies, following the Standards of the American Council on the Teaching of Foreign Languages.

The department aspires to offer students the best preparation possible for their future careers in the fields of their choice, so they will be proficient speakers of the target language, cross-culturally competent and critical thinkers. In addition the department follows a strong tradition of service within the community, the state of South Dakota and beyond. Faculty in the department combine these two areas with research and scholarship in related disciplines, from research on cultural studies and literature, to the scholarship of teaching and learning, to the dissemination of their specialized knowledge to different constituencies, especially language teachers.

Modern Language Placement
Students entering the University with a background in modern languages who are prepared to take courses beyond 101 (up to 310, except SPAN, FREN or GER 211, 212) may apply to receive credit for all previous courses up to 202. Even if the student's career goals do not center on a modern language, a strong background in a language may make a second major or a minor feasible.

Students cannot get first or second year credit for their native language. For more information please check the Modern Language Credit policy in the Academic Evaluation section of this catalog. The faculty of the Department of Modern Languages and Global Studies work with students to determine the program of study that will best prepare them for the career they have chosen. The Department encourages students to investigate programs in other academic areas which will complement or enhance their preparation for their career. Such programs include, but are not limited to: Global Studies (see the requirements for the Major and Minor), Economics, and Education (see Education Curriculum for Teachers of Academic Subjects). Students are also strongly encouraged to plan a summer/semester/year experience studying abroad.
International Students
International students enrolled at SDSU are strongly encouraged to discuss with their advisor or the Department Head possible variations in requirements for the departmental majors and minors that take into consideration their mastery of a foreign language and previous international experiences. The Department has placement information as well as specific information on all of its programs available in the main office of the Department of Modern Languages and Global Studies and on the department's web page.

Programs

Majors
French Studies, BA
French Studies Major - Teaching Specialization, BA
German, BA
German Major - Teaching Specialization, BA
Global Studies, BA
Spanish, BA
Spanish Major - Teaching Specialization, BA

Minors
French Studies
German
Global Studies
Spanish

Facilities
The department has a new language resource center/laboratory for language practice and testing. The department offers Computerized Oral Proficiency Interviews which rank student language proficiency and provide a nationally recognized certificate.

Student Engagement Opportunities
The department provides numerous opportunities for student involvement through the departmental clubs. The World Affairs and Languages Club offers a film series and a weekly radio program for all campus among other activities. The department also has French, German, and Spanish clubs, open to any student, as well as two honor societies Delta Phi Alpha German Honor Society, Sigma Delta Pi Spanish Honor Society.

The department also provides travel and outreach opportunities for students, offering study abroad opportunities every year. Some of them include a service-learning component. Students may also participate in service-learning opportunities locally.

Music
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Faculty
Professor Reynolds, Head; Professors Crowe, Diddle, Lis, Walker; Professors Emeriti Canaan, Colson, Hatfield, Johnson, McKinney, Pierse, Toronto, Walker, D.; Associate Professors Brawand, Jorgensen, Ragsdale; Assistant Professors Peterson, Robinette, Walsh; Instructor Coull.

Department Overview
The South Dakota State University Music Department is shaped by the university's Land Grant status and the spirit of the Morrill Act. Within that context, it is the mission of the Music Department to musically serve the university, state, and region through teaching/advising, research/creative activity, and outreach/general service.

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 Department of Music. The department focuses its attention on undergraduate learning, research, creative activity, and service to the discipline of music.

Department Objectives
- To serve the university, state, and region by delivering an approved and well-defined undergraduate music curriculum.
- To engage in scholarly and creative musical endeavors which illuminate the underlying principles of the mission.
- To provide musically enriching public service outreach activities, both on and off campus.
- To provide a musical learning environment where students develop personal interests and leadership skills necessary for the full appreciation of life, empowering them to contribute deeply to the human experience through a wide range of endeavors, and
- To be proactive regarding equity, ethnicity, and cultural diversity.

Accreditation
The Music Department has full membership in the National Association of Schools of Music.

Programs

Majors
Music, BA
Music - Music Entrepreneurship Specialization, BA
Music Education, BME

Minors
Music

Music Program Application Requirements
1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student's major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the Department in that area. To that end, students must:
   1. successfully complete a jury examination each semester.
   2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
   3. complete a minimum of 6 hours of upper level (300-400) applied study.
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the Department for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
   1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
   2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E. program, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/271 general voice for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
9. A senior recital is required of all music majors.
10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

Facilities
The department enjoys excellent facilities including historic Lincoln Music Hall and the new, state-of-the-art Performing Arts Center. The Performing Arts Center is the location of the 1000-seat Larson Concert Hall, which plays host annually to some of the world's most important Classical and popular performing artists.

Student Engagement Opportunities
The department 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 department 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

Natural Resource Management

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Northern Plains Biostress Laboratory 138C
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www.sdstate.edu/nrm

Faculty
Professor Troelstrup, Interim Head; Distinguished Professor Emeritus Flake; Distinguished Professors Brown, Jenkins, W. Johnson; Professors Emeritus Berry, Higgins, Seale; Professors Chippa, Dieter, Gates, Gilmanov, P. Johnson, Johnston, Larson, Smart; Associate Professors Bertrand, Graeb, K. Jensen, Stafford, Xu; Assistant Professors Giglottit, Grovenburg, Perkins, Wuelnner; Adjunct Professors, Butler, Fredrickson, Wyler; Adjunct Associate Professors Blackwell, Braaten, Klaver, Rosentrater, Tedeschi, Uresk; Adjunct Assistant Professors Adams, Anteau, Austin, Bakker, Fincel, Holland, James, W. Jensen, Lehman, Longmire, Pegg, Rumble, Swanson, Switzer, Thompson.

Department Overview
The Department of Natural Resource Management houses undergraduate and graduate programs focused on improving the understanding and management of natural resources. The quality of life for many humans is intimately tied to the use and conservation of natural resources. Thus, educational opportunities in natural resource management at SDSU can lead to a diverse array of career opportunities. The departmental faculty and staff also conduct research and provide outreach services that contribute to the understanding and management of natural resources on a local and global scale.

Programs
Majors
- Ecology and Environmental Science
- Range Science
- Wildlife and Fisheries Sciences

Minors
- Range Science
- Botany

Graduate Programs
- Biological Sciences, MS
- Wildlife and Fisheries Sciences, MS
- Wildlife Specialization
- Fisheries Specialization
- Biological Sciences, PhD
- Wildlife and Fisheries Sciences, PhD

Facilities and Services
The department is housed within the Northern Plains Biostress Laboratory at SDSU. The Department houses the Oak Lake Biological Field Station and also hosts the South Dakota Cooperative Fisheries and Wildlife Research Unit, the National Wetlands Inventory, the South Dakota GAP Analysis Project, and serves as the tenure home for several of the Geographic Information Science Center of Excellence.

Student Engagement Opportunities
Student organizations conduct professional and social functions, serve as an excellent vehicle for students to get to know one another and the faculty, and to learn more about their future profession.

The Department of Natural Resource Management student clubs include:
- SDSU American Fisheries Society Student Subunit and the SDSU Wildlife and Fisheries Conservation Club (a student chapter of The Wildlife Society) are excellent organizations open to students in that major.
- The SDSU Ecology Club is a student chapter of the Ecological Society of America.

- SDSU Range Club - the South Dakota Student Chapter of the Society for Range Management includes Range Science majors and other students that have an interest in the field of range management.
- Judging Teams - many Range Science majors choose to compete on the Plant Identification and the undergraduate Range Management Exam teams. These teams compete at international contests against teams from universities in the U.S., Canada and Mexico. Students also help to conduct range plant identification contests at SDSU.

Nursing
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Faculty
Professor Herrick, Associate Dean; Distinguished Professor Hegge; Professors Craig, Foland, Hendrickx, Hulme, Mylant; Professors Emeriti Blazy, Holland, Olson, Peterson; Associate Professors Carson, Hobbs, Elverson, Lammers, Minton, Samra, Stenvig, Tschetter, Voss, Wey; Assistant Professors Banik, J. Bassett, Burdette, J. Gibson, Hair, Menenga, Peterson-Lund, Randall, Rowe; Assistant Professors Emeriti Iken, Joffer; Instructors Arends, Atteberry, S. Bassett, Beauchamp, Birch, Boysen, Brown, Bruner, Buttolph, Cissell, Dangel, Foerster, Forbes, N. Gibson, Haight-Kennedy, Hansen, Hansson, Holt, Huber, Johansen, Klawitter, Lubeck, Markstad, Mordhorst, Ness, Pasquariello, Van Ruler, Vockrodt, Winterboer.

Department 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.

Department Objective
The department of Undergraduate Nursing seeks to prepare:
- nurses with a broad and basic preparation for professional nursing practice
- nurses prepared to assume professional responsibility for promotion of health and prevention of illness
- nurses able to assume responsibility for the guidance of nursing personnel and the ability to work cooperatively with other health care providers.
- nurses who have the foundation for advanced study in nursing or specialization at the graduate level.
- students to practice in a variety of settings, such as hospitals, community health, industry, Indian Health Service, military, and other institutions.

Programs
Majors
- Nursing, BS
- Nursing - Accelerated Program, BS
- Nursing - RN Upward Mobility, BS

Minors
- Health Science

Graduate Programs
- MS in Nursing – Family Nurse Practitioner Specialization
- MS in Nursing – Nurse Educator Specialization
- Post Master to DNP
- Post Master to DNP – Family Nurse Practitioner Specialization
- Bachelor’s to DNP - Family Mental Health Nurse Practitioner Specialization
- Bachelor’s to DNP - Family Nurse Practitioner Specialization
- Bachelor’s to DNP - Neonatal Nurse Practitioner Specialization
- Bachelor’s to DNP - Pediatric Clinical Nurse Specialist Specialization
- Bachelor’s to DNP - Pediatric Nurse Practitioner Specialization
- PhD in Nursing
- Post Master – Clinical Nurse Leadership Certificate
- Post Master – Family Nurse Practitioner Certificate
- Post Master – Nurse Educator Certificate
Accreditation
The undergraduate nursing program at SDSU is approved by the South Dakota Board of Nursing. Both the undergraduate and graduate programs are accredited by the Commission on Collegiate Nursing Education. 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 a state of the art Simulation Lab that enables educators to enhance the quality and delivery of rural nursing education. Simulation provides an opportunity for nursing students to practice nursing care with a variety of patients and patient scenarios. The high-technology simulation setting allows students practice in the areas of electronic health records, informatics, and tele-health.

Student Engagement
The department offers opportunities for student engagement through research, international travel opportunities, a freshmen Health Professionals Learning Community, and student organizations such as the Nursing Students' Association and Sigma Theta Tau International, an honor society for nursing students.

Pharmaceutical Sciences
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Faculty
Professor Perumal, Head; Professor Guan, Assistant Dean for Research; Professor Rahman; Associate Professors Chandrasekher, Fahmy, Gunaje, Soefeldt, Tummala; Assistant Professors Jin, Zhang; Distinguished Professor Emeritus Dwivedi.

Department 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 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, neuropharmacology, immunology, and eye diseases. The multidisciplinary research expertise includes medicinal chemistry, pharmacology, molecular biology, and drug delivery systems.

Department Objectives
• To provide high quality education for the B.S. in Pharmaceutical Sciences, professional Doctor of Pharmacy program, and the Ph.D. in Pharmaceutical Sciences.
• To maximize teaching, learning, and scholarship through technology and broad-based improvement of physical facilities.
• To support and develop high quality faculty.
• To develop local, regional, national, and international collaborations.
• To build and sustain excellence in scholarship and research leading to improved healthcare and economic development.

Programs
Pharmaceutical Sciences, BS in preparation for the Doctor of Pharmacy, PharmD
Pharmaceutical Sciences, PhD

Sanford Research to develop new diagnostic, preventive, and treatment approaches for various types of cancer. The department also has a partnership with the Avera Institute for Human Genetics. The department provides services to companies through facility-user agreement and continues to seek strategic partnerships with other Universities, research institutions and pharmaceutical industries.

Pharmacy Practice
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Faculty
Professor Clem, Head; Professor Heins, Assistant Head; Professors Farver, Fischer, Helgeland, Jensen Bender, Laible, Lemon, Messerschmidt, Mort, Strain; Associate Professors Hansen, Hellwig, Johnson, Peters, Van Gilder; Assistant Professors Hartel, Elsey, Hayes, Heiberger, Jansen, Kappes, Meyer, Adjunct Assistant Professor Lunn.

Department 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, PharmD degree program. The department provides instruction for some of the courses leading up to the B.S. in Pharmaceutical Sciences degree and is responsible for the majority of the curriculum in the last two years of the professional program (P3 and P4) leading to the Doctor of Pharmacy (Pharm.D.) degree. The faculty members have practice sites in a wide array of pharmacy practice specialties and at a variety of locations providing students with a wealth of learning opportunities.

Department Objectives
• To educate students in the various aspects of pharmacy practice, utilizing the principles of patient focused care, problem-based learning, and critical thinking.
• To work closely with the Department of Pharmaceutical Sciences to deliver a quality program leading to the Bachelor of Science (B.S.) degree in pharmaceutical sciences and the professional doctor of pharmacy (Pharm.D.) degree.
• To excel in the University tripartite mission of: teaching/advising; research, scholarship, and creative activity; and service (assigned professional and general).
• To prepare pharmacy graduates capable of providing high quality patient-centered and population-based pharmacist care to the people of South Dakota, the region, the nation and the world.

Programs
Doctor of Pharmacy, PharmD

Facilities and Services
The Department of Pharmacy Practice is located in Avera Health and Science Center. There 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.

86 Departments
Physics
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Faculty
Professor Rauber, Head; Professor Browning; Professors Emeriti Duffey, Graeter, Leisure, Quist; Associate Professors Huh, McGahegan; Assistant Professors Aaron, Kharel; Lecturer Bonvallet; Instructors Stafford, Vondruska.

Department Overview
The mission of the SDSU Physics Department is to serve the public good by preparing students for the future as professionals and citizens. This mission is accomplished by providing high quality physics instruction for majors, non-majors and the community-at-large, conducting and disseminating scientific research to advance the frontiers of knowledge in Physics and Astronomy, and serving the community through education, technical expertise, and outreach activities.

The program and course offerings provide students with a strong foundation of knowledge, skills and abilities to enter graduate school or employment within the STEM fields. Students develop an understanding of the mathematical and theoretical foundations of the physical sciences and develop capabilities in laboratory experimental design and analysis. Students have access to state-of-the-art laboratories, nationwide internship programs, and other resources and opportunities that complement the coursework provided in the physics programs. The faculty members are recognized as experts in their field and are dedicated to student success.

Department Objectives
- to serve students with an interest in a professional future in physics or its allied disciplines;
- to serve students interested in professional careers in allied physics fields such as engineering, medical/health physics and many other possibilities;  
- to serve students from various colleges within the University who need a basic understanding of physics;
- to add to the knowledge base of humanity through research and scholarship;
- to provide educational support to the citizens of South Dakota and surrounding region through outreach activities.

Programs
Majors
Physics, BS
Physics Major - Science Teaching Specialization, BS
Minors
Nuclear Engineering
Physics

Facilities and Services
The Physics department is located in Daktronics Engineering Hall and Crothers Engineering Hall. The department often hosts teacher workshops each summer. The focus of these workshops is to increase student interest and ability in math and science. Several camps are also offered for students through the College of Engineering which focus on a wide variety of engineering careers, including physics. In addition to these outreach activities, faculty members provide astronomy star parties for local schools, serve as judges for local and regional science fairs and act as a resource for students and teachers statewide.

Student Engagement Opportunities
The department offers opportunities for academic student engagement through coursework, research, and internships. Other avenues for student engagement through the department are provided by student organizations. The Physics Department sponsors local chapters of The Society for Physics Students (SPS - the primary physics student organization) and SPS (Sigma Pi Sigma - the physics honor society).

Plant Science
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Douglas Malo, Assistant Department Head
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Faculty
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Department Overview
The primary goal of the Department is to prepare students for success and leadership in business, government, and enterprises related to the Agronomy, Horticulture, and Landscape Architecture programs. In addition, students can prepare for graduate study leading to a career in research, teaching, extension, and extension. Graduates with training in plant science are sought by agri-business, horticultural businesses, landscape architecture/design firms, private foundations, and federal and state agencies for employment in domestic and international agriculture.

The 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 varieties for green roofs. The extension activities have translated these advances into public knowledge on topics as varied as the impacts of tillage on soil carbon levels, the genomic basis of grape quality, and green solutions to landscape design.

 Programs
Majors
Agronomy, BS
Horticulture, BS
Landscape Architecture, BS
Minors
Agronomy
Horticulture
Pest Management
Precision Agriculture
Soil Science
Certification Preparation
Soil Science Certification
Graduate Programs
Plant Science, MS
Plant Science, PhD
Biological Sciences, PhD
Plant Molecular Biology Specialization
Plant Science Specialization

Facilities and Services
The department is housed in six buildings across campus. These buildings provide research and teaching laboratories, greenhouses, seed house facilities and access to the functional genomics core facility. The on-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 three research farms near campus and four research stations across the state. The Field Specialists are housed in six regional extension offices across the state. The latest addition is the new McCrory Gardens Education and Outreach Center.

Departments 87
Numerous opportunities are available for part-time employment, scholarships, student Engagement Opportunities and work-study programs. The Arboriculture Club, Agronomy and has nationally recognized crops, horticulture, and soils judging teams. The Department of Psychology offers opportunities for fellowship, leadership, and career planning. The Department of Psychology, Mahoney, Miller; Instructors Jantzer, Thimsen. Professor Woldt, Head; Professors Emeriti Branum, Hillner, Norris; Professors Scobey Hall 336. The psychology department provides a robust and challenging undergraduate program particularly in the human services area. Students with a psychology degree have a variety of other areas, many also find positions in their local community.

The department offers opportunities for student engagement through research, organizations, the Psychology Club and Psi Chi, the International Honor Society in Psychology. The Psychology Club is open to any student and provides academic recognition, and seeks to nurture the spark of that achievement by offering a climate congenial to members' creative development. Psi Chi is open to qualified students, provides academic recognition, and seeks to develop and enhance critical thinking, problem solving, and communication skills to prepare students for meaningful employment, further scholarship, sociocultural and international awareness, and civic involvement and engagement. In addition, the department promotes opportunities for 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 achievement.

Mary Emery, Department Head; Professors Arwood, Kayongo-Male, Ahmad; Instructor Schulz.

Professor Emery, Department Head; Professors Arwood, Kayongo-Male, Ahmad; Instructor Schulz.
Facilities and Services
The department has several unique facilities and services.

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

Student Engagement Opportunities
The department encourages student participation in organizations and honor societies.

- Alpha Tau Alpha is an honor society in Agricultural Education open to majors
- Kappa Delta Pi is an honor society that recognizes outstanding contributions to education
- Student National Education Association is affiliated with the South Dakota Education Association and the National Education Association and provides opportunities for professional growth
- South Dakota Association for the Education of Young Children provides opportunities for professional growth for Early Childhood majors

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

Human Sciences, MS
Family and Consumer Sciences Education Specialization

Visual Arts
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Faculty
Professor Steele, Head; Professors French, Wallace; Professors Emeriti Edie, Gambill, Kruse, Spina; Professors Emerita Morgan, Stuart; Associate Professors Cempellin, Clark, Hardin; Assistant Professors Behl, Carton, Melkumyan; Instructors Heeren, Reichardt, Stemwedel, Taylor, Van Benschoten, Weaver, Wicks

Department Overview
The Department offers courses in animation, art education, art history, ceramics, computer graphics, drawing, film, interactive design, graphic design, painting, printmaking, sculpture and web design. Students may pursue careers as artists, art educators, illustrators, graphic designers, or web designers. Graduates also prepare design or studio art portfolios necessary for pursuing graduate study.

Department Objectives
The department of Visual Arts seeks to prepare graduates for leadership in a world that requires a unique combination of artistic ability, innovative thinking, creative problem solving, conceptual skills and technical abilities. Through distinctive academic programs, strategic collaborations, and scholarship, research and creative activity the department:

- Encourages the creation of original art and design.
- Inspires critical thinking and study of aesthetics and history of art, graphic design and studio art.
- Fosters creative problem solving and conceptual thinking necessary for activities and promotes careers in the ever-changing fields of art education, graphic design and studio arts.

Programs
Majors
- Art Education BA, BS
- Graphic Design BA, BS
Minors
- Film Studies
- Studio Arts
Certificates
- Animation
- Art History
- Ceramics
- Graphic Design
- Painting
- Printmaking
- Sculpture

Memberships
AIGA is 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.

PATE is 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, the International Sculpture Center, champions the creation and understanding of sculpture and its unique and vital contribution to society. Their mission is to advance the art form, promote a supportive environment for sculpture that educates and effects social change.

NCATE, the National Council for Accreditation of Teacher Education, is the professional organization established to promote high quality teacher preparation. NCATE works to make a difference in the quality of teaching and...
teacher preparation today, tomorrow, and for the next century. NCATE believes every student deserves a caring, competent, and highly qualified teacher.

Facilities and Services
The department provides art and design studios: six specialized studio art, three graphic design, two multi-purpose and two animation/computer graphics, located in Grove Hall and the North Head House in Brookings and at the University Center in Sioux Falls. The Ritz Gallery is located in Grove Hall and houses a program of public exhibitions with works by students, faculty, alumni, and visiting artists/designers throughout the year. Ritz exhibitions offer visual art enrichment for the campus, community, and the state of South Dakota, as well as the public scrutiny of the Department programs in all of their variety. The annual schedule of 20 exhibitions also functions heavily in the curriculum. Instruction is enhanced by student travel opportunities to national art and design centers through study abroad programs, and national and international art and design conferences. Five to seven nationally recognized visiting artists and designers supplement instruction yearly.

Student Engagement Opportunities
The department offers opportunities for student engagement through creative activities, scholarship and student organizations.

- Art Club
- AIGA (American Institute of Graphic Art)
- Annual juried student art exhibitions
- SoDak Animation Festival
- Honors Art History
- Undergraduate scholarship and creative opportunities
- Internship opportunities
Off-Campus & Distance Programs

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Distance Education 92

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Off-Campus & Distance Programs

Office of Continuing and Distance Education
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www.continuinged.sdstate.edu

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

Summer Term

SDSU offers a wide range of courses on and off-campus to continue your studies during the summer months as well as numerous special workshops, short courses, distance education classes, evening offerings, and non-credit programs. Summer programming is offered May through August and is characterized by innovation and responsiveness to your needs. Classes are comfortably sized and time is available for individual attention from the faculty member. Participants need not be regularly matriculated at SDSU but may be admitted as special students through completion of one short form.

University Center - Sioux Falls (South Dakota Public Universities and Research Center)

South Dakota State University, through University Center in Sioux Falls, provides college coursework and degree programs in Sioux Falls. University Center is designed to serve the needs of non-traditional students in the Sioux Falls area. The course content, number and contact hours are the same as the identical course taught on campus. However, a typical three-credit course will meet for three hours one day or night per week rather than one hour three days per week. Coursework is offered during the fall, spring, and summer terms. The start and end of term for summer at University Center is different from the dates of summer term on campus.

The majors offered in Sioux Falls include General Studies (A.A), Consumer Affairs, General Studies (B.G.S.), Human Development and Family Studies, Graphic Design, Interdisciplinary Studies, Journalism, Nursing, Psychology, and Sociology at the undergraduate level. Pre-engineering courses are also available in Sioux Falls. Master's degrees are offered in Counseling and Nursing. Students in all majors may complete their general education core in Sioux Falls at University Center.

Capital University Center

The Capital University Center in Pierre was established by the people of Central South Dakota in 1982 to provide opportunities in higher education for the people of the region. In 1983, CUC and South Dakota State University entered into an agreement to enhance educational opportunities for residents of Central South Dakota through the offering of courses designed to transfer to degree-granting institutions of higher education. In 2003, CUC was fully merged into the SD Board of Regents System.

SDSU offers at CUC the Associate of Arts degree in General Studies, the Bachelor of General Studies, and the Bachelor of Science degree with a major in Interdisciplinary Studies, as well as a variety of general education courses and non-credit programs.

University Center - Rapid City

The University Center in Rapid City provides both undergraduate and graduate offerings. Undergraduate programs include the Bachelor's of Interdisciplinary Studies (IDS), which allows students whose academic and career goals encompass more than one traditional academic area to put together their own degree unique to their needs. Special opportunities exist in Agriculture, for example, where students may combine an interest in Range Science with Animal Science to form a degree which crosses these two academic areas. In addition to undergraduate offerings, the College of Education and Human Sciences offers Master of Education and Master of Science programs in Educational Administration and Counseling in Rapid City. These programs serve the military personnel, teachers, administrators, and counselors in Western South Dakota. SDSU coordinates its West River activities with other Regental universities serving the area.

Distance Education

South Dakota State University offers undergraduate and graduate courses using various distance education technologies. Utilizing the DDN (Digital Dakota Network), two-way audio and video classes allow students to actively participate in classroom activities while attending at a location more convenient to the student. South Dakota State University also offers Internet-based courses for students within a more flexible schedule. The Internet courses are similar to on campus courses, and students receive the same credit for completing an Internet course as they would for an on campus course. The Electronic University Consortium (EUC) of South Dakota is a single point of contact for information and access to distance education and training available from the six South Dakota public universities. Based upon more than 80 years of effective off-campus education, South Dakota State University 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
Every year, several thousand students enroll in the 18 degree-programs, 8 certificate programs and 250+ courses that SDSU offers online. These often require little more than an internet connection, a book or two, and a motivated, responsible student.

For more information concerning distance education call toll free at 866-827-3198, or go to the Distance Education Website at http://distance.sdstate.edu/.

Outreach Programs

South Dakota State University has a long tradition of, and responsibility for, delivering a variety of outreach efforts to locations across the state, region, and world. These include educational services to University Center in Sioux Falls, the University Center in Rapid City, the Capital University Center in Pierre (CUC), Nursing Upward Mobility, and numerous other distance education classes, workshops, and services.

The Office of Continuing and Distance Education provides coordination and support for off-campus educational programs and serves as a conduit for the University's service mission to citizens of South Dakota, the region and world. Outreach Programs are designed to deliver both state- and self-support education through on-site or distance education credit courses, non-credit conferences, short courses, and workshops.

Credit Programs - Academic standards and policies governing off-campus and technology communicated 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, Deans of the colleges, and department heads. There are outreach locations throughout South Dakota where credit courses are presented each semester and many courses are available by distance education. Additional locations are added as need and enrollment indicates.

The Office of Continuing and Distance Education provides opportunities for individuals to participate in professional development and personal enrichment activities throughout the year. Continuing and Distance Education offers a number of Continuing Education Units (CEUs), tax update workshops, and partners with Osher Lifelong Learning Institute (OLLI) to offer short-term, non-credit classes.
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**Agricultural and Environmental Law Certificate**

**Program Coordinator/Contact**
GPIDEA Coordinator
Continuing and Extended Education
Briggs Library, PO Box 2115
605-688-4154
E-mail: gpidea@sdsstate.edu
www.sdstate.edu/cee

**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**
Coursework is provided online through the GPIDEA program, a collaborative, multi-institutional consortium. Additional courses may be offered by SDSU instructors on campus and at various attendance centers.

**Requirements for Agricultural and Environmental Law Certificate: 15 Credits**

Select two of the following: 6
- HLTH 322 - Public Health Law Credits: 3
- AGEC 356 - Equine Law Credits: 3
- AGEC 366 - Food Law Credits: 3
- AGEC 320 - Ethics in agribusiness Credits: 3

Select one of the following: 3
- AGEC 350 - Environmental law Credits: 3
- AGEC 352 - Agricultural Law Credits: 3

Electives: 6
- Consult advisor to select electives from approved topics such as law, agribusiness, agriculture environment and natural resources.

**Animation Certificate**

**Program Coordinator/Contact**
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdsu.artdept@sdsstate.edu
www.sdstate.edu/art

**Program Information**
The Certificate in animation may be taken by all SDSU students regardless of major and may be selected by Studio Art and Art Education majors as part of their degree. The program prepares students for life-long avocational pursuits in the arts.

**Student Learning Outcomes**
Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:
- Understanding of basic principles of design and color, concept, media and formats related to animation. This includes the basic traditions, conventions and evolutions of animated forms of art and design.
- Ability to synthesize the use of drawing, two-dimensional design and color, related to animation.
- Knowledge and skills in basic tools, techniques, and technologies sufficient to work from concept to finished animated product.
- The preparation of animation using basic animation techniques and technologies with the opportunity to work at advanced level.

**Academic Requirements**
Visual Arts students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

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

**Requirements for Animation Certificate: 12 Credits**
- ARTD 203 - Animation Foundations I Credits: 3
- ARTD 303 - Animation Foundations II Credits: 3
- ARTD 403 - Intermediate Animation Credits: 3
- ART 492-592 - Topics Credits: 3

**Art History Certificate**

**Program Coordinator/Contact**
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdsu.artdept@sdsstate.edu
www.sdstate.edu/art

**Program Information**
The certificate in Art History may be taken by all SDSU students regardless of major and may be selected by Studio Art and Art Education majors as part of their degree. The program prepares students for life-long avocational pursuits in the arts.

**Student Learning Outcomes**
Upon completion of the certificate students are able to demonstrate the following outcomes through advanced writing:
- Develop an understanding of the common vocabulary of art and design and of the interaction of these elements and employ this knowledge in analysis.
- Acquire the ability to place works of art and design in historical, cultural and stylistic contexts.
- Ability to analyze works of art and design perceptively and evaluate them critically.
- Opportunity to work at advanced levels.

**Academic Requirements**
Visual Arts students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

**Course Delivery Format**
Course content is delivered through classroom lectures.

**Art History Certificate: 12 Credits**
- ARTH 211 - History of World Art I (COM) Credits: 3
- ARTH 212 - History of World Art II (COM) Credits: 3
- ARTH 310 - History of United States Art and Architecture (AW) Credits: 3
- or ARTH 320 - Modern Art and Architecture Survey (AW) (G) Credits: 3
- or ART 492 - Topics (COM) Credits: 3
- or ARTH 490 - Seminar (AW) Credits: 3

**Ceramics Certificate**

**Program Coordinator/Contact**
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdsu.artdept@sdsstate.edu
www.sdstate.edu/art

**Program Information**
The certificate in ceramics may be taken by all SDSU students regardless of major and may be selected by Studio Art and Art Education majors as part of their degree. The program prepares students for life-long avocational pursuits in the arts.

**Student Learning Outcomes**
Upon completion of the certificate, students are able to demonstrate the
Entrepreneurship Certificate

Program Coordinator/Contact
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
E-mail: jason.zimmerman@sdstate.edu
www.sdstate.edu/econ

Program Information
The Entrepreneurship Certificate offers a unique set of courses that can help students to develop entrepreneurial ventures. The certificate program offers specialized courses enabling individuals to gain the skills to start or grow their own businesses and pursue entrepreneurial product and service ideas.

Student Learning Outcomes
Entrepreneurial Studies graduates will be able to demonstrate:
• the fundamental knowledge, skills, and experience to think entrepreneurially
• leadership by adopting innovative and creative thought processes
• research, analysis, and presentation skills
• the capacity to evaluate ethical matters within the context of the discipline.

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

Requirements for Ceramics Certificate: 12 Credits
• ART 251 - Ceramics I ** (COM) Credits: 3
• ART 351 - Ceramics II (COM) Credits: 3
• ART 352 - Ceramics-Intermediate Level Credits: 3
• ART 451 - Ceramics-Advanced Credits: 3

Geographic Information Sciences Certificate

Program Coordinator/Contact
George White, Department Head
Department of Geography
109 Weocota Hall
605-688-4511
E-mail: george.white@sdstate.edu

Program Information
Geographic information sciences are concerned with geographic concepts, the basic elements used to describe, analyze, and make decisions on phenomena distributed on the earth Department 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 sciences 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.

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

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

Requirements for Geographic Information Sciences Certificate: 12 Credits
• GEOG 383-383L - Cartography and Lab Credits: 3
• GEOG 483-483L - Air Photo Interpretation and Lab Credits: 3
• GEOG 472 - Introduction to GIS Credits: 3

Choose one set of technical electives: 6
• GIS technical electives

Choose two from the following.
• GEOG 473-573 - GIS: Data Creation & Integration Credits: 3
• GEOG 474-574 - GIS: Vector & Raster Modeling Credits: 3
• GEOG 475-575 - GIS Applications Credits: 3

Remote Sensing/Cartography technical electives

Choose two from the following.
• GEOG 384-384L - Advanced Cartography & Lab Credits: 3
• GEOG 484-484L - Remote Sensing and Lab Credits: 3
• GEOG 485-485L - Quantitative Remote Sensing and Lab Credits: 3

Graphic Design Certificate

Program Coordinator/Contact
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
E-mail: sdsu.artdept@sdstate.edu
www.sdstate.edu/art

Program Information
The certificate in graphic design may be taken by all SDSU students regardless of major and may be selected by Studio Art and Art Education majors to assist in their preparation for employment or graduate study. It may also be selected by specific majors such as advertising, architecture, interior design, landscape design, journalism and others to support their major concentration and assist in their preparation for employment and/or graduate study.
Student Learning Outcomes
Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- Knowledge of basic principles of design, color, concept, media and formats related to graphic design and visual communication. This includes the basic traditions, conventions and evolutions of design and digital technologies.
- Effective use of typography, image, layout, motion, interactivity incorporating the principles and elements of design.
- Apply skills in basic design, techniques and technology sufficient to work from concept to finished product, including printed and digital applications.
- Ability to critically evaluate about one's personal designs and the designs of others with regard to usefulness, desirability, utility, economic viability and sustainability.

Academic Requirements
Visual Arts students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

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

Requirements for Graphic Design Certificate: 12 Credits
- ARTD 201 - Graphic Design I Credits: 3
- ARTD 202 - Computer Graphics I Credits: 3
- ARTD 301 - Graphic Design II Credits: 3
- ARTD 302 - Computer Graphics II Credits: 3

Painting Certificate

Program Coordinator/Contact
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdsu.artdept@sdstate.edu
www.sdstate.edu/art

Program Information
The certificate in painting may be taken by all SDSU students regardless of major and may be selected by Studio Art and Art Education majors as part of their degree. The program prepares students for life-long avocational pursuits in the arts.

Student Learning Outcomes
Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- Understanding of basic design principles with emphasis on three-dimensional design and ability to apply these to sculpture. This includes basic knowledge of the traditions, conceptual modes and evolutions in sculpture.
- Ability to synthesize the use of drawing to support work in sculpture.
- Understanding of the possibilities and limitations of various materials.
- The preparation of sculpture using the broadest range of techniques and concepts with the opportunity to work at advanced level in at least one technique.

Academic Requirements
Visual Arts students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

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

Requirements for Painting Certificate: 12 Credits
- ART 281 - Printmaking I ** (COM) Credits: 3
- ART 381 - Printmaking II (COM) Credits: 3
- ART 481 - Printmaking-Advanced Credits: 3

Printmaking Certificate

Program Coordinator/Contact
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdsu.artdept@sdstate.edu
www.sdstate.edu/art

Program Information
The certificate in printmaking may be taken by all SDSU students regardless of major and may be selected by Studio Art and Art Education majors as part of their degree. The program prepares students for life-long avocational pursuits in the arts.

Student Learning Outcomes
Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- Understanding of basic design principles, concepts, media and formats related to printmaking.
- Ability to synthesize the use of drawing, two-dimensional design and color as related to printmaking.
- Knowledge and skills in the basic tools, techniques and processes sufficient to work from concept to finished product, including knowledge of basic materials and technical procedures such as intaglio and relief.
- The preparation of prints using basic printmaking

Academic Requirements
Visual Arts students must maintain at least a program GPA of 2.6 and an overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

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

Requirements for Printmaking Certificate: 12 Credits
- ART 281 - Printmaking I ** (COM) Credits: 3
- ART 381 - Printmaking II (COM) Credits: 3
- ART 382 - Printmaking-Intermediate Level Credits: 3
- ART 481 - Printmaking-Advanced Credits: 3

Sculpture Certificate

Program Coordinator/Contact
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdsu.artdept@sdstate.edu
www.sdstate.edu/art

Program Information
The certificate in sculpture may be taken by all SDSU students regardless of major and may be selected by Studio Art and Art Education majors as part of their degree. The program prepares students for life-long avocational pursuits in the arts.

Student Learning Outcomes
Upon completion of the certificate, students are able to demonstrate the following outcomes through studio projects:

- Understanding of basic design principles with emphasis on three-dimensional design and ability to apply these to sculpture. This includes basic knowledge of the traditions, conceptual modes and evolutions in sculpture.
- Ability to synthesize the use of drawing to support work in sculpture.
- Understanding of the possibilities and limitations of various materials.
- Knowledge and skills in the use of basic tools, techniques, and processes to work from concept to finished artwork.
- The preparation of sculpture using the broadest range of techniques and concepts with the opportunity to work at advanced level in at least one technique.

Academic Requirements
Visual Arts students must maintain at least a program GPA of 2.6 and an...
overall GPA of 2.5 on a 4.0 scale for the duration of the program. A grade of "C" or better is required in all courses required for the certificate.

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

Requirements for Sculpture Certificate: 12 Credits
- ART 241 - Sculpture I ** (COM) Credits: 3
- ART 341 - Sculpture II (COM) Credits: 3
- ART 342 - Sculpture III (COM) Credits: 3
- ART 441 - Sculpture-Advanced Credits: 3

Swine Science Certificate
Program Coordinator/Contact
GPIDEA Coordinator
Department of Continuing and Distance Education
605-688-4154
E-mail: gpidea@sdstate.edu

Program Information
Swine Science is an inter-institutional undergraduate certificate program designed to prepare academically trained students entering the pork industry in such areas as sales and communications, construction, production management, and pharmaceuticals. Upon completion of the required and elective courses, students will be able to apply for a Swine Science Online Certificate from the U.S. Pork Center of Excellence.

Student Learning Outcomes
Students will be able to:
- Integrate disciplines and concepts in order to facilitate problem solving, creating a more efficient and sustainable production system
- Combine scientific principles and management skills involved in pork production
- Recognize available career opportunities within the pork industry
- Apply personnel, facility, fiscal, and livestock management
- Perform basic swine husbandry
- Understand the impact of societal and industry issues on production management systems
- Explain the pork structure and trends, including production, packing, and integration

Course Delivery Format
The fully-online programs of the Great Plains IDEA provide flexibility, enabling students to balance career advancement with professional, social and financial commitments. AG*IDEA, an affiliate of the Great Plains IDEA, is a national consortium of land grant universities offering programs and courses in agriculture disciplines.

Requirements for Swine Science Certificate: 12 Credits
Required Courses
- AS 202 - Basic Swine Science Credits: 2
- AS 203L - Basic Swine Science Lab Credits: 1
- AS 310 - Employee Management for the Swine Industry Credits: 1
- AS 313 - Swine Health and Biosecurity Credits: 1
- AS 494 - Internship Credits: 1-12 (Required 1 Credit Production Internship in the Swine Industry)

Production Management
Select one of the following courses.
- AS 306 - Swine Breeding and Gestation Management Credits: 1
- AS 307 - Swine Farrowing Management Credits: 1
- AS 308 - Swine Nursery & Finishing Management Credits: 1

Elective courses
Choose five courses not previously selected.
- 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 & 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 - Cont. Issues in the Swine Industry Credits: 1

Theatre Arts Administration Certificate
Program Coordinator/Contact
Laurie Haleta, Department Head
Department of Communication Studies and Theatre
Pugsley Continuing Education Center 115
605-688-6131
E-mail: laurie.haleta@sdstate.edu
www.sdstate.edu/cst

Program Information
The certificate in Theatre Arts Administration will prepare undergraduate theatre students to manage a theatre arts company. Students will learn the foundational of theatre and arts administration and explore the impact of the arts on businesses, organizations, and leadership. Because of the reflective and critical thinking required by arts administrators and the need for hands-on experience, students will examine effective practices for leadership and administration within on-campus venues and local professional arts organizations.

Student Learning Outcomes
Theatre Arts Administration students will:
- Students will recognize and learn to apply best practices in marketing and promoting theatre arts programs.
- Students will understand and learn to apply the budgeting practices for theatre companies.
- Students will develop skills in leadership, organizational hierarchy and communication within theatre arts companies.

Course Delivery Format
Faculty deliver program coursework on campus, online and off campus.

Requirements for Theatre Arts Administration Certificate: 12 Credits
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BADM 370 - Marketing (COM)/ECON 370 - Marketing Credits: 3
  or ADV 314 - Sales, Promotion and Marketing Credits: 3
- THEA 375 - Theatre Arts Management Credits: 3
- THEA 494 - Internship Credits: 3

Academic Programs 99
Academic Programs – Certification Preparation Programs

**Athletic Coaching Certification**
Program Coordinator/Contact
Tracy Nelson, Coordinator
Department of Health & Nutritional Sciences
Intramural Building 116
605-688-5039
E-mail: tracy.nelson@sdstate.edu

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 for coaching should consult with the Coaching Certification Coordinator in the Department of Health and Nutritional Sciences to verify the specific requirements for each state. SDSU does require an American Sports Education Program Workshop for those interested in obtaining coaching certification.

To be a coach at the elementary or junior high/middle school level or to be an assistant coach at the high school level, students should take: PE 354-354L - Prevention and Care of Athletic Injuries and Lab(COM) Credits: 3

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 469-469L - Coaching Baseball/Softball & Lab: Officiating (COM) Credits: 2
- PE 470-470L - Coaching Basketball & Lab (COM) Credits: 2
- PE 471-471L - Coaching Football & Lab: Officiating (COM) Credits: 2
- PE 473-473L - Coaching Track & Field/Cross Country and Officiating Country (COM) Credits: 2
- PE 474-474L - Coaching Wrestling & Officiating(COM) Credits: 2
- PE 475-475L - Coaching Volleyball & Officiating (COM) Credits: 2

**Soil Science Certification**
Program Coordinator/Contact
David Wright, Department Head
Brent Tumipseed, Undergraduate Teaching Coordinator
Department of Plant Science
Agricultural Hall 219
605-688-5123
E-mail: david.wright@sdstate.edu
E-mail: brent.tumipseed@sdstate.edu

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, chemistry, conservation, contaminants, and land management. Students completing the recommended coursework may seek employment in areas of agricultural production, marketing, management, and conservation.

Accreditation, Certification, and Licensure
Students seeking certification or licensure as a professional soil scientist should contact their advisor and refer to https://www.soils.org/certifications/cpss-cpsc.

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.

- PS 213-213L - Soils and Lab *** Credits: 3
- PS 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3

**Teacher Education – Certification Only**
Program Coordinator/Contact
Andrew Stremmel, Department Head
Department of Teaching, Learning and Leadership
Wenona Hall 108
605-688-5039
E-mail: andrew.stremmel@sdstate.edu
www.sdstate.edu/tll

Program Information
The certification-only program allows those with baccalaureate degrees to earn a teaching certificate, preparing them for work as highly qualified professional educators in their chosen teaching areas. The curriculum consists of academic study, professional preparation and field experience, providing students with pedagogical and content-specific knowledge, readying them to work with diverse populations of learners.

Admission Guidelines
Admission to the program requires a 2.5 CGPA; a 2.6 GPA in the major; and completion of English Composition, Speech, and College Algebra with no grade less than "C." The following guidelines are applicable at all South Dakota Regental institutions:

- The teacher candidate must have a baccalaureate degree from an accredited institution of higher education.
- In order to be admitted to the certification only program, the candidate must meet teacher education program admission requirements. In addition, the candidate must complete the PRAXIS II content exam in his/her major as specified by the South Dakota Department of Education (SDDOE). The candidate must meet or exceed the minimum score required for certification in South Dakota.
- The candidate will complete all teacher certification courses as identified by the institution, including the appropriate special methods course but not to include other content major courses, and sit for the PRAXIS II Principles of Learning and Teaching exam.
- When the candidate meets the minimum required score on the PRAXIS II Principles of Learning and Teaching exam for certification in South Dakota and all other program completion requirements set forth by the institution, the institution will recommend the candidate for teacher certification.
- The SDDOE will maintain accountability for the candidate scores on the PRAXIS II content exam. The universities will maintain accountability for the candidate scores on the PRAXIS II Principles of Learning and Teaching exam.
- The certification only program is limited to K-12 specific content areas and 7-12 specific content areas.

Accreditation, Certification, and Licensure
Accreditation
National Council for Accreditation of Teacher Education Programs
South Dakota Department of Education

Certification and Licensure
To seek certification and licensure, candidates who have completed their baccalaureate degree will complete the teacher education coursework are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
Courses in 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.
Admission into Professional Semester I:

Candidates admitted into Professional Semester I are considered members of the Teacher Education Program and are classified as "Education Candidates." In order to achieve this status, a candidate must have:

1. Achieved a junior status at the University;
2. Completed PS-I with grades of "C" or better and be recommended by PS-I faculty;
3. Hold an overall GPA of 2.5 or higher;
4. Met competency requirements:
   • English: a grade of "C" or above in ENGL 101 or credit by examination
   • Math: a grade of "C" or above in MATH 102 or 104 or higher level math course or credit by examination
   • Speech: a grade of "C" or above in SPCM 101 or higher or credit by examination;
5. Completed an application for admission to Teacher Education which includes appropriate biographical and background information; and
6. Have a current transcript on file in the department office.

Admittance into Professional Semester III:

Education candidates will be permitted to register for the courses of Professional Semester III if they have:

1. Achieved senior standing at the University;
2. Achieved a passing score on the Praxis Content Exam;
3. Been admitted to the Teacher Education Program and successfully completed all standard requirements therein (or alternatives decided by the Admissions and Scholastic Standards Committee);
4. Successfully completed all prerequisite coursework for the professional education program, including one special methods course* in a major field, the South Dakota Indian Studies requirement and the computer proficiency requirement;
5. Have the following minimum GPA's:
   • Education courses 2.8
   • All courses completed at the "C" level or above
   • Courses in the major 2.6
   • Overall cumulative 2.5
   • Completed all competency plans and/or other activities prescribed by the Admissions and Scholastic Standards Committee;
6. Have recommendations on file in the department office from both the major adviser and the content methods instructor (these recommendations must include the candidate's GPA in his/her major);
7. Meet with the placement supervisor of the Office of Field Experiences before October 1 (for those student teaching in Spring) or February 1 (for those student teaching in the Fall) and complete an Application for Student Teaching (rather than wait for these deadlines, it is advisable to complete this application at least one semester before PS-III);
8. Hold non-probationary status; and
9. When student teaching, a background check may be required.

*See major department section for special methods courses.

Recommendation for Certification

In order to be recommended for certification, a candidate must have:

1. A bachelor's degree, in an approved content area;
2. Satisfactory student teaching recommendations from both the cooperating teacher(s) and university supervisor;
3. The following minimum GPA's:
   • Education courses 2.8
   • All courses completed at the "C" level or above
   • Courses in the major 2.6
   • Overall cumulative 2.5
   • Completed all competency plans and/or other activities prescribed by the Admissions and Scholastic Standards Committee;
4. Taken the required exit exam(s), including the Praxis Principles of Teaching and Learning earning required cut scores;
5. Satisfactorily completed exit interview with Performance Portfolio and required projects in PS-III; and
6. Applied for certification through the South Dakota Department of Education, which the Certifying Officer in the College of Education and Human Sciences will sign off on.

Teaching Specialization Requirements

Professional Semester I

- EDFN 338 - Foundation of American Education (COM) Credits: 3
- EPSY 302 - Educational Psychology (COM) Credits: 3

Program Contact/Coordinator

Andrew Stremmel, Department Head
Department of Teaching, Learning, and Leadership
Wenona Hall 108
605-688-5039
E-mail: andrew.stremmel@sdstate.edu
www.sdstate.edu/tll

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.

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.

Program Admission

The coursework for teacher education is divided into three professional semesters. In addition, once one has finished the professional sequence, he/she must be recommended for certification to teach in South Dakota. The requirements for each are as follows:

Admission into Professional Semester I:

In order to register for the two courses of Professional Semester I (PS I) a candidate must be at least a sophomore at the beginning of the semester in which he/she is taking the PS-I courses.
Professional Semester II
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III
- Special Methods (varies by content area) Credits: 1-4
- Native American Course Appr. for Teacher Education Credits: 3
- AIS/HIST 368 - History and Culture of the American Indian** Credits:3
- or AIS/ANTH 421 - Indians of North America** Credits: 3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
- SEED 410 - Social Foundations, Management and Law Credits: 2
- EDER 415 - Educational Assessment Credits: 2
- ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8

*Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits, enrolling in both SEED 488 and ELED 488

**Credit in course taken provides evidence of the content knowledge requirement.

Additional Requirements
- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Academic Programs - Endorsements

Early Childhood Education Kindergarten
Education Endorsement
Program Coordinator/Contact
Lynda Venhaize, ECE Coordinator
Department of Teaching, Learning, and Leadership
Pugsley Hall 141, Box 2203
http://www.sdstate.edu/tll

Program Information
Students or graduates may seek additional certification to their primary teaching certificates authorizing them to teach in other age/grade spans and/or content areas. A Kindergarten Education Endorsement may be added to the Birth through Age 5 Specialization, Birth through Age 8 Specialization, or Cooperative Programs in the Early Childhood Education major.

Student Learning Outcomes
Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning
1a: Knowing and understanding young children’s characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and learning
1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children

Standard 2. Building family and community relationships
2a: Knowing about and understanding diverse family and community characteristics
2b: Supporting and engaging families and communities through reciprocal Relationships
2c: Involving families and communities in young children's development and learning

Standard 3. Observing, documenting, and assessing to support young Children and families
3a: Understanding the goals, benefits, and uses of assessment - including its use in development Of appropriate goals, curriculum, and teaching strategies for young children
3b: Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments
3c: Knowing about and using observation, documentation, and other appropriate assessment Tools and approaches, including the use of technology in documentation, assessment and data Collection
3d: Understanding and practicing responsible assessment to promote positive outcomes for each Child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches
4a: Understanding positive relationships and supportive interactions as the foundation of their Work with young children

4b: Knowing and understanding effective strategies and tools for early education, including Appropriate uses of technology
4c: Using a broad repertoire of developmentally appropriate teaching /learning approaches
4d: Reflecting on own practice to promote positive outcomes for each child

Standard 5. Using content knowledge to build meaningful curriculum
5a: Understanding content knowledge and resources in academic disciplines: language and Literacy; the arts – music, creative movement, dance, drama, visual arts; mathematics; science, Physical activity, physical education, health and safety; and social studies.
5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or Academic disciplines
5c: Using own knowledge, appropriate early learning standards, and other resources to design, Implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6. Becoming a professional
6a: Identifying and involving oneself with the early childhood field
6b: Knowing about and upholding ethical standards and other early childhood professional Guidelines
6c: Engaging in continuous, collaborative learning to inform practice; using technology Effectively with young children, with peers, and as a professional resource.
6d: Integrating knowledgeable, reflective, and critical perspectives on early education
6e: Engaging in informed advocacy for young children and the early childhood profession

Standard 7. Early childhood field experiences
7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth – age 3, 3-5, 5-8)
7b. Opportunities to observe and practice in at least two of the three main types of early Education settings (early school grades, child care centers and homes, Head Start programs)

Accreditation, Certification, and Licensure
Accreditation
National Association for the Education of Young Children
National Council for Accreditation of Teacher Education Programs
South Dakota Department of Education

Certification and Licensure
Candidates who have completed the curriculum may apply for the Kindergarten Education endorsement on their teaching certificate. They are not required to take an additional PRAXIS test to add this endorsement in South Dakota. However, those educators seeking initial certification and licensure in their content area must complete the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the PRAXIS II PLT must be obtained for teaching licensure and varies by state.
Course Delivery Format
Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

Requirements for Kindergarten Education Endorsement: 9 Credits
- ELED 412 - Kindergarten Education Credits: 3 (Fall)
- ECE 495 - Practicum Credits: 1*
- Additional coursework in early childhood education: 5

*Verified teaching experience in kindergarten within the five-year period immediately preceding the application may be accepted in lieu of the above field experiences at the equivalency of one year's teaching experience for one semester hour credit for a maximum of three semester hours of the total credit hours required.

Early Childhood Special Education Endorsement
Program Contact/Coordinator
Lynda Venhuizen, ECE Coordinator
Department of Teaching, Learning, and Leadership
Pugsley Hall 141, Box 2203
www.sdstate.edu/tll

Program Information
Students or graduates may seek additional certification to their primary teaching certificates authorizing them to teach in other age/grade spans and/or content areas. An Early Childhood Special Education Endorsement may be added to the Birth through Age 5 Specialization, Birth through Age 8 Specialization, or Cooperative Programs in the Early Childhood Education major.

Accreditation, Certification, and Licensure
Accreditation
National Association of the Education of Young Children
National Council for Accreditation of Teacher Education Programs
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

Requirements for Early Childhood Special Education Endorsement: 9 Credits
- ECE 468 - Early Intervention in Family-Centered Practices Credits: 3
- ECE 470 - Early Childhood Inclusion Strategies Credits: 3
- ECE 495 - Practicum Credits: 3
Academic Programs - Majors

Advertising Major
Program Coordinator/Contact
Mary Arnold, Department Head
Department of Journalism and Mass Communication
Yeager Hall 211
605-688-4171
E-mail: mary.arnold@sdstate.edu
www.sdstate.edu/mcom

Program Information
A major in advertising will prepare students with effective written and visual communication, critical thinking, design, and research skills. Graduates gain experience working on teams to develop solutions for clients and competitive design strategies. Students are encouraged to select one of the following emphases within Advertising: Creative Strategy, Interactive Media, or Public Relations.

• Creative Strategy Emphasis. Students who want to work in the account management and creative areas of advertising, including copywriting, take this emphasis. It is recommended that students seeking a career in advertising art direction take this emphasis and pursue a double major in Graphic Design or a minor in Art through the Department of Visual Arts.
• Interactive Media Emphasis. Students seeking employment in the areas of print and broadcast, online and social media planning; interactive marketing; research; and media sales take this emphasis.
• Public Relations Emphasis. Students who want to work in public relations and corporate marketing positions requiring an understanding of integrated marketing communications take this emphasis.

Academic Requirements
Advertising majors must have a "C" or better in Freshman Composition; must have a graduation average of 2.5 in journalism and mass communication; must have grades of "C" or better in all major courses.

Equipment and Supplies
Students are also encouraged to purchase a laptop (Macintosh preferred) and software appropriate for the discipline.

Accreditation, Certification, and Licensure
The Department 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 department offers coursework in classroom, studio, online, and field-based settings.

Requirements for Advertising Major: 120 Credits
Bachelor of Arts and Bachelor of Science in Arts and Sciences

System General Education Requirements*: 30
• Goal #1 Written Communication: Credits: 6
• Goal #2 Oral Communication: Credits: 3
• Goal #3 Social Sciences/Diversity: ECON 201 Credits: 6
• Goal #4 Humanities and Arts/Diversity: (MCOM 151 Recommended) Credits: 6
• Goal #5 Mathematics: Credits: 3
• Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar (MCOM 109 Recommended) Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34
Bachelor of Arts
• Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
• Social Sciences Credits: 8
• Humanities Credits: 6

Bachelor of Science
• Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
• Social Sciences Credits: 12
• Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 41
• BADM 370 - Marketing (COM) Credits: 3
• MCOM 210-210L - Basic Newswriting and Studio (COM) Credits: 3
• MCOM 220-220L - Introduction to Digital Media and Lab Credits: 3
• MCOM 416-516 - Mass Media in Society (G) Credits: 3
  or ADV 476 - International and Ethnic Advertising (G) Credits: 3
• MCOM 430-530 - Media Law (COM) Credits: 3
• MCOM 494 - Internship Credits: 1-12 (2 credits required for Advertising major.)
• ADV 370 - Advertising Principles Credits: 3
• ADV 371-371L - Advertising Copy and Layout and Studio (AW) Credits: 3, 0
• ADV 442-442L - Integrated Marketing Communication and Campaigns Studio Credits: 3
• ADV or MCOM Electives Credits: 0-5
• Choose one of the following suggested emphases: 12

Creative Strategies Emphasis
• ADV 314 - Sales, Promotion and Marketing Credits: 3
• ADV 372-372L - Advertising Media Strategies and Lab Credits: 3
• ADV 489 - Portfolio Production & Design Credits: 1-3
• MCOM 339-339L - Publication Design and Lab Credits: 3
  or MCOM 559-559L Desktop Publishing and Projects Lab Credits: 3

Interactive and Media Emphasis
• ADV 372-372L - Advertising Media Strategies and Lab Credits: 3
• ADV 411-411L - Media Analytics and Studio Credits: 3
  Select Two Courses from the Following Group:
  • ADV 314, Sales, Promotion and Marketing Credits: 3
  • ADV 343 - Strategies - Public Relations Credits: 3
  • ADV 472 - Media Research and Planning Credits: 3

Public Relations Emphasis
• ADV 243 - Public Relations Principles Credits: 3
• ADV 343 - Strategies - Public Relations Credits: 3
• ADV 472 - Media Research and Planning Credits: 3
• MCOM 340-340L - Broadcast Announcing and Performance Lab Credits: 3
  or ADV 492 - Topics Credits: 1-5

Electives: 8-13

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(1) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Program Information
Agricultural and Biosystems Engineering is a professional major that prepares students to design, build, and test engineered products and processes. This program is accredited by the Engineering Accreditation Commission of ABET, ensuring the curriculum meets high standards for engineering education.

Program Educational Objectives
- To produce engineers that have the necessary foundation in mathematics, basic science, and technology to be able to apply the knowledge in the understanding of problem solutions.
- To produce engineers that develop the ability to creatively design solutions, to communicate effectively, and to evaluate and implement problem solutions using theoretical knowledge.
- To produce engineers that become capable of addressing issues of ethics, social responsibility, global and cultural diversity, and environmental impact.
- To produce engineers that will contribute to agricultural profitability and sustainability through developing adaptation and proper use of new and safer technologies, production systems, and management practices.

Student Learning Outcomes
- Graduates of the Agriculture and Biosystems Engineering program will:
  a. have a knowledge of the biological and agricultural sciences, engineering sciences, and the computer skills needed for the practice of agricultural and biosystems engineering;
  b. be able to apply knowledge of mathematics, science, and engineering;
  c. be able to design and conduct experiments, as well as to analyze and interpret data;
  d. be able to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
  e. be able to function on multi-disciplinary teams;
  f. be able to identify, formulate, and solve engineering problems;
  g. have an understanding of professional and ethical responsibility;
  h. be able to communicate effectively;
  i. have the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
  j. have a recognition of the need for, and ability to engage in life-long learning;
  k. have a knowledge of contemporary issues;
  l. be able to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Accreditation, Certification, and Licensure
The undergraduate Agricultural and Biosystems Engineering major is accredited by the Engineering Accreditation Commission of ABET. ABET is a federation of 32 professional societies representing applied science, computing, engineering, and technology. Students are required to pass the Fundamentals of Engineering examination to be eligible for professional licensure.

Course Delivery Format
The ABE program provides students with 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*: 33
- Goal #1 Written Communication: ENGL 101 and ENGL 277 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 123 Credits: 4
- Goal #6 Natural Sciences: PHYS 211-211L and PHYS 213-213L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: GE 109-109L Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 80
- BIOL 101-101L - Biology Survey I and Lab (COM) Credits: 3
- MATH 123 - Calculus II (COM) Credits: 4
- MATH 225 - Calculus III (COM) Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- CHEM 112-112L - General Chemistry I and Lab (COM) Credits: 3, 1
- CSC 130 - Visual Basic Programming (COM) Credits: 3
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- EM 214 - Statics (COM) Credits: 3
- EM 215 - Dynamics (COM) Credits: 3
- EM 331 - Fluid Mechanics (COM) Credits: 3
- ME 314 - Thermodynamics Credits: 3
- EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3
- ABE 132 - Engineering Tools for Agricultural and Biological Engineers Credits: 1
- ABE 222 - Project Development for Agricultural and Biological Engineers Credits: 1
- ABE 314-314L - Ag Power and Machines and Lab Credits: 4
- ABE 324-324L - Ag Structures and Indoor Environment and Lab Credits: 4
- ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3
- ABE 434-434L - Natural Resources Engineering & Lab Credits: 4
- ABE 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4
- ABE 463-463L - Instrumentation for Agricultural and Biological Systems and Lab Credits: 3
- ABE 464-464L - Monitoring and Controlling Agriculture and Biological Systems and Lab Credits: 2
- ABE 411 - Design Project III (AW) Credits: 2
- ABE 422 - Design Project IV (AW) Credits: 2

Select one of the following courses: 3
- MATH 331 - Advanced Engineering Mathematics Credits: 3
- MATH 373 - Introduction to Numerical Analysis (COM) Credits: 3
- STAT 281 - Introduction to Statistics (COM) Credits: 3

Select one of the following courses: 4-5
- CHEM 108-108L - Organic and Biochemistry and Lab (COM) Credits: 4, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1

Select one of the following courses: 1-2
- ABE 494 - Internship Credits: 1-6
- ABE 496 - Field Experience Credits: 1-6
- ABE 498 - Undergraduate Research/Scholarship Credits: 1-3

Electives: 12
- The elective program for each student must be approved by the advisor and will include 12 credit hours of technical electives, at least 6 credits from 300 or above level courses in the College of Engineering.

  - GE 310 - Geometric Dimensioning and Tolerancing Credits: 2
  - AST 353 - Physical Climatology and Meteorology Credits: 3
  - ABE 491 - Independent Study Credits: 1-3

Academic Programs 105
Food and Biomaterials Engineering

- ABE 492-592 - Topics Credits: 1-4
- ABE 494 - Internship Credits: 1-6
- ABE 496 - Field Experience Credits: 1-6
- ABE 497 - Cooperative Education Credits: 1-6
- CSC 314 - Assembly Language (COM) Credits: 3
- CSC 317 - Computer Organization and Architecture (COM) Credits: 3
- EE 422 - Engineering Economics and Management Credits: 2
- GEOG 472 - Introduction to GIS Credits: 3
- MATH 331 - Advanced Engineering Mathematics Credits: 3
- MNET 320-320L - Computer Aided Design/Drawing and Lab Credits: 3
- STAT 281 - Introduction to Statistics *(COM) Credits: 3

Structures and Environment Emphasis

- CEE 346-346L - Geotechnical Engineering (COM) and Lab Credits: 4
- CEE 455 - Steel Design Credits: 3
- CEE 456 - Concrete Theory and Design (COM) Credits: 3
- CE 482 - Engineering Administration Credits: 3
- ME 410 - Principles of HVAC Engineering Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 439-439L - HVAC System Design and Lab Credits: 3
- ME 451 - Automatic Controls Credits: 3
- MNET 320-320L - Computer Aided Design/Drawing and Lab Credits: 3

Power and Machinery Emphasis

- ABE 350-350L - Hydraulic and Pneumatic Systems and Lab Credits: 3
- ME 321 - Fundamentals of Machine Design Credits: 3
- ME 323 - Vibrations Credits: 3
- ME 341-341L - Metallurgy and Lab Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 412 - Internal Combustion Engines Credits: 3
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- ME 438-438L - Machine Design-Case Studies and Lab Credits: 3
- PS 362-362L - Environmental Soil Management and Lab ** Credits: 3

Water and Natural Resources Engineering Emphasis

- AST 463-463L - Agricultural Waste Management (AW) Credits: 3
- CEE 106-106L - Elementary Surveying and Lab Credits: 4
- CEE 323-323L - Water Supply and Wastewater Engineering and Lab Credits: 3
- CEE 434-434L - Hydrology Credits: 3
- CEE 436-436L - Geotechnical Engineering (COM) and Lab Credits: 4
- CEE 423-423L - Municipal Water Distribution and Collection System Design Credits: 3
- CEE 432 - Hydraulic Engineering Credits: 3
- PS 213-213L - Soils and Lab ** Credits: 2, 1
- PS 362-362L - Environmental Soil Management and Lab ** Credits: 3
- PS 483 - Irrigation - Crop and Soil Practices Credits: 3

Total Required Credits: 130

Curriculum Notes
- Required to receive a "C" or better in ENGL 277.
- Technical elective credit not given for both CEE/CM 482 and EE 422.
- Students must take these courses, with the exception that they may choose to replace one of these four Agricultural and Biosystems Engineering courses with four additional technical elective credits (300 or higher in the College of Engineering) in addition to the basic technical elective requirements.

* The 30 credit Board of Regents System General Education Requirements (SGRs).
** South Dakota State University has a 3 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Program Information

The major in Agricultural and Resource Economics provides a rigorous education in economic theory and quantitative methods applied to agriculture and resource management. 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 or related field.

Program Admission
To be admitted, students must have completed at least 64 semester credits toward graduation, earned a cumulative grade point average of at least 2.1 for all courses taken, and attained at least a 2.1 grade point average for the following courses: ECON 201, ECON 202, ACCT 210, ENGL 101, and MATH 121 (or MATH 123). Students remain enrolled in Pre-Economics in the appropriate college until the requirements are met.

Student Learning Outcomes
Agricultural and Resource Economics students will:
- Demonstrate the ability to apply concepts of economics and management that underlie the global economy and commerce;
- Demonstrate the ability to apply quantitative and qualitative analytical methods from economics and management to decision-making;
- Interpret and articulate analysis and decisions orally and in writing;
- Make and support ethical decisions.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Agricultural and Resource Economics Major: 120 Credits

Bachelor of Science in Agriculture

System General Education Requirements*: 31-32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 5
- Group 1 Courses for Bachelor of Science in Agriculture Credits: 5

Major Requirements: 49
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ECON 201 - Principles of Microeconomics ** (COM) Credits: 3
- ECON 202 - Principles of Macroeconomics * (COM) (G) Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
- ECON 372 - Introduction to Resource and Environmental Economics Credits: 3
- STAT 281 - Introduction to Statistics * (COM) Credits: 3
- ECON 423 - Introduction to Econometrics (COM) Credits: 3
- ECON 428 - Mathematical Economics Credits: 3
- ECON 472-572 - Resource and Environmental Economics (COM) Credits: 3
- AGEC 271-271L - Farm and Ranch Management & Lab Credits: 4
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AGEC 479 - Agricultural Policy Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3

Choose one of the following:
- ECON 431-531 - Managerial Economics Credits: 3
- ECON 440-540 - Economics of International Sector Credits: 3
- ECON 450-550 - Industrial Organization (COM) Credits: 3
- ECON 460-560 - Economic Development ** (G) Credits: 3

Choose one of the following:
- AGEC 352 - Agricultural Law Credits: 3
- AGEC 364 - Introduction to Cooperatives Credits: 3
- AGEC 430-530 - Advanced Agricultural Marketing and Prices Credits: 3
- AGEC 473-473L - Rural Real Estate Appraisal and Lab Credits: 3

Choose one of the following:
- AGEC 478 - Agricultural Finance Credits: 3
- BADM 310 - Business Finance (COM) Credits: 3

General Electives: 28-30

Environmental Economics Emphasis
One of the Following:
- PS 213-213L - Soils and Lab * ** Credits: 2, 1
- NRM 110 - Environmental Conservation ** Credits: 3

Two of the Following:
- BIOL/PHIL 383 - Bioethics ** (G) Credits: 4
- PHIL 100 - Introduction to Philosophy * (COM) Credits: 3
- PHIL/REL 454-554 - Environmental Ethics ** (COM) Credits: 3

One of these courses may be substituted for ECON 428, Mathematical Economics.

- PS 362-362L - Environmental Soil Management and Lab ** Credits: 3
- PS 446-546 - Agroecology (G) Credits: 3

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.

English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Agricultural Business Major
Program Coordinator/Contact
Eluned Jones, Department Head
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
E-mail: jason.zimmerman@sdstate.edu

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 economics, business, or related fields are well prepared by this degree program.

Program Admission
To be admitted, students must have completed at least 64 semester credits toward graduation, earned a cumulative grade point average of at least 2.1 for all courses taken, and attained at least a 2.1 grade point average for the following courses: ECON 201, ECON 202, ACCT 210, ENGL 101, and MATH 121 (or MATH 123). Students remain enrolled in Pre-Economics in the appropriate college until the requirements are met.

Student Learning Outcomes
Agricultural Business students will:
- Demonstrate the ability to apply concepts of economics and management that underlie the global economy and commerce;
- Demonstrate the ability to apply quantitative and qualitative analytical methods from economics and management to decision-making;
- Interpret and articulate analysis and decisions orally and in writing;
- Make and support ethical decisions.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Agricultural Business Major: 120 Credits
Bachelor of Science in Agriculture

System General Education Requirements*: 31-32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 121 or MATH 123 Credits: 4
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 5
- Group 1 Courses for Bachelor of Science in Agriculture Credits: 5

Major Requirements: 48
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ECON 201 - Principles of Microeconomics ** (COM) Credits: 3
- ECON 202 - Principles of Macroeconomics * (COM) (G) Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
- ECON 372 - Introduction to Resource and Environmental Economics Credits: 3
- STAT 281 - Introduction to Statistics * (COM) Credits: 3
- ECON 423 - Introduction to Econometrics (COM) Credits: 3
- ECON 428 - Mathematical Economics Credits: 3
- ECON 472-572 - Resource and Environmental Economics (COM) Credits: 3
- AGEC 352 - Agricultural Law Credits: 3
- AGEC 364 - Introduction to Cooperatives Credits: 3
- AGEC 430-530 - Advanced Agricultural Marketing and Prices Credits: 3
- AGEC 473-473L - Rural Real Estate Appraisal and Lab Credits: 3
- AGEC 478 - Agricultural Finance Credits: 3
- BADM 310 - Business Finance (COM) Credits: 3

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.
- BADM 424 - Operations Research (COM) Credits: 3
- BADM 460 - Human Resource Management (COM) Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AGEC 479 - Agricultural Policy Credits: 3
- CSC 325 - Management Information Systems (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3
- AGEC 371 - Agricultural Business Management Credits: 3
- AGEC 350 - Legal Environment of Business (COM) Credits: 3
- AGEC 352 - Agricultural Law Credits: 3
- AGEC 372 - Introduction to Resource and Environmental Economics Credits: 3
- AGEC 430-530 - Advanced Agricultural Marketing and Prices Credits: 3
- AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3
- AGEC 471-571 - Advanced Farm and Ranch Management Credits: 3
- AGEC 473-473L - Rural Real Estate Appraisal and Lab Credits: 3
- AGEC 478 - Agricultural Finance Credits: 3
- AGEC 484 - Trading in Agricultural Futures & Options Credits: 3
- AGEC 494 - Internship Credits: 1-6
- ECON 472-572 - Resource and Environmental Economics (COM) Credits: 3

**Electives: 20-22**

**Total Required Credits: 120**

**Curriculum Notes**
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

*(G)* Globalization Requirement.
*(AW)* Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Agricultural Education, Communication and Leadership Major - Agricultural Education Specialization**

**Program Coordinator/Contact**
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**Program Information**
The Agricultural Education Communication and Leadership Major is a multidisciplinary program that provides a strong foundation in agricultural sciences. The major allows students the flexibility to select a plan of study based on their interests and skills by choosing one of three specializations: Education, Communication, or Leadership. Students in the Agricultural Education specialization will complete a professional education curriculum, as well as supportive instruction in technical agriculture, basic science, and other competencies. Graduates of the Education Specialization will qualify for a secondary teaching certificate, and will also be prepared for a variety of careers in the agricultural industry.

**Student Learning Outcomes**
Upon completion of the Agricultural Education Specialization of the Agricultural Education, Communication, and Leadership Major, students will:
- Have broad knowledge of animal science, agronomy, agricultural systems technology, and agri-business and be prepared to teach these subjects at the secondary level.
- Understand education concepts related to effective teaching and learning at the secondary level of education.
- Be prepared to coordinate an effective program of high school vocational agriculture and serve as FFA advisor.
- Be prepared for a variety of careers in agricultural production or agribusiness.
- Locate and evaluate information to aid in decision making.
- Have sufficient core competencies for effective lifelong learning.
- Have a broad understanding of global challenges and issues related to food systems and agriculture.
- Demonstrate effective written and oral communications skills.
- Demonstrate critical thinking and decision making skills.

**Accreditation, Certification, and Licensure**

**Accreditation**
National Council for Accreditation of Teacher Education Programs (NCATE) South Dakota Department of Education

**Certification and Licensure**
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

**Course Delivery Format**
Most courses are delivered by traditional lecture/format, and some are offered by online delivery.

**Requirements for Agricultural Education, Communication and Leadership Major - Agricultural Education specialization: 120 Credits**

**Bachelor of Science in Agriculture**

### System General Education Requirements**: 31

- **Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- **Goal #2 Oral Communication: SPCM 101* Credits: 3
- **Goal #3 Social Sciences/Diversity: ECON 101* or ECON 202* Credits: 3
- **Goal #4 Humanities and Arts/Diversity: Credits: 6
- **Goal #5 Mathematics MATH 102 Credits: 3
- **Goal #6 Natural Sciences: BIOL 101-101L* and CHEM 106-106L* Credits: 7

**Institutional Graduation Requirements**: 5

- **Goal #1 First Year Seminar: AGED 109** Credits: 2
- **Goal #2 Cultural Awareness and Social and Environmental Responsibility: PS 213-213L** Credits: 3

### Major Requirements: 56-57

- **AGED 271-271L - Farm and Ranch Management and Lab Credits: 4
- **AGED 404 - Methods in AGED (AW) Credits: 3
- **AGED 412-412L - Preparation for Supervised Teaching Internship in AGED and Lab Credits: 4
- **AGED 488 - 7-12 Student Teaching in AGED Credits: 6
- **AGED 491 - Independent Study Credits: 1-3 (1 credit Welding)
- **AGED 494 - Internship Credits: 1-12 (1 credit required)
- **AS 101-101L - Introduction to Animal Science and Lab Credits: 3
- **AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- **AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 4
- **AST 202-202L - Construction Technology and Materials and Lab Credits: 2
- **AST 211-211L - Ag and Outdoor Power for Teachers and Lab Credits: 2
- **AST 311-311L - Applied Electricity for Teachers & Lab Credits: 1
- **DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- **DS 231 - Dairy Foods Credits: 3
Journalism and Mass Communication department.

Communication take courses in agriculture along with courses in the Education, Communication, or Leadership. Students specializing in based on their interests and skills by choosing one of three specializations: sciences. The major allows students the flexibility to select a plan of study Program Information

Supporting Coursework: 23

- ANTH 421-521 - Indians of North America ** (COM) Credits: 3
- AGED 295 - Practicum Credits: 1
- AGED 405 - Philosophy of Career and Technical Education Credits: 2
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3
- EPSY 302 - Educational Psychology (COM) Credits: 3
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2

Electives: 4-5

- Contact advisor for approved agricultural related electives.

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits.

English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Agricultural Education, Communication and Leadership Major - Communication Specialization

Program Coordinator/Contact

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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 Journalism and Mass Communication department.

Graduates of the Communication specialization report agricultural information to farmers and ranchers, consumers, governmental agencies, agribusinesses, commodity groups, and legislators through positions in public relations, sales, marketing, journalism, social media, and the government.

Student Learning Outcomes

- Upon completion of the Agricultural Communication Specialization of the Agricultural Education, Communication, and Leadership Major, students will:
- Have introductory knowledge of animal science, agronomy, and agribusiness.
- Have in-depth knowledge of journalism and mass communication.
- Demonstrate effective written and oral communications skills
- Be prepared for a career related to agribusiness communication.
- Locate and evaluate information to support communication.
- Have sufficient core competencies for effective lifetime learning.
- Have a broad understanding of global challenges and issues related to food systems and agriculture and the ability to communicate these topics to the public
- Demonstrate critical thinking and decision making skills.

Equipment and Supplies
Students are encouraged to purchase a Macintosh laptop and software appropriate for the discipline.

Course Delivery Format
The program offers coursework in classroom, studio, online, and field-based settings.

Requirements for Agricultural Education, Communication and Leadership Major - Communication Specialization: 120 Credits

Bachelor of Science in Agriculture

System General Education Requirements*: 31

- Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201* or ECON 202* and 3 credit elective. Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102* Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L* and CHEM 106-106L* Credits: 7

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: AGED 109** or MCOM 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 5

- Group 1 Courses for Bachelor of Science in Agriculture Credits: 5

Major Requirements: 43-44

- LEAD 310 - Leadership in Context Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3
- MCOM 155 - Information Gathering Credits: 2
- MCOM 210-210L - Basic Newswriting & Studio (COM)Credits: 3
- MCOM 220-220L - Introduction to Digital Media & Lab Credits: 3
- MCOM 265-265L - Basic Photography & Studio (COM)Credits: 2
- MCOM 311-311L - News Editing & Editing Lab (COM)Credits: 3
- ADV 370 - Advertising Principles Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3
- MCOM 490 - Seminar Credits: 1
- MCOM 494 - Internship Credits: 1-12 (2 credits required)
- PHYS 101-101L - Survey of Physics and Lab * (COM) Credits: 4
- PS 103-103L - Crop Production and Lab Credits: 3
- SPCM 215 - Public Speaking (COM) * Credits: 3
- or SPCM 410 - Organizational Communication (COM) Credits: 3
- MCOM 316 - Magazine Writing and Editing (AW) Credits: 3
- or MCOM 438-438L - Public Affairs Reporting and Studio (COM) (AW) Credits: 3

Capstone Requirements: 3-4

Choose one of the following:

- ABS 475-475L - Integrated Natural Resource Management & Lab
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: Agricultural Education, Communication, or Leadership. Graduates of the Agricultural Education, Communication and Leadership Major - Leadership specialization will be well prepared for employment with agricultural organizations such as breed associations and commodity organizations.

**Student Learning Outcomes**

Upon completion of the Agricultural Communication Specialization of the Agricultural Education, Communication, and Leadership Major, students will:

- Have introductory knowledge of animal science, agronomy, and agribusiness.
- Have in-depth knowledge of principles of leadership.
- Demonstrate effective written and oral communications skills.
- Be prepared for a career related to leadership of agricultural organizations.
- Locate and evaluate information to support decision making.
- Have sufficient core competencies for effective lifetime learning.
- Have a broad understanding of global challenges and issues related to food systems and agriculture and the ability to communicate these topics to the public.

**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 in Agriculture**

**System General Education Requirements**: 31

- Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201* or ECON 202* and SOC 240* Credits: 6
- Goal #4 Humanities and Arts/Diversity: PHIL 220* and 3 credit elective, Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences: BIOL 101-101L* and CHEM 106-106L* Credits: 7

**Institutional Graduation Requirements**: 5

- Goal #1 First Year Experience: AGED 109** or MCOM 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

**College Requirements**: 2

- Group 1 Courses for Bachelor of Science in Agriculture Credits: 2

**Major Requirements**: 32-35

- ABS 203 - Global Food Systems * **(G) Credits: 3
- LEAD 310 - Leadership in Context Credits: 3
- ABS 482-582 - International Experience (G) Credits: 2-4 or 494 - Internship, or 498 - Undergraduate Research Credits: 2-4
- AGEC 479 - Agricultural Policy Credits: 3
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3
- LEAD 210 - Foundations of Leadership ** Credits: 3
- LEAD 410 - Leadership: Senior Seminar Credits: 1
- LEAD/LMNO 435 - Organizational Leadership and Team Development Credits: 3
- LEAD 496 - Field Experience: Leadership in Action Credits: 2
- PS 103-103L - Crop Production and Lab Credits: 3
- SPCM 215 - Public Speaking (COM)* Credits: 3 or SPCM 410-510 - Organizational Communication (COM) Credits: 3

**Capstone Requirement**: 3-4 Choose one of the following:

- AGEC 421-521 - Farming and Food Systems Economics Credits: 3
- AGEC 478 - Agricultural Finance Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 475 - Feedlot Operations and Management Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3
- AST 303-303L - Design Management Experience & Lab Credits: 3
- AST 463-563 - Agricultural Waste Management (AW) Credits: 3
- DS 412-412L - Dairy Farm Management and Lab Credits: 4
- PS 440-440L - Crop Management with Precision Farming and Lab Credits: 3
- RANG 485-485L - Advanced Integrated Ranch Management and Lab Credits: 3
Electives: 47-50
- MCOM Elective Credits: 2
- General Electives Credits: 45-48
- Select any course from the Advanced Writing list. Common choices include: ABS 475-475L, ADV 371-371L, AGED 404, AS 489, AST 463, DS 490, ENGL 379, MCOM 316, or MCOM 438-438L.

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Program Information
The two-year Agricultural Science program is designed for the student who does not find it advisable or possible to enter a regular four-year college program in Agriculture Science. A typical student in this situation could be one who desires some education but not necessarily four years before returning to the farm or ranch. Courses in the major field of concentration must be from departments within the College of Agriculture and Biological 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.

Program Coordinator/Contact
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Course Delivery Format
Courses are delivered in lecture, laboratory, and field-based formats, and some are offered by online delivery.

Requirements for General Agriculture Major: 60 Credits
Associate of Science in Agriculture

Major Requirements: 36
- SGR Goal #1 Written Communication:* ENGL 101 Credits: 3
- SGR Goal #2 Oral Communication:* SPCM 101 Credits: 3
- SGR Goal #3 Social Sciences: * Credits: 3
- SGR Goal #4 Arts and Humanities: * Credits: 3
- SGR Goal #5 Mathematics: * Credits: 3
- SGR Goal #6 Natural Sciences: * Credits: 3
- First Year Seminar: (ABS 109** suggested) Credits: 2
- Major Field of Concentration Credits: 16 (Courses prefixed ABS, AGEC, AGED, AS, AST, DS, HO, LA, PR, PS, RANG and VET)

General Electives: 24
Total Required Credits: 60

Curriculum Notes
* A minimum of 15 credits Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 32 credits.

Proficiency Examination
Each student enrolled in an Associate of Arts degree program must take the Proficiency Examination after the completion of 32 passed credit hours or prior to graduation. The student must have completed, or be enrolled in courses required to complete the 18 credit hours. Students who do not complete the proficiency exam requirements cannot continue registration at the university.

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.

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Course Delivery Format
Courses are delivered in lecture, laboratory, and field-based formats, and some are offered by online delivery.

Requirements for General Agriculture Major: 120 Credits
Bachelor of Science in Agriculture

System General Education Requirements*: 31
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 or ECON 202 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3

Academic Programs 111
Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: (ABS 109** suggested) Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PS 213-213L** Credits: 3

College Requirements: 13
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3 or DS 130-130L Introduction to Dairy Science and Lab
- AGEC 271-271L - Farm and Ranch Management & Lab Credits: 4
- PS 103-103L - Crop Production and Lab Credits: 3
- BIOL 103-103L - Biology Survey II and Lab * (COM) Credits: 3

Major Requirements: 21-23
- BIOL 371 - Genetics (COM) Credits: 3 or PS 383-383L - Principles of Crop Improvement and Lab Credits: 3 or AS 332 - Livestock Breeding and Genetics Credits: 4
- ACCT 210 - Principles of Accounting I (COM) Credits: 3 or STAT 281 - Introduction to Statistics * (COM) Credits: 3
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- AS 233-233L - Applied Animal Nutrition and Lab Credits: 4 or AGEC 271-271L - Farm and Ranch Management & Lab Credits: 4

Elective coursework
- Agriculture Electives: 6
  Select at least six credits from the following courses.
  - Any course with the prefix(es) of ABE, ABS, AS, AST, DS, EES, HO, LA, NRM, PR, PRM, RANG or VET

Ag Product Electives: 2-4
Select at least one class from the following courses.
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3 or AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 4
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3 or DS 231 - Dairy Foods Credits: 3
- PS 303-303L - Seed Technology and Lab Credits: 3 or PS 308-308L - Grain Grading and Lab Credits: 2 or PS 312 - Grain and Seed Production and Processing Credits: 3

Capstone Elective: 3-4
Select one of the following courses.
- AGEC 421-521 - Farming and Food Systems Economics Credits: 3 or AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3 or AS 478-478L - Swine Production and Lab Credits: 3
- AST 303-303L - Design Management Experience & Lab Credits: 3 or DS 412-412L - Dairy Farm Management and Lab Credits: 4
- PS 440-440L - Crop Management with Precision Farming and Lab Credits: 3 or RANG 485-485L - Advanced Integrated Ranch Management and Lab Credits: 3

Communication Elective: 3
Select one of the following Advanced Writing courses.

Program Concentration Electives or General Electives: 31-36

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGR).

(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Agricultural Systems Technology Major
Program Coordinator/Contact
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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, and 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.

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 in Agriculture

System General Education Requirements*: 34-35
- Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202* Credits: 6 or AS 202-202L - Agricultural Economics and Lab Credits: 3 or PS 388-388L - Crop Improvement and Lab Credits: 3 or PS 389-389L - Crop Improvement and Lab Credits: 3 or AS 332 - Livestock Breeding and Genetics Credits: 4
- Goal #4 Humanities and Arts/Diversity: Credits: 6 or HIST 202* Credits: 6 or HIST 202L - History of the United States and Lab Credits: 3 or AMST 101* and AMST 101L - American Studies I and Lab Credits: 3 or AST 203-203L - Introduction to Precision Agriculture and Lab Credits: 3
- Goal #5 Mathematics: MATH 102* and MATH 120* or MATH 115* Credits: 5 or 6
- Goal #6 Natural Sciences: PHYS 111-111L* and CHEM 106-106L* or CHEM 112-112L* Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: AST 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PS 213-213L - Soils and Lab * ** Credits: 3

College Requirements: 9
- PS 103-103L - Crop Production and Lab Credits: 3 or AST 342-342L - Applied Electricity and Lab Credits: 3 or AST 333-333L - Soil and Water Mechanics and Lab Credits: 3

Major Requirements: 72
Major Core: 36
- AST 203-203L - Introduction to Precision Agriculture and Lab
• BADM 350 - Legal Environment of Business (COM) Credits: 3
• AST 463-563 - Agricultural Waste Management (AW) Credits: 3
• ACCT 210 - Principles of Accounting I (COM) Credits: 3
or AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3
• AST 273-273L - Microcomputer Applications in Agriculture and Lab Credits: 3

Choose one from the following:
• AST 303-303L - Design Management Experience and Lab Credits: 3
• AST 494 - Internship Credits: 1-2
• AST 496 - Field Experience Credits: 1-2
• AST 497 - Cooperative Education Credits: 1-2
• AST 303-313L - Farm Machinery Systems Management and Lab Credits: 3

Select one of the following:
• GE 121 - Engineering Design Graphics I Credits: 1
• GE 123 - Computer Aided Drawing Credits: 1
• PS 326 - Precision Ag Data Mapping Credits: 2
• BIOL 101-101L - Biology Survey I & Lab * (COM) Credits: 3
• AST 353 - Physical Climatology and Meteorology Credits: 3
• AST 412-412L - Fluid Power Technology and Lab Credits: 3
• AST 423-423L - Rural Structures and Lab Credits: 3
• AST 426-426L - Emerging Technologies in Agriculture and Lab Credits: 3
• ECON 201 - Principles of Microeconomics * ** (COM) Credits: 3
• ACCT 211 - Principles of Accounting II (COM) Credits: 3
• AGEC 271-271L - Farm & Ranch Management & Lab Credits: 4
• AGEC 354 - Agricultural Marketing and Prices Credits: 3
• AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3
• AGEC 479 - Agricultural Policy Credits 3
• AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
• Any 200 level or above selected from AGEC, AST, BADM, ACCT, AS, ECON, PS, ENTR Credits: 11
• Science Electives selected from CHEM, PHYS, BIOL, MICR Credits: 3

Technical Electives: 36
It is strongly recommended that students choose one of the following emphasis areas.

Business Emphasis
• ECON 201 - Principles of Microeconomics ** ** (COM) Credits: 3
• ACCT 211 - Principles of Accounting II (COM) Credits: 3
• AGEC 271-271L - Farm and Ranch Management & Lab Credits: 4
• AGEC 354 - Agricultural Marketing and Prices Credits: 3
• AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3
• AGEC 479 - Agricultural Policy Credits 3
• AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
• Any 200 level or above selected from AGEC, AST, BADM, ACCT, AS, ECON, PS, ENTR Credits: 11
• Science Electives selected from CHEM, PHYS, BIOL, MICR Credits: 3

Precision Ag Emphasis
• AST 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3
• ET 210-210L - Introduction to Electronic Systems Credits: 4
• AST 213-213L - Ag, Industrial and Outdoor Power and Lab Credits: 3
• or AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3
• CSC 130 - Visual Basic Programming (COM) Credits: 3
• ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
• ET 240 - Techniques of Servicing Credits: 2
• PS 323 - Soil Fertility and Plant Nutrient Management Credits: 3
• PS 440-440L - Crop Management with Precision Farming and Lab Credits: 3
• GEOG 472 - Introduction to GIS Credits: 3
• GEOG 484-484L - Remote Sensing and Lab Credits: 3
• Any course 300 level or above selected from ET, CSC, AST, PHYS, GEOG, PS Credits: 6

Processing Emphasis
• AS 101-101L - Introduction to Animal Science and Lab Credits: 3
• or DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
• AS 241-241L - Introduction to Meat Science and Lab Credits: 3
• AS 350 - Meat Product Safety and HACCP Credits: 3
• MICR 231-231L - General Microbiology and Lab *(COM) Credits: 4

Elective courses selected from AS, DS, PS, AST, ABS, MICR Credits: 5

Production Emphasis
• AGEC 271-271L - Farm & Ranch Management & Lab Credits: 4
• AGEC 354 - Agricultural Marketing and Prices Credits: 3
• PS 223-223L - Principles of Plant Pathology and Lab Credits: 3
• PS 305-305L - Insect Biology and Lab (COM) Credits: 3
• OR PS 307-307L - Insect Pest Management and Lab Credits: 3
• PS 323 - Soil Fertility and Plant Nutrient Management Credits: 3
• PS 440-440L - Crop Management with Precision Farming and Lab Credits: 4
• AS 101-101L - Introduction to Animal Science and Lab Credits: 3
• OR DS 130-130L - Introduction to Dairy Science & Lab Credits: 3
• Any 200 level or above courses select from AGEC, AST, BADM, ACCT, AS, ECON, PS, ENTR Credits: 10

Total Required Credits: 120

Curriculum Notes
* minimum grade of “C” required in ENGL 201.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(AW) Advanced Writing Requirement
Students must take the proficiency examination after completing 48 credits.

Agromony Major
Program Coordinator/Contact
David Wright, Department Head
Brent Turnipseed, Undergraduate Teaching Coordinator
Department of Plant Science
Agricultural Hall 219
605-688-5123
E-mail: david.wright@sdstate.edu
E-mail: brent.turnipseed@sdstate.edu
www.sdstate.edu/ps

Program Information
The Agromony 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, 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, and producing seed; 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 https://www.soils.org/certifications/cpsc-cpspc
• Students seeking Certification as a professional agronomist should contact their advisor and refer to https://www.agronomy.org/certifications/cpags

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 in Agriculture

System General Education Requirements*: 31-34
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 or SPCM 215 or SPCM 222 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 or ECON 202 and ABS 203, SOC 100, SOC 150, or SOC 240 Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 or MATH 115 or MATH 120 Credits: 3-5
- Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L or BOT 201-201L Credits: 7-8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: PS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PS 213-213L ** Credits: 3

Major Requirements: 53-59
Agronomy Core Requirements:
- PS 103-103L - Crop Production and Lab Credits: 3 A
- PS 109 - First Year Seminar ** (credits count for IGR #1) A
- PS 213-213L - Soils and Lab ** (credits count for IGR #2) A
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 3 A
- PS 305-305L - Insect Biology and Lab (COM) Credits: 3 A
- PS 323 - Soil Fertility and Plant Nutrient Management Credits: 3 A
- PS 343-343L - Weed Science and Lab Credits: 3 A
- PS 390 - Seminar Credits: 1 A
- PS 494 - Internship Credits: 0.5 A
- PS 490 - Seminar for Internship Credits: 0.5 A
- ABS 475-475L - Integrated Natural Resource Management and Lab (AW) Credits: 3 A

Other Major Requirements:
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- or AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 4 A
- or BADM 474 - Personal Selling (COM) Credits: 3
- or ENGL 379 - Technical Communication (AW) (COM) Credits: 3
- or BOT 327-327L - Plant Physiology and Lab (COM) Credits: 4
- or BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
- or PS 383-383L - Principles of Crop Improvement and Lab Credits: 3
- or BIOL 203-203L - Genetics and Organismal Biology and Lab Credits: 4
- or BIOL 37l - Genetics (COM) Credits: 3
- or CHEM 106-106L - Chemistry Survey and Lab *(COM) Credits: 3,1
- or CHEM 112-112L - General Chemistry I and Lab *(COM) Credits: 3, 1
- or CHEM 120-120L - Elementary Organic Chemistry and Lab * Credits: 3, 1
- or CHEM 108-108L - Organic and Biochemistry and Lab *(COM) Credits: 4, 1
- or PS 492 - Topics Credits I and PS 421-421L/S21-521L - Soil Microbiology and Lab Credits: 3 A
- or MICR 251-251L - General Microbiology and Lab *(COM) Credits: 4
- or PHYS 101-101L - Survey of Physics and Lab *(COM) Credits: 4
- or PHYS 111-111L - Introduction to Physics I and Lab *(COM) Credits: 4
- or STAT 281 - Introduction to Statistics *(COM) Credits: 3

Natural Resources Stewardship Elective: 3-4 Select one of the following courses:
- ABS 201 - Global Food Systems ** (G) Credits: 3 2
- ABS 482-582 - International Experience (G) Credits: 3
- BIOL 383 - Bioethics *(COM) (AW) Credits: 3
- PS 243 - Principles of Geology * Credits: 3
- PS 307-307L - Insect Pest Management and Lab Credits: 3 2
- PS 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3 2
- PS 362-362L - Environmental Soil Management and Lab ** Credits: 3 2
- PS 446-546 - Agroecology (G) Credits: 3 2

Precision Ag Elective: 2-3 Select one of the following courses:
- AST 203-203L - Introduction to Precision Agriculture and Lab Credits: 2
- AST 426-426L - Emerging Technologies in Agriculture and Lab Credits: 3
- or PS 326 - Precision Ag Data Mapping Credits: 2 2
- or PS 440-440L - Crop Management with Precision Farming and Lab Credits: 3 2

Plant Science Electives: 13 Take at least two credits from each of the three areas listed.

Crops
- PS 222-222L - Fundamentals of Turf Management and Lab Credits: 3
- or PS 303-303L - Seed Technology and Lab Credits: 3
- or PS 308-308L - Grain Grading and Lab Credits: 2
- or PS 312 - Grain and Seed Production and Processing Credits: 3
- or PS 313 - Forage Crop and Pasteure Management Credits: 3
- or PS 320 - Crop Judging Credits: 1-2 (2 credits to fulfill major requirement)
- or PS 326 - Precision Ag Data Mapping Credits: 2
- or PS 383-383L - Principles of Crop Improvement & Lab Credits: 3 2
- or PS 413-413L - Greenhouse Management and Lab Credits: 3
- or PS 425-525 - Turfgrass Stress Physiology Credits: 3
- or PS 424-524 - Wheat Production Credits: 2
- or PS 425-525 - Soybean Production Credits: 2
- or PS 426-526 - Corn Production Credits: 2
- or PS 434-534 - Local Food Production Credits: 2
- or PS 440-440L - Crop Management with Precision Farming and Lab Credits: 3
- or PS 453-553 - Advanced Genetics Credits: 3

Plant Protection
- PS 200-200L - Weed Management for Horticulture and Lab Credits: 2
- or PS 305-305L - Insect Biology and Lab (COM) Credits: 3 2
- or PS 307-307L - Insect Pest Management and Lab Credits: 3 2
- or PS 324 - Horticulture Pests 1: Entomology Credits: 2
- or PS 325 - Horticulture Pests II: Diseases Credits: 2
- or PS 333-333L - Diseases of Field Crops and Lab Credits: 3
- or PS 415-415L/S15-515L - Mycology and Lab (COM) Credits: 3
- or PS 431-531 - Insect Ecology and Biological Control Credits: 3
- or PS 450-450L/S50-550L - Field Study of Plant Disease Diagnosis and Lab Credits: 2

Soils/Environmental Protection
- or PS 243 - Principles of Geology * Credits: 3 2
- or PS 244 - Geological Resources of South Dakota Lab * Credits: 1
- or PS 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3 2
- or PS 321 - Soil Judging Credits: 1 1
- or PS 362-362L - Environmental Soil Management and Lab ** Credits: 3 2
- or PS 412-512 - Environmental Soil Chemistry Credits: 3
- or PS 421-421L/S21-521L - Soil Microbiology and Lab Credits: 3 2
- or PS 446-546 - Agroecology (G) Credits: 3 2
- or PS 473-473L/S73-573L - Rural Real Estate Appraisal and Lab Credits: 3
- or PS 483 - Irrigation - Crop and Soil Practices Credits: 3

Elective Credits: 14-20

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

* 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 Curriculum Notes.

** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
**American Indian Studies Major**

Program Coordinator/Contact
Richard Meyers, Coordinator  
American Indian Studies  
605-688-6416  
E-mail: richard.meyers@sdstate.edu

**Program Information**

This is an inter-college program of American Indian culture studies. Coursework in various departments of the University provides a broad base for understanding the past, present, and possible futures of American Indian people. The program recognizes the historical and contemporary significance of American Indian experiences. Study of these experiences promotes understanding of the pluralist nature of the United States and responds to the growing need for multicultural sensitivity and awareness. Students desiring more information or interested in the program should consult with the coordinator and their academic advisor.

**Student Learning Outcomes**

- Discipline-Specific Knowledge - Graduates will demonstrate an understanding of the principles of tribal sovereignty; government and policy; American Indian history, religion, and literature.
- Communication - Graduates will demonstrate a basic proficiency in a tribal language; and to present effective oral and written presentations on research involving American Indians.
- Critical Thinking - Graduates will demonstrate a mastery of problem-solving skills that integrate research with contemporary issues that confront indigenous people both locally and globally.

**Course Delivery Method**

Courses for the AIS major are delivered in face to face environments, utilizing lectures, discussions, and applied learning.

**Requirements for American Indian Studies Major: 120 Credits**

**Bachelor of Arts**

**System General Education Requirements**: 30

- Goal #1 Written Communication: ENGL 101 and ENGL 201  
  Credits: 6
- Goal #2 Oral Communication Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

**Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

**College Requirements**: 28

Bachelor of Arts Specifications

- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Humanities Credits: 6
- Social Sciences Credits: 8
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications.

**Major Requirements**: 55

**Major Core**: 32

- AIS 100 - Introduction to American Indian Studies Credits: 3
- AIS/LAKL 101 - Introductory Lakota I ** Credits: 4
- AIS/LAKL 102 - Introductory Lakota II * Credits: 4
- AIS/LAKL 201 - Intermediate Lakota I (COM) Credits: 3
- AIS/LAKL 202 - Intermediate Lakota II (COM) Credits: 3

- AIS/HIST 368 - History and Culture of the American Indian**  
  (COM) Credits: 3
- AIS/ENGL 445 - American Indian Literature Credits: 3  
  or AIS/ENGL 447 - American Indian Literature of Present Credits: 3
- AIS 462 - Formation of Federal Indian Policy Credits: 3
- AIS 490 - Seminar (AW) Credits: 3
- GEOG/SPCM 470 - Intercultural Communication (COM) (G)  
  Credits: 3
- Major Electives: 23  
  Select from the following courses.
  
- AIS 103 - American Indian Cultures and the Classroom Credits: 3
- AIS/REL 238 - Native American Religions * Credits: 3
- AIS/ENGL 256 - Literature of the American West** Credits: 3
- AIS/WMST 362 - Indigenous Feminisms Credits: 3
- AIS 400 - Education and Native Peoples Credits: 3
- AIS 410 - North American Ethnology Credits: 3
- AIS/POLS 417 - American Indian Government and Politics Credits: 3
- AIS 421/ANTH 421-521 - Indians of North America ** Credits: 3
- AIS/ENGL 445 - American Indian Literature Credits: 3  
  or AIS/ENGL 447 - American Indian Literature of Present Credits: 3
- AIS/GEOG 467 - Geography of the American Indian Credits: 3
- AIS 491 - Independent Study Credits: 1-3
- AIS 492 - Topics Credits: 1-3
- AIS 496 - Field Experience Credits: 1-12

**Electives: 28**

**Total Required Credits: 120**

**Curriculum Notes**

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.

** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).**

(AW) Advanced Writing Requirement.

**Animal Science Major - Business and Production Specialization**

Program Coordinator/Contact  
Joseph Cassidy, Department Head  
Department of Animal Science  
Animal Science Complex 103A  
605-688-5166  
E-mail: cheryl.l.beste@sdstate.edu  
www.sdstate.edu/ars

**Program Information**

The Animal Science program provides instruction in animal breeding, feeding and nutrition, management, selection and evaluation, marketing, meats, and wool. The specialization allows students to focus their studies on Business and Production, with an emphasis on the principles of genetics, nutrition, physiology, range, and meats as they affect production and management of livestock.

Program courses pertain to beef cattle, horses, sheep, and swine and the applications of various disciplines to the breeding, feeding, management, and marketing of livestock and livestock products. Students interested in Veterinary medicine may supplement this program of study with the (Pre-) Veterinary Medicine curriculum.

**Course Delivery Format**

The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

**Requirements for Animal Science Major - Business and Production Specialization: 120 Credits**

**Bachelor of Science in Agriculture**
Animal Science Core: 23
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3
- AS 233-233L - Applied Animal Nutrition and Lab Credits: 4
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 4
- AS 323 - Advanced Animal Nutrition Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 433-433L - Livestock Reproduction and Lab Credits: 3
- AS 489 - Current Issues in Animal Science (AW) Credits: 2

Science Electives: 16-17
- CHEM 106-106L - Chemistry Survey and Lab * (COM) Credits: 4
- CHEM 120-120L - Elementary Organic Chemistry and Lab * Credits: 4
- or CHEM 108-108L - Organic and Biochemistry and Lab * (COM) Credits: 5
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4
- PHYS 101-101L - Survey of Physics and Lab * (COM) Credits 4
- or MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4

Production Electives: 9
- AS 365-365L - Horse Production and Lab Credits: 3
- AS 345-345L - Value-Added Meat Products and Lab Credits: 3
- AS 441-541 - Advanced Meat Science Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 475 - Feedlot Operations and Management Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3

Business Electives: 18
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ECON 201 - Principles of Microeconomics * ** (COM) Credits: 3
- Select 12 credits from the following courses
  - ACCT 211 - Principles of Accounting II (COM) Credits: 3
  - AGEC 271-271L - Farm and Ranch Management & Lab Credits: 4
  - AGEC 352 - Agricultural Law Credits: 3
  - AGEC 354 - Agricultural Marketing and Prices Credits: 3
  - AGEC 364 - Introduction to Cooperatives Credits: 3
  - AGEC 371 - Agricultural Business Management Credits: 3
  - AGEC 421-521 - Farming and Food Systems Economics Credits: 3
  - AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3
  - AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3
  - AGEC 473-473L - Rural Real Estate Appraisal and Lab Credits: 3
  - AGEC 478 - Agricultural Finance Credits: 3
  - AGEC 479 - Agricultural Policy Credits: 3
  - AGEC 484 - Trading in Agricultural Futures & Options Credits: 3
  - BADM 280 - Personal Finance (COM) Credits: 3
  - BADM 310 - Business Finance (COM) Credits: 3
  - BADM 334 - Small Business Management (COM) Credits: 3
  - BADM 350 - Legal Environment of Business (COM) Credits: 3

- BADM 351 - Business Law (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BADM 474 - Personal Selling (COM) Credits: 3
- ECON 330 - Money and Banking (COM) Credits: 3
- ECON 370 - Marketing Credits: 3
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

Electives: 15-18
Total Required Credits: 120

Program Information
The Animal Science program provides instruction in animal breeding, feeding and nutrition, management, selection and evaluation, marketing, meats, and wool. The specialization allows students to focus their studies on the science of genetics, nutrition, physiology, range, and meats as they affect production and management of livestock.

Program courses pertain to beef cattle, horses, sheep, and swine and the applications of various disciplines to the breeding, feeding, management, and marketing of livestock and livestock products. Students interested in Veterinary medicine may supplement this program of study with the (Pre-) Veterinary Medicine curriculum.

Course Delivery Format
The Animal Science program provides hands-on experiences in the classroom, laboratories, field trips, and at the livestock teaching units.

Requirements for Animal Science Major - Science Specialization: 120 Credits
Bachelor of Science in Agriculture

System General Education Requirements**: 34
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 or ECON 202 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 121-121L Credits: 5
- Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: AS 109** Credits: 2
- Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 1-3
- Group 1 Courses from the College of Agriculture and Biological Sciences Credits: 1-3

Animal Science Major - Science Specialization
Program Coordinator/Contact
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Department of Animal Science
Animal Science Complex 103A
605-688-5166
E-mail: Cheryl.Best@sdstate.edu
www.sdstate.edu/ars
Major Requirements: 76

- Animal Science Core: 22
  - AS 101-101L - Introduction to Animal Science and Lab Credits: 3
  - AS 233-233L - Applied Animal Nutrition and Lab Credits: 4
  - AS 241-241L - Introduction to Meat Science and Lab Credits: 3
  - AS 323 - Advanced Animal Nutrition Credits: 3
  - AS 332 - Livestock Breeding and Genetics Credits: 4
  - AS 433-433L - Livestock Reproduction and Lab Credits: 3
  - AS 489 - Current Issues in Animal Science (AW) Credits: 2

Production Courses: 6
- AS 365-365L - Horse Production and Lab Credits: 3
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- AS 478-478L - Swine Production and Lab Credits: 3

Science Requirements: 48
- Select from the following Physics Sequence
  - PHYS 111-111L - Introduction to Physics I and Lab *(COM) Credits: 4
  - PHYS 113-113L - Introduction to Physics II and Lab *(COM) Credits: 4
  - PHYS 211-211L - University Physics I and Lab *(COM) Credits: 4
  - PHYS 213-213L - University Physics II and Lab *(COM) Credits: 4
- CHEM 112-112L - General Chemistry I and Lab *(COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab *(COM) Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- BIOL 371 - Genetics (COM) Credits: 3
- MICR 231-231L - General Microbiology and Lab *(COM) Credits: 4
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4

Electives: 2-4
Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(App) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. Students learn through lecture, laboratory, and hands-on learning experiences. A 8-10 week (300 hour) full-time summer practicum compatible with career goals is a program requirement.

Requirements for Apparel Merchandising Major: 120 Credits
Bachelor of Science in Education and Human Sciences

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 or SPCM 215 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 201 or ECON 202 and PSYC 101 or SOC 100 Credits: 6
- Goal #4 Humanities and Arts/Diversity: ARTH 100 and HIST 121 or HIST 122 Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: EHS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Consumer Sciences Department Requirements: 7
- LEAD 210 - Foundations of Leadership ** Credits: 3
  or CS 230 - Consumer Behavior Credits: 3
- CS 377 - Professional Documents Credits: 1
- CS 430 - Consumer Decision Making Credits: 3
  or LEAD 435 - Organizational Leadership and Team Development Credits: 3

Major Requirements: 48
- AM 172 - Introduction to Apparel Merchandising Credits: 2
- AM 231-231L - Ready-To-Wear Analysis and Lab Credits: 3
- AM 242-242L - Textiles I and Lab Credits: 3
- AM 253 - Socio-Psychological Aspects of Dress Credits: 3
- AM 274-274L - Fashion Promotion and Lab Credits: 3
- AM 282 - Customer Service Credits: 2
- AM 315-315L - Apparel Design and Lab Credits: 3
- AM 352 - History of Dress in the Western World Credits: 3
- AM 361-361L - Aesthetics and Lab Credits: 3, 0
- AM 372-372L - Trending and Buying and Lab Credits: 3
- AM 381 - Professional Behavior at Work Credits: 3
- AM 462 - Retail Management Credits: 3
- AM 472-472L - Merchandising and Lab Credits: 3
- AM 473-473L - Global Sourcing and Lab (AW) Credits: 3
- AM 480 - Travel Studies Credits: 1-5 (only 1 credit required for the major)
- AM 490 - Seminar Credits: 3
- AM 495 - Practicum Credits: 3
- AM 477 - Current Issues in the Workplace Credits: 1

Electives: 28
Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(App) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. Students learn through lecture, laboratory, and hands-on learning experiences. A 8-10 week (300 hour) full-time summer practicum compatible with career goals is a program requirement.
Architectural Studies Major

Program Coordinator/Contact
Brian Rex, Department Head
Department of Architecture
SIM 108
605-688-4841
E-mail: brian.rex@sdstate.edu
www.sdstate.edu/arch

Program Information
The core academic experience offered in the Department of Architecture is our 3 and a half years of professional study leading to a Master of Architecture degree. All students who go through our program will matriculate through all the courses in our professional program.* There are two paths a student can follow to enter these advanced professional years of study. Path A and Path B students take the 3.5 years of professional study together in the same sections.

Path A (4 year B.Sc.Arch.Stud. + 2 year M.Arch.) is comprised of a four year Bachelor of Science in Architectural Studies and a two year professional Master of Architecture degree. This is the typical path for high school graduates and university transfers wanting a design based liberal arts education leading into a professional education in architecture. The core professional years of study are the last 3.5 years of this 6 year program. Professional studies begin in the spring of the third year. Students graduating with a Bachelor of Science from SDSU will apply for admission into the graduate M.Arch. degree.

Path B (3.5 year M.Arch.) People who already have a Bachelor of Arts or Bachelor of Science degree of any specialization from an accredited university can apply for admission (based primarily on undergraduate academic achievement and a portfolio that demonstrates an educated ability to make things) into the first semester of the 3.5 years of professional studies and matriculate through these years to a Master of Architecture degree. Students provisionally admitted with insufficient graphic capacity may be required to take fundamental drawing and / or design courses the Fall semester before beginning professional study.

Course Delivery Format
The curriculum is interactive, haptic and performance based, offering problem solving experiences in all major areas of professional practice.

Requirements for Architectural Studies Major: 120 Credits
Bachelor of Science in Arts and Sciences

System General Education Requirements*: 31
- Goal #1 Written Communication: ENGL 101* and ENGL 283* Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity: ANTH 210* and PSYC 101* Credits: 6
- Goal #4 Humanities and Arts/Diversity: ART 111* and ARCH 241*(G) Credits: 6
- Goal #5 Mathematics: MATH 120* Credits: 3
- Goal #6 Natural Sciences: PHYS 111-111L and BIOL 101-101L* Credits: 7

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: ARCH 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: Select A&S Social Science Course Credits: 3

College Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences (GEOG 131-131L Credits: 4)
- Social Sciences Credits: 12
- Humanities Credits: 8 (ART 112 Credits: 3)
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Science Specifications.

Major Requirements: 56
- ARCH 121 - Building Thinking Credits: 2
- ARCH 151 - Design Practice I Credits: 2
- ARCH 152 - Design Practice II Credits: 2
- ARCH 241 - Building History I *(G)Credits: 3 (credits count for SGR #4)
- ARCH 251 - Design Practice III Credits: 4
- ARCH 252 - Design Practice IV Credits: 4
- ARCH 242 - Building History II Credits: 2
- ARCH 351 - Collaboration Studio Credits: 5
- ARCH 341 - Building History III (AW) Credits: 2
- ARCH 321 - Drawing, modeling, & notation Credits: 2
- ARCH 352 - Architecture Studio I Credits: 5
- Select Six Credits From the Following: ARCH 331 - Building Shop I Credits: 2
  or ARCH 332 - Building shop II Credits: 2
  or ARCH 431 - Building Shop III Credits: 2
- ARCH 382 - Travel Studies Credits: 1
- ARCH 411 - Site, Environment, Urbanism & Public Space Credits: 2
- ARCH 421 - Building Information Technologies Credits: 2
- ARCH 451 - Architecture Studio II Credits: 5
- ARCH 452 - Architecture Studio III Credits: 5
- ARCH 471 - Building Regulation Credits: 2
- ARCH 492-592 - Topics Credits: 3

Supporting Coursework: 15
- CM 216 - Construction Materials Credits: 3
- CM 232-232L - Cost Estimating and Lab Credits: 3
- CM 353-353L - Construction Structures and Lab Credits: 3
- GE 241 - Applied Mechanics Credits: 3
- MNET 231-231L - Manufacturing Processes I and Lab Credits: 3

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs)
(AW) Globalization Requirement.
(IGRs)

Art Education Major

Program Coordinator/Contact
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
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www.sdstate.edu/art

Program Information
The Art Education Program prepares majors for careers as art educators in public and private elementary or secondary schools (K-12). The curriculum prepares students for state licensure through successful completion of the national PRAXIS competency exam. Students pursue either a B.S. or a B.A. degree, including instruction in specific technical skills, application of theory and conceptual development, and Teacher Education coursework.

Student Learning Outcomes
The artist-teacher learns to connect an understanding of educational processes with an understanding of the relationship of the arts, sciences, and humanities, in order to apply art competencies in teaching situations and integrate art/design instruction into the total process of education. As defined by the
National Association of the Colleges of Art and Design, upon completion of the program, majors demonstrate the following studio art outcomes:

- Understand basic expressive, technical, procedural and organizational skills and conceptual insights that can develop through art and design experiences.
- Knowledge of traditional processes as well as newer technological developments in art and design.
- Understanding how to make students emphatically aware of the all-important process of artistic creation from conceptualized image to finished work.

Graduates also demonstrate the following teaching competencies:

- Understanding of child development and the identification and understanding of principles of learning as they relate to art education.
- Understanding of the philosophical and social foundation underlying art in education and the ability to express a rationale for personal attitudes and beliefs.
- Ability to utilize aptitudes, experiential backgrounds, and interests of individuals and groups of students and to devise learning experiences to meet assessed needs.
- Ability to utilize current methods and materials available in all fields and levels of art education.
- Basic understanding of the principles and methods of developing curricula and the short- and on-term instructional units that comprise them.
- Ability to accept, amend, or reject methods and materials based on personal assessment of specific teaching situations.
- Knowledge of evaluative techniques and the ability to apply them in assessing both the progress of students and the objectives and procedures of the curriculum.
- Ability to organize personal continuing study and ability to incorporate knowledge gained into self-evaluation and professional growth.

Academic Requirements
Visual Arts 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 "C" or better is required in all ART, ARTD, ARTE and ARTH courses required for the major and in EDFN 365.

Accreditation, Certification, and Licensure
Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE) South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

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

Requirements for Art Education Major: 120 Credits
Bachelor of Arts or Bachelor of Science

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity* (Select SOC 100* (COM) and/or PSYC** (COM) Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3 AIS/HIST 368 History of American Indians OR AIS/ANTH 421 Indians of North America

College of Arts & Sciences Requirements: 17-34
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6

Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirement: 49
- ART 110 - First Review Credits: 0.5
- ART 111 - Drawing I *** (COM) Credits: 3
- ART 112 - Drawing II *** (COM) Credits: 3
- ART 121 - Design I 2D **** (COM) Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design **** (COM) Credits: 3
- ART 200 - Portfolio Review Jury on Student Progress Credits: 0.5
- ART 211 - Drawing III-Figurative ** (COM) Credits: 3
- ARTH 211 - History of World Art I ** (COM) Credits: 3
- ARTH 212 - History of World Art II ** (COM) Credits: 3
- ARTH Advanced Writing Course Credits: 3
- ARTH 310 - History of United States Art and Architecture (AW) or ARTH 320 - Modern Art and Architecture Survey (AW) (G) or ARTH 490 - Seminar (AW)
- Advisor Approved Elective Credits: 1.5
- ART 192 - Topics: Digital Photography
- or MCOM 265-265L - Basic Photography and Studio Strongly Recommended for Praxis preparation
- ART 400 - Senior Review Credits: 0.5
- ARTE 414 - K-12 Art Methods (COM) Credits: 2-3
- ARTE 491-591 - Independent Study Credits: 1-3
- 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
- ARTE 202 - Computer Graphics I Credits: 3

Teaching Specialization Requirements
Professional Semester I
- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
- SEEQ 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEEQ 314 - Supervised Clinical/Field Experience Credits: 1
- SEEQ 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III
- Special Methods (varies by content area) Credits: 1-4

*For Bachelor of Arts degree, complete 42 credits in one of the following disciplines: Biology, Chemistry, Computer Science, English, French, German, Latin, Mathematics, Modern Languages, Philosophy, Physics, Spanish, or World History or with approval of Major Advisor.

**Bachelor of Science degree requires 50 credits of the following disciplines: Biology, Chemistry, Computer Science, English, French, German, Latin, Mathematics, Modern Languages, Philosophy, Physics, Spanish, or World History or with approval of Major Advisor.

Academic Programs 119
Athletic Training Major

Program Coordinator/Contact
Dr. Trevor C. Roiger, EdD, AT
Intramural Building 116
Box 2203

Program Information
The South Dakota State University Athletic Training (AT) Program aspires to prepare engaged practitioners and contemporary leaders of athletic training. The program exists to cultivate a learning environment implementing innovative and best practice pedagogies which challenge students to become reflective, professional, and ethical practitioners dedicated to improving patients' quality of life. The overall goals of the program are to provide students with knowledge and experiences which improve the depth and breadth of professional competency in athletic training, enhance written and oral communication abilities, promote an appreciation for the ways research can inform practice, and/or prepare students for advanced study in the field.

A major in Athletic Training prepares students for entry into clinical practice as licensed athletic trainers. The AT program is two years in length and includes coursework in the summer between and first and second professional years. In addition to completing the courses required for the curriculum, students must successfully complete proficiencies associated with clinical education and clinical experiences under the supervision of preceptors who are appropriately credentialed health care professionals. Clinical experiences will include working with a variety of patients in high schools, colleges/universities, sports medicine clinics, and medical and rehabilitation clinics. Upon successful completion of the curriculum, students will be eligible to challenge the national certifying examination for athletic trainers through the Board of Certification (BOC).

Each year the AT program admits (1) new cohort of students who begin their plan of study during the Fall semester. Admittance to the AT program is on a competitive basis. Students complete a selective admissions application process during their sophomore year. Students who are admitted into the AT program will complete the program over the course of their final two years at SDSU.

Student Learning Outcomes
Upon completion of the athletic training major, students should be able to:

- Outcome #1: Demonstrate their competence and confidence in the domains of athletic training as defined by the BOC - both cognitive and psychomotor tasks.
- Domain #1: Prevention
- Domain #2: Clinical Evaluation and Diagnosis
- Domain #3: Immediate Care
- Domain #4: Treatment, Rehabilitation and Reconditioning
- Domain #5: Organization and Administration
- Domain #6: Professional Responsibility

- Outcome #2: Demonstrate preparation for the BOC certification examination.

- Outcome #3: Think critically - utilize information obtained through traditional or non-traditional sources to solve problems related to academic or professional practice.

- Outcome #4: Work effectively within a group or team to solve a problem or task.

- Outcome #5: Locate, evaluate and prepare information for presentation in various research formats.

- Outcome #6: Discuss issues current to the profession of athletic training and/or allied health and medical professions of the sports medicine umbrella.

- Outcome #7: Evaluate their total experience (academic, clinical instruction and clinical experience) within the Athletic Training curriculum using the program evaluation tool.

- Outcome #8: Utilize technology to complete tasks common to the profession of Athletic Training.

Accreditation, Certification, and Licensure
The undergraduate Athletic Training (AT) major is accredited by the Commission on Accreditation of Athletic Training Education (CAAATE). CAATE 2201 Double Creek Drive Suite 5006 Round Rock, TX 78664

Upon successful completion of the Athletic Training curriculum, a student is eligible to write the Board of Certification (BOC) national certifying examination to become an Athletic Trainer. Information about the examination can be found at www.bocenticate.org.

Course Delivery Format
As a competency based program, instruction occurs through didactic (classroom), clinical education and clinical experience components. Academic Advising Guide/Suggested Plan of Study

Admission into the Athletic Training Major

Regular Option
The Regular Option is designed for students attending SDSU. Students interested in athletic training should complete coursework to meet system and institutional general education requirements, as well as AT 164 Introduction to Athletic Training. They will be assigned an adviser within the AT program. Each year the AT program admits (1) new cohort of students who begin their plan of study during the Fall semester. Admittance to the AT program is on a competitive basis. Students complete a secondary selective admissions application process during their sophomore year. Students who are admitted into the AT program will complete the program over the course of their final two years at SDSU. Students must complete BIOL 221 Human Anatomy, BIOL 325 Physiology, and PE 354 Prevention and Care of Athletic Injuries by the final semester of the application year. Transfer students must complete the same or equivalent requirements.

120 Academic Programs
Qualified Transfer Student

A Qualified Transfer Student (QTS) is an individual who is not currently attending SDSU, but would like to complete the professional portion of the Athletic Training major at SDSU and has the opportunity to work with a Certified Athletic Trainer at his/her current institution. The QTS will complete an application process for the athletic training major that is comparable to the application process for students currently enrolled at SDSU. The ability to complete a parallel application process would enable the QTS to qualify for an interview and acceptance directly into the fall semester of the professional program. The QTS is a student who has a strong interest in athletic training as his/her chosen profession, can complete the prerequisite coursework for the athletic training education major, and has access to a certified athletic trainer at his/her current institution to assist him/her with observation hours and taping competency completion. These students preferably have some experience as an "athletic training student" at their current institution.

During the application year, students will complete the following requirements: attendance at monthly meetings, clinical observations, proficiency in taping skills, a letter of interest, health assessment, three letters of recommendation, formal application, and a personal interview. The number of students accepted into the clinical experience each year is based on the availability of clinical experience opportunities and certified staff.

For the qualified transfer student, application for admission into the AT program may also begin during or after a student’s sophomore year (approximately 32 credit hours). Students choosing the QTS option are strongly encouraged to complete an on-site visit with an advisor in the AT program early in the fall to begin the application process and establish open communication. The QTS should also identify a sponsor who is a certified athletic trainer (ATC). The function of the sponsor is to assist a student in completing his or her observations as well as achieving proficiency in taping skills. The ATC sponsor will also be asked to write a letter of recommendation for the student into the SDSU AT program. The basic selection criteria are similar to the regular option: acceptance into SDSU; interest and desire of student to become an athletic trainer; sophomore status (more than 32 credits); successful completion (C or better) of courses comparable to AT 164 Introduction to Athletic Training, BIOL 221 Anatomy, BIOL 325, and PE 354 Prevention and Care of Athletic Injuries; completed application process, which culminates with a letter of interest; three letters of reference and personal interview; cumulative GPA of 2.75 or better; completed Health Assessment; and verification of technical standards.

Technical standards set the guidelines for the application process and progress in the major by describing the essential skills considered necessary for admitted students to possess in order to complete the responsibilities associated with being an athletic training student and subsequently, a practicing certified athletic trainer. They are requirements set by the Commission on Accreditation of Athletic Training Education (CAATE). Technical standards are assessed at the time of application as well as during progress and at completion of the program. Skills are described in five areas: cognitive ability and skills, psychomotor skills, affective behaviors, interpersonal skills, and knowledge and/or interest in the profession of Athletic Training. The technical standards also describe policy statements regarding accommodations, standards for English as a second language, and eligibility requirements for the BOC national certifying examination.

Requirements for Athletic Training Major: 120 Credits

Bachelor of Science

System General Education Requirements*: 32

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 and PSYC 101 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: Chemistry Credits: 8

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: EHS 109 ** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2

- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 68-69

- AT 164 - Introduction to Athletic Training (COM) Credits: 2
- PE 354-354L - Prevention and Care of Athletic Injuries and Lab(COM) Credits: 2
- HLT 120 - Community Health Credits: 2
- or EHS 331 - Contemporary Health Problems Credits: 2
- or HLT/HSC 443 - Public Health Science (G) Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- NURS 323 - Introduction to Pathophysiology Credits: 3
- PHA 201 - Medications and Wellness Credits: 2
- PE 350 - Exercise Physiology (COM) Credits: 2-3
- PE 400-400L - Exercise Test and Prescription and Lab (COM) Credits: 3
- PE 454-454L - Biomechanics and Lab Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior ** (COM) Credits: 3
- AT 441-441L/541-541L - Athletic Training Techniques I and Lab Credits: 3
- AT 442-542 - Athletic Training Techniques II Credits: 3
- AT 443-443L/543-543L - Athletic Training Techniques III and Lab Credits: 3
- AT 444-544 - Athletic Training Techniques IV Credits: 2
- AT 451 - Athletic Training Clinical Experience I Credits: 2
- AT 452 - Athletic Training Clinical Experience II Credits: 2
- AT 453-453L/543-543L - Athletic Training Techniques III and Lab Credits: 3
- AT 454-544 - Athletic Training Techniques IV Credits: 2
- AT 471 - Fall Clinical Experience Credits: 1
- AT 474-574 - Interventions III (AW) Credits: 2
- AT 490 - Seminar Credits: 2
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- NFS 315 - Human Nutrition Credits: 3

Electives: 12-13

Total Required Credits: 120

Curriculum Notes

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Aviation Major - Aviation Education

Specialization
Program Coordinator/Contact
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Department of Consumer Sciences
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Program Information
The Aviation Education Specialization is for students who wish to become Certified Flight Instructors and later be professional pilots in industry. Many of our graduates are in the airlines, military, government, and corporate workplaces. Top performing students of this option are often brought on as flight instructors in the SDSU program during their junior and senior years.

Student Learning Outcomes
Graduates of the aviation education program will be able to:

- Apply the general education core to the aviation profession.
- Demonstrate instructional knowledge in single and multi-engine aircraft to the FAA commercial pilot standard.
- Demonstrate instructional knowledge through creating and teaching relevant aviation topics to colleagues.

Additionally, all students will participate in a senior capstone course that is designed to bridge the gap between their educational experience and future career. Students are evaluated using direct and indirect assessment to assure competency within the profession using a comprehensive assessment plan.

Course Delivery Formats
Aviation students learn through lecture, laboratory, student lead instruction, and flight training based at the Brookings Regional Airport.

Requirements for Aviation Major - Aviation Education Specialization: 120 Credits
Bachelor of Science in Education and Human Sciences

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 and PSYC 101 or SOC 100 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L and PHYS 101-101L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: EHS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Consumer Sciences Department Requirements: 7
- LEAD 210 - Foundations of Leadership ** Credits: 3
- CS 377 - Professional Documents Credits: 1
- LEAD 435 - Organizational Leadership and Team Development Credits: 3

Major Requirements: 58
- AVIA 101 - Introduction to General Aviation Credits: 1
- AVIA 150-150L - Introduction to Aviation Meteorology and Lab Credits: 2
- AVIA 170 - Fundamentals of Flight Theory Credits: 3
- AVIA 171 - Introductory Flight I Credits: 2
- AVIA 180 - Attitude Instrument Theory Credits: 2
- AVIA 181 - Introductory Flight II Credits: 2
- AVIA 200 - Aviation Safety Credits: 3
- AVIA 201 - Aviation Weather Credits: 2
- AVIA 300 - Human Factors in Aviation Credits: 3
- AVIA 302 - Aviation Law Credits: 2
- AVIA 305 - Introduction to Aviation Administration Credits: 3
- AVIA 340 - Advanced Flight Principles Credits: 3
- AVIA 370 - Professional Pilot Theory I Credits: 3
- AVIA 372 - Professional Flight I Credits: 2
- AVIA 375 - Professional Pilot Theory II Credits: 3
- AVIA 377 - Professional Flight II Credits: 2
- AVIA 386 - Certified Flight Instructor I Credits: 2
- AVIA 440 - Curriculum Design in Aviation (AW) 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

Supporting Coursework: 3
- ACCT 210 - Principles of Accounting I (COM) Credits: 3

Electives: 13

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGR).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Aviation Major - Aviation Maintenance Management Specialization
Program Coordinator/Contact
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Department of Consumer Sciences
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www.sdstate.edu/aviation

Program Information
The Aviation Maintenance Management Specialization is focused on students who wish to repair and maintain aircraft. SDSU has partnered with approved FAA A&P programs across the United States to offer a four-year degree in aviation maintenance management. Students will go through maintenance training at an approved maintenance school and will then transfer to SDSU to complete the additional management degree requirements. Students may have the opportunity to work for the Chief of Aviation Maintenance at SDSU prior to graduation.

Course Delivery Formats
Aviation students learn through lecture, laboratory, and hands on experience working on SDSU Aviation aircraft.

Requirements for Aviation Major - Aviation Maintenance Management Specialization: 120 Credits
Bachelor of Science in Education and Human Sciences

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 and PSYC 101 or SOC 100 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L and PHYS 101-101L Credits: 8
- Goal #7 Social Science/Diversity Credits: 6
- Goal #8 Mathematics Credits: 3
- Goal #9 Natural Sciences Credits: 8
- Goal #10 Science, Mathematics, Natural Science, and Humanities and Arts Credits: 12

Total Required Credits: 120
Biochemistry curriculum at SDSU builds upon a solid foundation in 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.

**Academic Requirements**
A grade of "C" or better is required in all courses required for the major.

**Accreditation, Certification, and Licensure**
The B.S. in Biochemistry is pursuing certification by the American Society of Biochemistry and Molecular Biology (ASBMB), which serves as recognition of a high quality and rigorous curriculum.

**Course Delivery Format**
Courses offered in the Biochemistry curriculum are taught in a variety of formats which address student learning outcomes: Didactic (lecture) methods ensure the development of foundational knowledge of chemistry; Practical (laboratory) methods ensure the development of laboratory skills and training; A combination of didactic and practical methods ensure the successful completion of the undergraduate research project.

**Requirements for Biochemistry Major: 120 Credits**
Bachelor of Science in Arts and Sciences

**System General Education Requirements**: 34
- Goal #1 Written Communication: ENGL 101 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 123-123L Credits: 5
- Goal #6 Natural Sciences: CHEM 115-115L and CHEM 127-127L Credits: 8

**Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: CHEM 109 Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

**College of Arts & Sciences Bachelor of Science Requirements**: 34 Bachelor of Science
- Natural Science Credits: 14
  - With credits of Biological Sciences: BIOL 151-151L Credits: 3 and BIOL 153-153L Credits: 3
  - With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8
SGrS, IGrS, and/or Major coursework may satisfy some or all of the
above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 55

- MATH 125 - Calculus II * (COM) Credits: 4
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- PHYS 211-211L - University Physics I & Lab * (COM) Credits: 4
- PHYS 213-213L - University Physics II & Lab * (COM) Credits: 4
- CHEM 229-229L - Transformations of Organic Molecules and Lab Credits: 3,1
- CHEM 237 - Intermediate Laboratory Investigations Credits: 2
- CHEM 348-348L - Biophysical Chemistry and Lab Credits: 3,1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 465 - Biochemistry II (COM) Credits: 1
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 3
- CHEM 498 - Undergraduate Research/Scholarship (AW) Credits: 3

Advanced Biology Electives: 10
Students should consult their academic advisor to select courses from the following list based on individual interest.

- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- BIOL 371 - Genetics (COM) Credits: 3
- BIOL 379 - Evolution (COM) Credits: 3
- BIOL 453-553 - Advanced Genetics Credits: 3
- BIOL 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3
- BIOL 483-483L - Developmental Biology and Lab (COM) Credits: 4
- BOT 327-327L - Plant Physiology and Lab (COM) Credits: 4
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 433-533 - Medical Microbiology (COM) Credits: 3
- MICR 436 - Molecular and Microbial Genetics Credits: 4
- MICR 438L - Techniques in Molecular Biology Laboratory Credits: 2

Advanced Chemistry Electives: 10
Students should consult their academic advisor to select courses from the following list based on individual interest.

- CHEM 329 - Organic Chemistry III Credits: 2
- CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3,1
- 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 452-452L - Inorganic Chemistry and Lab (COM) Credits: 3,1
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4
- CHEM 484 - Chemical Toxicology Credits: 3

General Electives: 15

Total Required Credits: 120

Notes
CHEM 498, Undergraduate Research - The required undergraduate research project must be in biochemistry and for at least 3 credits. The research project is usually completed during the summer preceding registration in CHEM 498. Students must register for CHEM 498 in spring semester. CHEM 498 credit is given for completing a written paper of the research project and presenting the paper at a scientific meeting in a semester after the project is completed. Refer to the department for information about additional summer research experiences.

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits.

Biology Major
Program Coordinator/Contact
Volker Brozel, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141
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www.sdstate.edu/biomicro

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 cellular, molecular, and organismal classes. Students select from microbiology, botany and animal based classes based on their desired career path.

Academic Requirements
A minimum GPA of 2.0 must be maintained in the major courses.

Course Delivery Format
Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

Requirements for Biology Major: 120 Credits
Bachelor of Science in Biological Sciences

System General Education Requirements*: 33-35

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics* MATH 102 and MATH 120 or MATH 115 or MATH 121-121L or MATH 123 (123L) Credits: 4-6
- Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L Credits: 8

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar BIOL 109-109L** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 59-65

Biology and Microbiology: 13

- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 3,1
- BIOL 204-204L - Genetics and Cellular Biology and Lab Credits: 3,1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 3,1
- BIOL 290 - Seminar Credits: 1

Chemistry: 16

- CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3,1
- CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3,1
- CHEM 226-226L - Organic Chemistry I and Lab (COM) Credits: 3,1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3,1

Physics: 4-8

- PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4 and PHYS 113-113L - Introduction to Physics II and Lab * (COM) Credits: 4
- or PHYS 101-101L - Survey of Physics and Lab * (COM)
Credits: 4
Mathematics: 3-4
• MATH 125 - Calculus II *(COM) Credits: 4
or STAT 281 - Introduction to Statistics *(COM) Credits: 3
Advanced Writing: 3
• ENGL 379 - Technical Communication (COM) (AW) Credits: 3
Select One Plan of Study
• General Biology Major Credits: 20-21
  • Biology majors without specializations are required to complete at least 10 additional departmental credits at the 300-400 level (BIOL, BOT, or MICR) 10 Credits
  • In addition, select one of the following paths 10-11 Credits
    - BIOL 373 - Evolution (COM) Credits: 3
    - BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
    - BIOL 325-325L - Physiology and Lab (COM) Credits 4
or
    - BIOL 373 - Evolution (COM) Credits: 3
    - BOT 201-201L - General Botany and Lab *(COM) Credits: 3
    - BOT 327-327L - Plant Physiology and Lab (COM) Credits: 4
• Pre-professional Specialization Credits: 23-27
• Secondary Education Specialization Credits: 48-49

Electives: 15-23

Total Required Credits: 120

Curriculum Notes
1. Students planning for professional or graduate degree programs should take MATH 121 or 123 and 125.
2. PHYS 101-101L is not sufficient for students planning to enter professional or graduate degree programs.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits (Biologic-Preprofessional specialization is exempt).
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits.

Biology Major - Pre-professional Specialization

Program Coordinator/Contact
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Program Information
The curriculum in the Biology preprofessional specialization is designed for students planning to apply to health-related pre-professional programs (i.e. pre-chiropractic, pre-dentistry, pre-medicine, pre-optometry, pre-occupational therapy, pre-physical therapy and pre-physician assistant.)

Academic Requirements
A minimum GPA of 2.0 must be maintained in the major courses.

Course Delivery Format
Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

Requirements for Biology Major - Pre-professional Specialization: 120 Credits

Bachelor of Science in Biological Sciences

System General Education Requirements*: 33-35
• Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity: Credits: 6
• Goal #4 Humanities and Arts/Diversity: Credits: 6
• Goal #5 Mathematics: MATH 102 and MATH 120 or MATH 115 or MATH 121-121L or MATH 123 (123L) Credits: 4-6
• Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L Credits: 8

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar: BIOL 109-109L** Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 62-71

Biology and Microbiology: 13
• BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 3, 1
• BIOL 204-204L - Genetics and Cellular Biology and Lab Credits: 3, 1
• MICR 233-233L - Introductory Microbiology and Lab Credits: 4, 0
• BIOL 290 - Seminar Credits: 1
Chemistry: 16
• CHEM 112-112L - General Chemistry I and Lab *(COM) Credits: 3, 1
• CHEM 114-114L - General Chemistry II and Lab *(COM) Credits: 3, 1
• CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
• CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
Physics: 4-8
• PHYS 111-111L - Introduction to Physics I and Lab *(COM) Credits: 4 and PHYS 113-113L - Introduction to Physics II and Lab *(COM) Credits: 4
or PHYS 101-101L - Survey of Physics and Lab *(COM) Credits: 4*
Mathematics: 3-4
• MATH 125 - Calculus II *(COM) Credits: 4
or STAT 281 - Introduction to Statistics *(COM) Credits: 3
Advanced Writing: 3
• ENGL 379 - Technical Communication (COM) (AW) Credits: 3

Specialization Core Requirements
• BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4^1
• BIOL 325-325L - Physiology and Lab (COM) Credits: 4^1
• MICR 439 - Medical and Veterinary Immunology Credits: 3

Electives
Select at least four courses from the list of courses.
• BIOL 383 - Bioethics **(COM) (G) Credits: 4
• BIOL 494 - Internship Credits: 3^2
or BIOL 498 - Undergraduate Research/Scholarship Credits: 3^2
• CHEM 464 - Biochemistry I (COM) Credits: 3
• MICR 424-524 - Medical and Veterinary Virology Credits: 3
• MICR 433-533 - Medical Microbiology (COM) Credits: 3
• MICR 436 - Molecular and Microbial Genetics Credits: 4
• MICR 440L - Infectious Disease Lab Credits:
• PE 454-454L - Biomechanics and Lab Credits: 3^3
• BIOL 476-476L - Advanced Mammalian Physiology Credits: 4
• BIOL 467-467L/567L-567L - Parasitology and Lab (COM) Credits: 3^3
• BIOL 483-483L - Developmental Biology and Lab (COM) Credits: 4

Suggested Electives
Recommended if not taken to meet core requirements.
• CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
• HTHL 120 - Community Health Credits: 2
• HTHL 364-364L - Emergency Medical Technician and Lab (COM) Credits: 4
• MICR 440L - Infectious Disease Lab Credits: 3
• NFS 315 - Human Nutrition Credits: 3
• NURS 323 - Introduction to Pathophysiology Credits: 3

Academic Programs 125
• PSYC 101 - General Psychology ** (COM) Credits: 3  
• SPCM 201 - Interpersonal Communication (COM) Credits: 3  
• STAT 281 - Introduction to Statistics * (COM) Credits: 3  
• MATH 121-121L - Survey of Calculus and Lab* (COM) Credits: 5  
• or MATH 123 - Calculus I * (COM) Credits: 4 and MATH 125 -  
  Calculus II * (COM) Credits: 4

Total Required Credits: 120

Curriculum Notes
1 Pre-Vet students can substitute VET 223-223L, Anatomy and Physiology of  
  Domestic Animals and Lab and one additional course (at least 4 credits) from  
  the Health Related electives (or an advanced animal science course like  
  Advanced Animal Nutrition or Reproductive Physiology).
2 A total of 3 credits is required for field study, internships, and research  
  experiences to count as one elective. These credits can be combined from  
  various experiences.
3 Recommended only for Pre-Chiro, Pre-OT, and Pre-PT programs.
4 PHYS 101-101L is generally not sufficient for students planning to enter  
  professional or graduate degree programs.
* The 30 credit Board of Regents System General Education Requirements  
  (SGRs) must be completed as part of a student's first 64 credits (Biology-  
  Preprofessional specialization is exempt).
** South Dakota State University has a 5 credit Institutional Graduation  
  Requirement (IGRs).  
(G) Globalization Requirement.  
(AW) Advanced Writing Requirement.  
Students must take the proficiency examination after completing 48 credits.  
English 101, and a course in each of the General Education areas of social  
science, mathematics, natural science, and humanities and arts must be taken  
prior to taking this exam.

** Biology Major - Secondary Education Specialization **

Program Coordinator/Contact  
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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.

Academic Requirements  
A minimum GPA of 2.0 must be maintained in the major courses.

Accreditation, Certification, and Licensure
Accreditation  
National Council for Accreditation of Teacher Education Programs (NCATE)  
South Dakota Department of Education

Certification and Licensure  
With this major and the accompanying teacher education coursework required  
for teaching licensure, candidates are eligible to take the Praxis content tests,  
and apply for a teaching license in South Dakota. Students are required to take  
the PRAXIS II content test, as well as the PRAXIS II Principles of Learning  
and Teaching test. The minimum score for the Praxis II PLT must be obtained  
for teaching licensure and varies by state.

Course Delivery Format  
Program coursework is on-campus, in classrooms and laboratories, as well as  
field-based settings. Additional coursework is available at off-campus  
attendance centers. Limited coursework is available online.

Requirements for Biology Major - Secondary Education Specialization:  
120 Credits

System General Education Requirements*: 33-35  
• Goal #1 Written Communication: ENGL 101 and ENGL 201  
  Credits: 6  
• Goal #2 Oral Communication: SPCM 101 Credits: 3  
• Goal #3 Social Sciences/Diversity: SOC 100 and/or PSYC 101  
  Credits: 6  
• Goal #4 Humanities and Arts/Diversity: Credits: 6  
• Goal #5 Mathematics: MATH 102 and MATH 120 or MATH 115  
  or MATH 121-121L or MATH 123 (123L)Credits: 4-6  
• Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L  
  Credits: 8

Institutional Graduation Requirements**: 5  
• Goal #1 First Year Seminar: BIOL 109-109L** Credits: 2  
• Goal #2 Cultural Awareness and Social and Environmental  
  Responsibility (Suggested AIS/ANTH 421 or AIS/HIST 368)  
  Credits: 3

Major Requirements: 48-49  
Biology and Microbiology: 13  
• BIOL 202-202L - Genetics and Organismal Biology and Lab  
  Credits: 3, 1  
• BIOL 204-204L - Genetics and Cellular Biology and Lab Credits: 3, 1  
• MICR 233-233L - Introductory Microbiology and Lab Credits 3, 1  
• BIOL 290 - Seminar Credits: 1  
• CHEM 114-114L - General Chemistry I and Lab * (COM) Credits: 4  
• CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 4  
• CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 4  
• PHYS 101-101L - Survey of Physics and Lab * (COM) Credits: 4  
• EPSY 302 - Educational Psychology (COM) Credits: 3  
• ENGL 379 - Technical Communication (COM) (AW) Credits: 3  
• EDFN 338 - Foundations of American Education (COM)  
  Specialization Requirements: 16-17  
• BOT 201-201L - General Botany and Lab * (COM) Credits: 3  
• BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4  
• BIOL 373 - Evolution (COM) Credits: 3  
• NRM 311 - Principles of Ecology (COM) Credits: 3  
• Take at least one of the following  
  • BIOL 200-200L - Animal Diversity and Lab Credits: 4  
  • BIOL 325-325L - Physiology and Lab (COM) Credits: 4  
  • BIOL/PHIL - 383 Bioethics** (G) Credits: 4  
  • BIOL 328-328L - Organic Chemistry II and Lab  
  (COM) Credits: 4  
  • PHIL/REL 454-554 - Environmental Ethics ** (COM)  
  Credits: 3  
  • WL 302 - Animal Behavior (COM) Credits: 3

Teaching Specialization Requirements
Professional Semester I  
• EDFN 338 - Foundations of American Education (COM) Credits: 2  
• EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II  
• SEEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2  
• SEEED 314 - Supervised Clinical/Field Experience Credits: 1  
• SEEED 420-420L - 5-12 Teaching Methods and Lab (COM)  
  Credits: 2

Complete prior to entry into Professional Semester III  
• Special Methods (varies by content area) Credits: 1-4  
• Native American Course Appr. for Teacher Education Credits: 3  
  • AIS/HIST 368 - History and Culture of the American  
  Indian** Credits: 3
Additional Requirements

- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.

- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Total Required Credits: 120

Curriculum Notes

- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.

- South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

- (G) Globalization Requirement.

- (AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Biotechnology Major**

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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, agri-biotech 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.

Academic Requirements

A minimum GPA of 2.0 must be maintained in the major courses.

Course Delivery Format

Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

Requirements for Biotechnology Major: 120 Credits

**Bachelor of Science in Biological Sciences**

System General Education Requirements*: 34

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 121-121L or MATH 123 MATH 123L Credits: 5
- Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L Credits: 8

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: BIOL 109-109L** Credits: 1, 1
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: Credits: 3

Major Requirements: 73

- CHEM 112-112L - General Chemistry I and Lab *(COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab *(COM) Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3,1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3,1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
- PHYS 113-113L - Introduction to Physics I and Lab * (COM) Credits: 4
- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- BIOL 204-204L - Genetics and Cellular Biology and Lab (COM) Credits: 3, 1
- MICR 233-233L - Introductory Microbiology and Lab Credits: 4
- ABS 205 - Biotechnology in Agriculture and Medicine Credits: 2
- STAT 281 - Introduction to Statistics *(COM) Credits: 3
- MICR 435-535 - Applied Bioinformatics Credits: 3
- MICR 332 - Microbial Physiology Lab Credits: 2
- MICR 343L - Techniques in Molecular Biology Laboratory Credits: 2
- STAT 435-535 - Applied Bioinformatics Credits: 3
- PHIL/BIOL 383 - Bioethics ** *(G) Credits: 4
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3

Advanced Fundamentals Requirement  Select at least three credits from the following courses.

- BIOL 483-483L - Developmental Biology and Lab (COM) Credits: 4
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 459 - Medical and Veterinary Immunology Credits: 3
- MICR 424-524 - Medical and Veterinary Microbiology Credits: 3
- VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4

Applications Requirement  Select at least three credits from the following courses.

- ABE 343-343L - Engineering Properties of Biological Materials and Lab Credits: 3
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 433-433L - Livestock Reproduction and Lab Credits: 3
- DS 301-301L - Dairy Microbiology and Lab Credits: 3
Electives: 7-8

Experiential Learning Requirement  Students will complete at least 3 credits from the following courses. Prefixes may vary with approval by program coordinator.
- BIOL/MICR 494 - Internship (COM) Credits: 1-6
- BIOL/MICR 498 - Undergraduate Research/Scholarship (COM) Credits: 1-6

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128 Academic Programs
Advanced Chemistry Electives: 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 348-348L - Biophysical Chemistry and Lab Credits: 3, 1
- CHEM 432 - Analytical Chemistry II Credits: 2
- CHEM 433 - Bioanalytical Chemistry Credits: 2
- CHEM 465 - Biochemistry II (COM) Credits: 3
- CHEM 482 - Environmental Chemistry (COM) Credits: 3
- CHEM 484 - Chemical Toxicology Credits: 3

General Electives: 19

Emphases
Within the major, electives may be selected to develop an American Chemistry Society recognized emphasis.

Chemical Physics Emphasis
The following courses may be taken as electives to develop the chemical physics emphasis:
- Advanced physics electives (beyond the required) Credits: 3
- Advanced mathematics electives (beyond the required) Credits: 3
- CHEM 498 - Undergraduate Research/Scholarship (AW) Credits: 1-12 (at least 3 credits in physical chemistry) Field work and/or studies of modeling in physical chemistry are encouraged as a component of the undergraduate research experience.

Environmental Chemistry Emphasis
The following courses may be taken as electives to develop the environmental chemistry emphasis:
- CHEM 482 - Environmental Chemistry (COM) Credits: 3-4
- Select one of the following sequences:
  - PS 213-213L - Soils and Lab ** Credits: 3 and PS 412-512 - Environmental Soil Chemistry Credits: 3
  - MICR 231-231L - General Microbiology and Lab *(COM) Credits: 4 and MICR 310-310L - Environmental Microbiology and Lab Credits: 4
  - PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3 and CEE 434-534 - Hydrology Credits: 3
- CHEM 498 - Undergraduate Research/Scholarship (AW) Credits: 1-12 (at least 3 credits in environmental chemistry) Field work and/or studies of modeling in environmental systems are encouraged as a component of the undergraduate research experience.

Total Required Credits: 120

Notes
1CHEM 498 Undergraduate Research: The required research project must be at least 3 credits in Chemistry. CHEM 498 credit is given for completing a written paper of the research project and presenting the paper at a scientific meeting in a semester after the project is completed. The research project is usually completed during the summer preceding registration in CHEM 498. Consult the department for information about additional summer research experiences.

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

Program Coordinator/Contact
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Civil Engineering Major

Course Delivery Format
The Civil Engineering degree requires design coursework in five areas: structural, geotechnical, environmental, transportation, water resources and hydraulics. These skills are applied in classroom, laboratory, and field-based settings.
Major Requirements: 80

Bachelor of Science

Requirements for Civil Engineering Major: 130 Credits

System General Education Requirements*: 33
- Goal #1 Written Communication: ENGL 101 and ENGL 201 or ENGL 277 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 123 Credits: 4
- Goal #6 Natural Sciences: PHYS 211-211L and PHYS 213-213L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: GE 109-109L** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: CEE 225** Credits: 3

Major Requirements: 80
- CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3, 1
- CHEM 114 - General Chemistry II* (COM) Credits: 3
- or CHEM 120 - Elementary Organic Chemistry* Credits: 3
- Additional Departmental Appr. Basic Science Course Credits: 3
- MATH 125 - Calculus I* (COM) Credits: 4
- MATH 225 - Calculus III* (COM) Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
- EM 214 - Statics (COM) Credits: 3
- EM 215 - Dynamics (COM) Credits: 3
- EM 331 - Fluid Mechanics (COM) Credits: 3
- CEE 106-106L - Elementary Surveying and Lab Credits: 4
- CEE 216-216L - Materials and Lab Credits: 3
- CEE 282 - Computer-Aided Design Credits: 3
- CEE 311 - Structural Materials Lab Credits: 1
- CEE 323-323L - Water Supply and Wastewater Engineering and Lab Credits: 3
- CEE 331 - Fluid Mechanics Lab Credits: 1
- CEE 340-340L - Engineering Geology and Lab Credits: 3
- CEE 346-346L - Geotechnical Engineering (COM) and Lab Credits: 4
- CEE 353 - Structural Theory (COM) Credits: 3
- CEE 363 - Highway and Traffic Engineering Credits: 3
- CEE 432 - Hydraulic Engineering Credits: 3
- CEE 455 - Steel Design Credits: 3
- CEE 456 - Concrete Theory and Design (COM) Credits: 3
- CEE 464 - Civil Engineering Capstone Design I (COM) Credits: 1
- CEE 465 - Civil Engineering Capstone Design II (COM) (AW) Credits: 2
- CEE 482 - Engineering Administration Credits: 3
- CEE 490 - Seminar Credits: 1-3

Technical Elective Credits: 12
Complete a total of four courses in at least two of the five technical areas:
(geotechnical, environmental, structural, transportation, and water resources).
Technical electives require approval by the advisor or department head.

- CEE 208-208L - Engineering Surveys and Lab Credits: 3
- CEE 304 - Land Surveying Credits: 3
- CEE 306-306L - Remote Sensing in Civil Engineering Credits: 2
- CEE 411-411L/511-511L - Bituminous Materials & Lab Credits: 3
- CEE 422-422L/522-522L - Environmental Engineering Instrumentation and Lab Credits: 3
- CEE 423-523 - Municipal Water Distribution and Collection System Design Credits: 3
- CEE 424-524 - Industrial Waste Treatment Credits: 3
- CEE 434-534 - Hydrology Credits: 3
- CEE 435-535 - Water Resources Engineering Credits: 3
- CEE 443-543 - Matrix Analysis of Structures Credits: 3
- CEE 444-544 - Pre-cast Concrete Structures Credits: 3
- CEE 446-546 - Advanced Geotechnical Engineering Credits: 3
- CEE 447-547 - Foundation Engineering Credits: 3
- CEE 452-552 - Prestressed Concrete Credits: 3
- CEE 458-558 - Design of Timber Structures Credits: 3
- CEE 467-567 - Transportation Engineering Credits: 3
- CEE 491 - Independent Study Credits: 1-3
- CEE 492-592 - Topics Credits: 1-3
- CEE 494 - Internship Credits: 1-6
- EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3
- EE 314 - Thermodynamics Credits: 3

Total Required Credits: 130

Curriculum Notes
- The 30 credit Board of Regents System General Education Requirements
- South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs)
- Globalization Requirement
- Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Computer Science Major

Program Coordinator/Contact
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Program Information
Computer Scientists play key roles in many walks of life in today's society. Majors complete a core of basic computer science courses that includes the study of problem solving and algorithms, data structures, database concepts, computer architecture and organization, programming languages, compilers, operating systems, and software engineering. Important courses in closely related fields, e.g., discrete mathematics, digital logic design, scientific computation, and probability and statistics are also taken. Computer Science students are required to study all aspects of computing, including hardware, software, and theory.

The program begins the first year developing a strong foundation in programming, mathematics, and communication. Following this is another year of study in data structures and object oriented programming along with hardware-based courses that leaves 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 pick a specialization and take technical electives in their chosen area. The capstone of the program is Senior Design I and II, a two-semester sequence taken in the senior year that places every student on a team that designs, builds, tests, and demonstrates a significant computer science/software engineering project. The projects are often in collaboration with SDSU researchers or industry and provide students' valuable "real world" team design experience.

Student Learning Outcomes
The program must ensure every student to attain, by the time of graduation, the ability to:
a. apply knowledge of computing and mathematics appropriate to the discipline.
b. analyze a problem, and identify and define the computing requirements appropriate to its solution.
c. design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
d. function effectively on teams to accomplish a common goal.
e. understand professional, ethical, legal, security and social issues and responsibilities.
f. communicate effectively with a range of audiences.
g. analyze the local and global impact of computing on individuals,
organizations, and society.

h. recognize the need for and the ability to engage in continuing professional development.

i. use current techniques, skills, and tools necessary for computing practice.

j. apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.

k. apply design and development principles in the construction of software systems of varying complexity.

Academic Requirements

Computer Science students must pass all CSC and SE courses with a grade of C or better. All graduating seniors are required to take the Major Field Test in Computer Science, which is given once per semester.

Accreditation


Course Delivery Format

A majority of the courses are taught on campus in smart classrooms. The smart classrooms allow for a variety of methods for student engagement and faculty are able to record and post their lectures on-line.

Requirements for Computer Science Major: 120 Credits

Bachelor of Science in Computer Science

System General Education Requirements*: 33

- Goal #1 Written Communication: ENGL 101 and ENGL 277 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 123 Credits: 4
- Goal #6 Natural Sciences: PHYS 111-111L and PHYS 113-113L Credits: 8
- or PHYS 211-211L and PHYS 213-213L Credits: 8
- or CHEM 112-112L and CHEM 114-114L Credits: 8
- or BIOL 153-153L and BIOL 151-151L Credits: 8

Institutional Graduation Requirements:** 5

- Goal #1 First Year Seminar: GE 109-109L** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 44

- CSC 150 - Computer Science I (COM) Credits: 3
- CSC 250 - Computer Science II (COM) Credits: 3
- CSC 300 - Data Structures (COM) Credits: 3
- CSC 314 - Assembly Language (COM) Credits: 3
- CSC 317 - Computer Organization and Architecture (COM) Credits: 3
- CSC 346 - Object-Oriented Programming (COM) Credits: 3
- CSC 354 - Introduction to Systems Programming Credits: 3
- CSC 445 - Intro. to Theory of Computation (COM) Credits: 3
- CSC 363 - Ethical and Security Issues in Computing Credits: 2
- CSC 446 - Compiler Construction Credits: 3
- CSC 456 - Operating Systems (COM) Credits: 3
- CSC 461 - Programming Languages (COM) Credits: 3
- CSC 470 - Software Engineering (COM) Credits: 3
- CSC 484 - Database Management Systems (COM) Credits: 3
- CSC 485 - Software Engineering II (AW) Credits: 3

Supporting Coursework: 26

- MATH 125 - Calculus II *(COM) Credits: 4
- MATH 253 - Logic, Sets, and Proof Credits: 3
- MATH 215 - Matrix Algebra Credits: 2
- MATH 316 - Discrete Mathematics (COM) Credits: 3
- MATH 374 - Scientific Computation I Credits: 3
- EE 245-245L - Digital Systems and Lab Credits: 4
- STAT 281 - Introduction to Statistics *(COM) Credits: 3
- Natural Science (Credits: 4)
- PHYS 111-111L and PHYS 113-113L or PHYS 211-211L and PHYS 213-213L
- or CHEM 112-112L and CHEM 114-114L or BIOL 151-151L and BIOL 153-153L

Technical Electives: 12

Technical electives must be 300 level or higher.

- A minimum of 9 of the 12 technical credits must be in approved CS or SE courses.
- 3 of the 12 credits may come from a departmental approved support area.

Total Required Credits: 120

Curriculum Notes

* The 30 credit Board of Regents System General Education Requirements (SGRs).

** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Cooperative Education

Students have the opportunity to work in industry and receive technical elective credit for the experience through CSC 494 Internship or CSC 497 Cooperative Education. 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.

Construction Management Major

Program Coordinator/Contact

Byron Garry, Academic Program Coordinator
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417
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www.sdstate.edu/com

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. The program also provides instruction in sustainable construction, construction safety, design-build project delivery, and collaborates on projects with the Architecture program.

Program Objectives

1. Compare favorably in their technical and managerial knowledge with students completing similar programs both regionally and nationally.

2. Demonstrate technical and managerial proficiency in managing all aspects of a complex construction project as expected of an entry level constructor.

3. Be productively employed in the construction industry in some aspect of managing the construction of projects in the state, region, or nation.

Academic Requirements

Construction Management students must have a minimum grade of "C" in all construction courses that are designated as prerequisites to 300-400 level construction courses, have a 2.25 cumulative GPA, and take the CPC exam in order to graduate.

Accreditation, Certification, and Licensure

The program is accredited by the American Council for Construction Education (ACCE) which is the accreditation body for construction management programs. Students take the Certified Professional Constructor (CPC) Level 1 exam from the American Institute of Constructors Certification Commission as their required exit exam.

Course Delivery Format

The program provides coursework on the Brookings campus in classroom, laboratory, and field based settings.
Bachelor of Science in Construction Management

Requirements for Construction Management Major: 123 Credits

System General Education Requirements*: 32

- Goal #1 Written Communication: ENGL 101 and ENGL 277 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: PHYS 111-111L and CHEM 106-106L Credits: 8

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: GE 109-109L** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: GE 231** Credits: 3

Major Requirements: 57

- CM 124 - Construction Graphics Credits: 3
- CM 210-210L - Construction Surveying and Lab Credits: 3
- CM 216 - Construction Materials Credits: 3
- CM 232-232L - Cost Estimating and Lab Credits: 3
- CM 320-320L - Construction Soil Mechanics and Lab Credits: 3
- CM 332 - Building Construction Methods and Systems Credits: 3
- CM 333 - Mechanical, Electrical, Plumbing Systems Credits: 3
- CM 353-353L - Construction Structures and Lab Credits: 3
- CM 374 - Heavy Construction Methods and Systems Credits: 3
- CM 400-500 - Risk Management & Construction Safety Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- CM 443 - Construction Planning and Scheduling Credits: 3
- CM 473 - Construction Law and Accounting (AW) Credits: 3
- Technical Electives Credits: 18

Supporting Coursework: 29

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- GE 241 - Applied Mechanics Credits: 3
- MATH 121-121L - Survey of Calculus and Lab* (COM) Credits: 5
- MGMT 310 - Business Finance (COM) Credits: 3
- MGMT 325 - Management Information Systems (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MGMT 460 - Human Resource Management (COM) Credits: 3
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

Total Required Credits: 123

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.

Curriculum Notes

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.

** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Consumer Affairs Major - Consumer Services Management Specialization

Program Coordinator/Contact

Lorna Saboe-Wounded Head, Program Leader
Department of Consumer Sciences
Wagner Hall 229
605-688-5196
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www.sdstate.edu/cs

Program Information

Students majoring in Consumer Affairs who pursue the Consumer Services Management specialization are usually interested in marketing, communication, human development, planning principles and working with individuals to develop personal management skills. Required courses for the Consumer Services Management specialization focus on the application of resource management concepts for families of varying structures, consumer rights and responsibilities, consumer behavior in making decisions, the impact of the marketplace on problem solving and implementation strategies for working with diverse audiences.

Completion of the Consumer Affairs major and Consumer Services Management specialization prepares students to engage in a variety of careers such as: management of non-profit organizations, management of retail businesses, Extension, credit/financial counseling, human resources, marketing and sales.

Academic Requirements

A grade of "C" or better is required for all courses with a CA prefix. An 8-week full time internship is a requirement that is usually completed during the summer between the Junior and Senior year.

Course Delivery Format

Students learn through lecture, laboratory, and hands-on learning experiences.

Requirements for Consumer Affairs Major - Consumer Services Management Specialization: 120 Credits

Bachelor of Science

System General Education Requirements*: 30

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 and PSYC 101 or SOC 100 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: EHS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2

- EHS 309 - Interdisciplinary Group Processes Credits: 2

Consumer Sciences Department Requirements: 6-7

- LEAD 210 - Foundations of Leadership ** Credits: 3 or CS 262 - Customer Service Credits : 2
- CS 377 - Professional Documents Credits: 1
- CS 381 - Professional Behavior at Work Credits: 3 or LEAD 435 - Organizational Leadership and Team Development Credits: 3

Major Requirement Credits: 43

Consumer Affairs Core Requirements: 28

- CA 150 - Introduction to Consumer Affairs Credits: 2
- CA 230 - Consumer Behavior Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- CA 340 - Work Family Interface (AW) Credits: 3
- CA 345 - Foundations in Financial Management Credits: 3
Bachelor of Science in Consumer Affairs

Requirements for Consumer Affairs Major - Family Financial Management Specialization: 43

- Year 1
  - ECON 100 - Principles of Macroeconomics (COM) Credits: 3
  - CA 150 - Introduction to Consumer Affairs Credits: 2
  - BADM 101 - Legal Environment of Business (COM) Credits: 2
  - HDFS 241 - Family Relations Credits: 3
  - EFA 355 - Events and Facilities Administration Credits: 3
  - Electives: 9
- Year 2
  - BADM 235 - Consumer Behavior Credits: 4
  - CA 289 - Consumers in the Market Credits: 3
  - CS 282 - Customer Service Credits: 2
  - Case Studies: 6
  - Electives: 11
- Year 3
  - BADM 300 - Legal Environment of Business (COM) Credits: 3
  - CA 345 - Foundations in Financial Management Credits: 3
  - CA 494 - Internship Credits: 3
  - Electives: 11
- Year 4
  - BADM 350 - Legal Environment of Business (COM) Credits: 3
  - CA 430 - Consumer Decision Making Credits: 3
  - LEAD 350 - Organizational Leadership and Team Development Credits: 3
  - Electives: 11

Academic Programs 133
Course Delivery Format
The coursework for the program includes lectures, labs, and hands-on experiences. Many of the Dairy Science classes include lab components that are conducted at the University's farm and plant. Students are encouraged to supplement their class instruction with summer internships and extracurricular activities.

Requirements for Dairy Manufacturing Major: 120 Credits
Bachelor of Science in Agriculture

System General Education Requirements*: 30-32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 and an additional non ECON class Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 or MATH 115 Credits: 3-5
- Goal #6 Natural Sciences: BIOL 101-101L and BIOL 103-103L Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: DS 109 - First Year Seminar ** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 11
- Group 1 Courses in Agriculture Credits: 4
- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- MICR 311-311L - Food Microbiology and Lab Credits: 4

Major Requirements: 50-51
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3 (Fall)
- CHEM 106-106L - Chemistry Survey and Lab *(COM) Credits: 3,1
  or CHEM 112-112L - General Chemistry I and Lab *(COM) Credits: 3, 1
- CHEM 108-108L - Organic and Biochemistry and Lab *(COM) Credits: 4,1
  or CHEM 120-120L - Elementary Organic Chemistry and Lab * Credits: 3,1
- DS 202 - Dairy Products Judging Credits: 1
- DS 301-301L - Dairy Microbiology and Lab Credits: 3
- DS 313-313L - Technical Control of Dairy Products I and Lab Credits: 3
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- DS 322-322L - Dairy Product Processing II and Lab Credits: 5
- DS 421 - Dairy Plant Management Credits: 3
- DS 422-422L - Technical Control of Dairy Products II and Lab Credits: 4
- DS 490 - Seminar (AW) Credits: 1
- DS 496 - Field Experience Credits: 3-12
- MICR 231-231L - General Microbiology and Lab *(COM) Credits: 4
- PHYS 101-101L - Survey of Physics and Lab *(COM) Credits: 4
  or PHYS 111-111L - Introduction to Physics I and Lab *(COM) Credits: 4
  or PHYS 211-211L - University Physics I and Lab *(COM) Credits: 4

Electives: 23-24
- ECON, BADM, STAT, ACCT, or ENTR (except ECON 202 and ACCT 210) Elective Credits: 3
- NFS Elective Credits: 3
- Other Elective Credits: 17-18

Total Required Credits: 120

Curriculum Notes
- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
- ** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
( AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.

Dairy Manufacturing Major - Microbiology Specialization
Program Coordinator/Contact
Vikram V. Mistry, Department Head
Department of Dairy Science
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Program Information
Dairy Science is an application of the sciences, engineering and technology, and business for the study of milk production and processing. A Dairy Science 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 focused curriculum for students with a strong interest in pursuing Microbiology related careers within the dairy industry.

Course Delivery Format
The coursework for the program includes lectures, labs, and hands-on experiences. Many of the Dairy Science classes include lab components that are conducted at the University's farm and plant. Students are encouraged to supplement their class instruction with summer internships and extracurricular activities.

Requirements for Dairy Production Major - Microbiology Specialization: 120 Credits
Bachelor of Science in Agriculture

System General Education Requirements*: 32-34
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 and an additional non ECON class Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 or MATH 115 Credits: 3-5
- Goal #6 Natural Sciences: CHEM 112-112L and CHEM 114-114L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: DS 109 - First Year Seminar ** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 7
- DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
- MICR 311-311L - Food Microbiology and Lab Credits: 4

Major Requirements: 76
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
  or STAT 281 - Introduction to Statistics *(COM) Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- BIOL 101-101L - Biology Survey I and Lab *(COM) Credits: 3
  or BIOL 151-151L - General Biology I and Lab *(COM) Credits: 4
- BIOL 103-103L - Biology Survey II and Lab *(COM) Credits: 3
  or BIOL 153-153L - General Biology II and Lab *(COM) Credits: 4
- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- BIOL 204-204L - Genetics and Organismal Biology and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 4

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Dairy Production Major
Bachelor of Science in Agriculture

System General Education Requirements*: 31-33
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 and an additional non ECON class Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 or MATH 115 Credits: 3-5

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: DS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 53-55
- AS 323 - Advanced Animal Nutrition Credits: 3
- CHEM 120-120L - Elementary Organic Chemistry and Lab * Credits: 3,1
- DS 132-132L - Animal Reproduction I and Lab Credits: 5
- DS 202 - Dairy Products Judging Credits: 1
- DS 313-313L - Technical Control of Dairy Products I and Lab Credits: 3
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- DS 322-322L - Dairy Product Processing II and Lab Credits: 5
- DS 411-41IL - Dairy Breeds and Breeding and Lab Credits: 3
- DS 412-412L - Dairy Farm Management and Lab Credits: 4
- DS 413-513 - Physiology of Lactation Credits: 3
- DS 432 - Dairy Cattle Feeding Credits: 3
- DS 490 - Seminar (AW) Credits: 1
- DS 496 - Field Experience Credits: 3
- MICR 231-23IL - General Microbiology and Lab * (COM) Credits: 4
- MICR 310-310L - Environmental Microbiology and Lab Credits: 4
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 436 - Molecular and Microbial Genetics Credits: 4

Total Required Credits: 120

Curriculum Notes
- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
- South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(D) Globalization Requirement.
- (AW) Advanced Writing Requirement.

Course Delivery Format
The coursework for the program includes lectures, labs, and hands-on experiences. Many of the Dairy Science classes include lab components that are conducted at the University's farm and plant. Students are encouraged to supplement their class instruction with summer internships and extracurricular activities.

Requirements for Dairy Production Major: 120 Credits
Bachelor of Science in Agriculture

Academic Programs 135

Dietetics Major
Program Coordinator/Contact
Kendra Kattelmann, Coordinator
Department of Health and Nutritional Sciences
605-688-5161
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Program Information
Dietetics is the education and practice of food, nutrition and wellness and offers a wide variety of jobs in the health promotion, wellness, nutrition care and foodservice administration areas. Registered dietitian nutritionist (RDN) are provide nutrition counseling and are pivotal in preventive health care and

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Program Information
Dietetics is the education and practice of food, nutrition and wellness and offers a wide variety of jobs in the health promotion, wellness, nutrition care and foodservice administration areas. Registered dietitian nutritionist (RDN) are provide nutrition counseling and are pivotal in preventive health care and

E-mail: kendra.kattelmann@sdstate.edu
www.sdstate.edu/ds

Program Information
Dietetics is the education and practice of food, nutrition and wellness and offers a wide variety of jobs in the health promotion, wellness, nutrition care and foodservice administration areas. Registered dietitian nutritionist (RDN) are provide nutrition counseling and are pivotal in preventive health care and
community nutrition programs. Additionally, a registered dietitian is essential to the total care of a patient in a healthcare facility, giving nutritional guidance and instruction. 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.

Additional Program Requirements
Students must be current on immunizations and complete a criminal background check to complete education components of program.

Student Learning Outcomes
- Upon completion of the dietetics major, students will demonstrate:
  - Core knowledge for the registered dietitian:
    - Scientific and Evidence Base of Practice: integration of scientific information and research into practice
    - Professional Practice Expectations: beliefs, values, attitudes and behaviors for the professional dietitian level of practice
    - Clinical and Customer Services: development and delivery of information, products and services to individuals, groups and populations
    - Practice Management and Use of Resources: strategic application of principles of management and systems in the provision of services to individuals and organizations
    - Knowledge to support the underlying principles of practice: food and food systems, physical and biological science, and behavioral and social science foundation of the dietetics profession
    - Effective communication practices
    - The ability to work in teams to solve problems
    - Critical thinking skills
    - Personal/professional attitudes and values
    - Knowledge of ethical practices
    - Leadership skills

Academic Requirements
A minimum final grade of "C" is required in all NFS prefix required courses in the major.

Accreditation, Certification and Licensure
The program has been continuously approved/accredited since inception by the Accreditation Council for Education of Nutrition and Dietetics as a Didactic Program in Dietetics by the Accreditation Council for Education of Nutrition and Dietetics, the accrediting agency for Academy of Nutrition and Dietetics.

Upon completion of the program and Bachelors of Science requirements, the student will receive a verification statement from the program director and are then eligible to apply for the supervised practice experience (dietetic internship). To become a registered dietitian nutritionist, one must satisfactorily complete the South Dakota State University's dietetics program, an accredited supervised practice (dietetic internship) and pass the Commission on Dietetics Registration examination for registered dietitian nutritionist. The dietetic internships are post-graduation, require additional fees, and are competitive.

Course Delivery Format
The program offers coursework through lecture, discussion, laboratory, clinical education and clinical experience components.

Requirements for Dietetics Major: 120 Credits
Bachelor of Science in Education and Human Sciences

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: CHEM 112-112L and CHEM 114-114L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: EHS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 80
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BADM 460 - Human Resource Management (COM) Credits: 3
- BIOL 151-151L - General Biology I and Lab *(COM) Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3,1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3,1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- HMGT 251 - Foodservice Sanitation Credits: 1
- HNS 490 - Seminar Credits: 1
- MICR 231-231L - General Microbiology and Lab *(COM) Credits: 4
- NFS 141-141L - Foods Principles and Lab Credits: 4
- NFS 315 - Human Nutrition Credits: 3
- NFS 322-322L - Assessment and Counseling Skills in Nutrition and Lab Credits: 4
- NFS 323 - Nutrition Across the Life Cycle Credits: 3
- NFS 341-341L - Food Science and Lab Credits: 4
- NFS 380 - Foodservice Operations and Purchasing Management Credits: 3
- NFS 381-381L - Quantity Food Production and Service and Lab Credits: 4
- NFS 422-522 - Advanced Human Nutrition Credits: 4
- NFS 423-423L/523-523L - Medical Nutrition Therapy I and Lab Credits: 3
- NFS 424-424L/524-524L - Community Nutrition & Lab Credits: 3
- NFS 425-425L/525-525L - Medical Nutrition Therapy II and Lab Credits: 3
- NFS 487 - Transition to Professional World Credits: 1
- NFS 495 - Practicum Credits: 2
- NURS 201 - Medical Terminology Credits: 1
- STAT 281 - Introduction to Statistics *(COM) Credits: 3 or HSC 445 Epidemiology Credits: 3

Electives: 1

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
* South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

G Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Early Childhood Education Major - Cooperative Program with DSU or NSU

Program Coordinator/Contact: Lynda Venhuizen, ECE Coordinator
Department of Teaching, Learning, and Leadership
Pugsley Hall 141, Box 2203
www.sdstate.edu/ ttl

Program Information
The cooperative elementary education specialization with Dakota State University (DSU) and Northern State University (NSU) is for students who are interested in teaching certification for elementary and middle school grades in the public school system in South Dakota. The program prepares professionals who work in educational settings with children in order to promote their cognitive, physical, emotional, and social development. Program content includes the theory and practice of working with children and their families and communities. The courses specific to elementary education are offered by DSU and NSU faculty on the SDSU campus. Students complete a student teaching experience at the Fishback Center for Early Childhood Education and at a selected public school. It typically takes five years to complete the cooperative program.

Student Learning Outcomes
Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning
1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and learning
1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging Learning environments for young children

Standard 2. Building family and community relationships
2a: Knowing about and understanding diverse family and community characteristics
2b: Supporting and engaging families and communities through respectful, reciprocal Relationships
2c: Involving families and communities in young children's development and learning

Standard 3. Observing, documenting, and assessing to support young Children and families
3a: Understanding the goals, benefits, and uses of assessment - including its use in development Of appropriate goals, curriculum, and teaching strategies for young children
3b: Knowing about assessment partnerships with families and with professional colleagues to Build effective learning environments
3c: Knowing about and using observation, documentation, and other appropriate assessment Tools and approaches, including the use of technology in documentation, assessment and data Collection.
3d: Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches
4a: Understanding positive relationships and supportive interactions as the foundation of their Work with young children
4b: Knowing and understanding effective strategies and tools for early education, including Appropriate uses of technology
4c: Using a broad repertoire of developmentally appropriate teaching /learning approaches
4d: Reflecting on own practice to promote positive outcomes for each child

Standard 5. Using content knowledge to build meaningful curriculum
5a: Understanding content knowledge and resources in academic disciplines: language and Literacy; the arts - music, creative movement, dance, drama, visual arts; mathematics; science, Physical activity, physical education, health and safety; and social studies.
5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or Academic disciplines
5c: Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6. Becoming a professional
6a: Identifying and involving oneself with the early childhood field
6b: Knowing about and upholding ethical standards and other early childhood professional Guidelines
6c: Engaging in continuous, collaborative learning to inform practice; using technology Effectively with young children, with peers, and as a professional resource.
6d: Integrating knowledgeable, reflective, and critical perspectives on early education
6e: Engaging in informed advocacy for young children and the early childhood profession

Standard 7. Early childhood field experiences
7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth – age 3, 3-5, 5-8)
7b. Opportunities to observe and practice in at least two of the three main types of early Education settings (early school grades, child care centers and homes, Head Start programs)

Accreditation, Certification, and Licensure
Accreditation
National Association of the Education of Young Children
National Council for Accreditation of Teacher Education Programs
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

Requirements for Early Childhood Education Major - Cooperative Program: 120 Credits
Bachelor of Science in Education and Human Sciences

System General Education Requirements*: 31
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 and PSYC 101 Credits: 6
- Goal #4 Humanities and Arts/Diversity: ART 121 and ENGL 240 Credits: 6
- Goal #5 Mathematics: MATH 102 or higher Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L and BIOL 101-101L Credits: 7

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: EHS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: HIST 151 ** or HIST 152** Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 34
- ECE 150-150L - Early Experience and Lab Credits: 2
- ECE 371-371L - Infant and Toddler: Developmentally Appropriate Practices and Lab (COM) Credits: 3
- ECE 372 - Preschool to Middle Childhood Development Credits: 2
- ECE 328-328L - Guidance with Young Children and Lab (COM) Credits: 2, 1
- ECE 361-361L - Methods and Materials/Early Childhood Education and Lab (AW) Credits: 2, 1
- ECE 362-362L - Early Childhood Curriculum and Assessment and Lab Credits: 2
- ECE 363-363L - Emergent Literacy and Numeracy and Lab Credits: 3

Academic Programs 137
ECE 488 - Student Teaching (COM) (Pre-K) Credits: 6
ECE 420 - Health, Safety and Nutrition of Young Children Credits: 2
ECE 465 - Documentation, Inquiry & Teacher Research Credits: 2
ECE 464 - Parent/Child Relationships in a Professional Context Credits: 3
ECE 441 - Prof. Issues in Child & Family Studies Credits: 3

Supporting Coursework: 34
- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3
- EPSY 302 - Educational Psychology (COM) Credits: 3
- MATH 341 - Math Concepts for Teachers I Credits: 3
- MATH 342 - Math Concepts for Teachers II Credits: 3
- PE 360-360L - K-8 Physical Education Methods and Lab (COM) Credits: 2
- MUS 351 - Elementary School Music Methods (COM) Credits: 2
- POLS 100 - American Government *(COM) Credits: 3
- GEOG 210 - World Regional Geography ***(COM) (G) Credits: 3
- Native American Course Approved for Teacher Education Credits: 3
- AIS/HIST 368 - History and Culture of the American Indian** Credits: 3
- or AIS/ANTH 421 - Indians of North America** Credits: 3
- HLTH 420-520 - Methods of Health Instruction (COM) Credits: 2
- SPED 100 - Introduction to Persons with Exceptionalities Credits: 3

Cooperative ELED Certification Requirements: 35
- ELED 383 - Practicum (S-I) Credits: 1
- ELED 440 - K-8 Language Arts Methods (S-I) Credits: 2
- SPED 441 - Inclusive Methods for Diverse Learners (S-I) Credits: 2
- MLED 300 - Survey of Middle Level Education (SU) Credits: 1
- ELED 503 - Earth and Physical Science for Elementary Teachers/Lab (SU) Credits: 4
- CSC 105 Introduction to Computers (F) Credits: 3 DSU only
- EDFN 455 - Literacy Assessment and Instruction (F) Credits: 3
- ELED 495 - Practicum (F) Credits: 1
- ELED 320 - K-8 Science Methods (F) Credits: 3
- ELED 330 - K-8 Math Methods (F) Credits: 3
- ELED 360 - K-8 Social Studies Methods (F) Credits: 2
- EDFN 440 - Classroom Management (S-II) Credits: 2
- ED 442 - Diverse Needs of Students and Their Families (S-II) Credits: 2
- ELED 488 - K-8 Student Teaching (COM) (S-II) Credits: 8
- ELED 450 K-8 Reading Methods (S-II) Credits: 3

Total Required Credits: 141

Curriculum Notes
- Entry into the major academic courses in all ECE program tracks include passing scores in Praxis I: PPST Reading (173), Writing (173), and Math (172). Students will work their academic advisor for registering for the Praxis exams.
- A pre-graduate check is required 2 semesters before graduation semester. At beginning of graduation semester, a graduation application must be completed.
- A grade of "C" or better is required in PSYC 101, ENGL 101, SPCEM 101, MATH 102, and all majors courses with an HDFS or ECE prefix.
- Students must meet all GPA Requirements (2.6 for graduation) and be accepted into the ECE Teacher Education program ECE- PSn and ECE-PS III.
- 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.
- The rotation of the cooperative ELED certification courses is indicated as follows: S-I (Spring I), F (Fall), SU (Summer) and S-II (Spring II).
- Students are required to complete 106 credits of SDSU coursework. These courses, with SDSU electives, do not constitute a degree program. Instead, students complete an additional 35 credits from the cooperating university (NSU) to fully meet the requirements for the ECE Coop-NSU/DSU specialization.
- All courses are required for certification. Upon graduation, students would be eligible for dual certification in early childhood education (Birth to Age Five) and elementary education (K - Grade 8).

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

Early Childhood Education Major- Birth to 5 Specialization
Program Coordinator/Contact
Lynda Venhuizen, ECE Coordinator
Department of Teaching, Learning, and Leadership
Pugsley Hall 141 Box 2203
www.sdstate.edu/tll

Program Information
This program prepares students to work in educational settings such as Head Start, preschool programs, and child care centers. The program prepares professionals who work in educational settings with children in order to promote their cognitive, physical, emotional, and social development. Program content includes the theory and practice of working with children and their families and communities. Students can choose to focus on infant and toddler development and care and/or administration of early childhood programs. Students complete student teaching in the Fishback Center for Early Childhood Education on campus and complete a practicum in an off-campus early childhood setting. Students interested in a South Dakota Kindergarten Education Endorsement on their teaching certificate are also required to complete a practicum experience in a kindergarten classroom.

Student Learning Outcomes
Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning
1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.
1b: Knowing and understanding the multiple influences on early development and learning
1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging Learning environments for young children

Standard 2. Building family and community relationships
2a: Knowing about and understanding diverse family and community characteristics
2b: Supporting and engaging families and communities through respectful, reciprocal Relationships
2c: Involving families and communities in young children's development and learning

Standard 3. Observing, documenting, and assessing to support young Children and families
3a: Understanding the goals, benefits, and uses of assessment - including its use in development Of appropriate goals, curriculum, and teaching strategies for young children
3b: Knowing about assessment partnerships with families and with professional colleagues to build effective learning environments
3c: Knowing about and using observation, documentation, and other appropriate assessment tools and approaches, including the use of technology in documentation, assessment, and data collection.
3d: Understanding and practicing responsible assessment to promote positive outcomes for each child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches
4a: Understanding positive relationships and supportive interactions as the foundation of their work with young children
4b: Knowing and understanding effective strategies and tools for early education, including appropriate uses of technology
4c: Using a broad repertoire of developmentally appropriate teaching/learning approaches
4d: Reflecting on own practice to promote positive outcomes for each child

Standard 5. Using content knowledge to build meaningful curriculum
5a: Understanding content knowledge and resources in academic disciplines: language and literacy; the arts - music, creative movement, dance, drama, visual arts; mathematics; science, physical activity, physical education, health and safety; and social studies.
5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or academic disciplines.
5c: Using own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate developmentally meaningful and challenging curriculum for each child.
5d: Integrating knowledgeable, reflective, and critical perspectives on early childhood professional guidelines
5e: Engaging in collaborative learning to inform practice using technology effectively with young children, with peers, and as a professional resource.
5f: Integrating knowledgeable, reflective, and critical perspectives on early education
6a: Identifying and involving oneself with the early childhood field
6b: Knowing and understanding ethical standards and other early childhood professional guidelines
6c: Engaging in informed advocacy for young children and the early childhood profession.

Standard 7. Early childhood field experiences
7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth – age 3, 3-5, 5-8)
7b. Opportunities to observe and practice in at least two of the three main types of early education settings (early school grades, child care centers and homes, Head Start programs)

Accreditation, Certification, and Licensure
Accreditation
National Association of the Education of Young Children
National Council for Accreditation of Teacher Education Programs
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

Requirements for Early Childhood Education Major - Birth to 5
Specialization: 120 Credits
Bachelor of Science in Education and Human Sciences

System General Education Requirements*:
- Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210, and PSYC 101 Credits: 6

- Goal #4 Humanities and Arts/Diversity Credits: 6 Select Course to meet Globalization Requirement
- Goal #5 Mathematics: MATH 102 or higher Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**:
- Goal #1 First Year Seminar: EHS 109 ** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: (ANTH/AIS 421** or AIS/HIST 368** Recommended) Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 58
- ECE 150-150L - Early Experience and Lab Credits: 2
- ECE 371-371L - Infant and Toddler: Developmentally Appropriate Practices and Lab (COM) Credits: 3
- ECE 372 - Preschool to Middle Childhood Development Credits: 2

Professional Semester I
- ECE 328-328L - Guidance with Young Children and Lab (COM) Credits: 2
- ECE 361-361L - Methods and Materials/Early Childhood Education and Lab (AW) Credits: 2
- ECE 362-362L - Early Childhood Curriculum and Assessment and Lab Credits: 2
- ECE 363-363L - Emergent Literacy and Numeracy and Lab Credits: 3

Professional Semester II
- ECE 488 - Student Teaching (COM) (Pre-K) Credits: 6
- ECE 420 - Health, Safety and Nutrition of Young Children Credits: 2
- ECE 465 - Documentation, Inquiry and Teacher Research Credits: 2
- ECE 464 - Parent/Child Relationships in a Professional Context Credits: 3
- ECE 470 - Early Childhood Inclusion Strategies Credits: 3

Professional Semester III
- ECE 487 - Orientation to Child and Family Studies Practicum Credits: 1
- ECE 495 - Practicum Credits: 8
- ECE 455 - Administration and Supervision of Early Childhood Setting Credits: 2
- ECE 441 - Professional Issues in Child and Family Studies Credits: 2

Additional Coursework
- HDFS 241 - Family Relations Credits: 3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3
- Native American Courses Approved for Teacher Education Credits: 3

Electives: 25
CSC 150 - Computer Science I (COM) Credits: 3
Recommended for students who need to develop computer application skills

Total Required Credits: 120

Curriculum Notes
- Entry into the major academic courses in all ECE program tracks include passing scores in Praxis I: PPST Reading (173), Writing (173), and Math (172). Students will work their academic advisor for registering for the Praxis exams.
- A pre-graduate check is required 2 semesters before graduation semester. At beginning of graduation semester, a graduation
application must be completed.

- A grade of "C" or better is required in PSYC 101, ENGL 101, SPCM 101, MATH 102, and all majors courses with an HDFS or ECE prefix.
- Students must meet all GPA Requirements (2.6 for graduation) and be accepted into the ECE Teacher Education program ECE-PS II and ECE-PS II.
- Students will be required to pass the PRAXIS content and Principles of Teaching and Learning exams in order to be considered a Highly Qualified Teacher.
- * The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
- ** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

**Globalization Requirement.**

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits.

English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Student Learning Outcomes**

Early Childhood Education follows student learning outcomes as outlined by the National Association for the Education of Young Children (NAEYC).

Standard 1. Promoting child development and learning

1a: Knowing and understanding young children's characteristics and needs, from birth through Age 8.

1b: Knowing and understanding the multiple influences on early development and learning

1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging Learning environments for young children

Standard 2. Building family and community relationships

2a: Knowing about and understanding diverse family and community characteristics

2b: Supporting and engaging families and communities through respectful, reciprocal Relationships

2c: Involving families and communities in young children's development and learning

Standard 3. Observing, documenting, and assessing to support young Children and families

3a: Understanding the goals, benefits, and uses of assessment -- including its use in development Of appropriate goals, curriculum, and teaching strategies for young children

3b: Knowing about assessment partnerships with families and with professional colleagues to Build effective learning environments

3c: Knowing about and using observation, documentation, and other appropriate assessment Tools and approaches, including the use of technology in documentation, assessment and data Collection.

3d: Understanding and practicing responsible assessment to promote positive outcomes for each Child, including the use of assistive technology for children with disabilities.

Standard 4. Using developmentally effective approaches

4a: Understanding positive relationships and supportive interactions as the foundation of their Work with young children

4b: Knowing and understanding effective strategies and tools for early childhood, including Appropriate uses of technology

4c: Using a broad repertoire of developmentally appropriate teaching/learning approaches

4d: Reflecting on own practice to promote positive outcomes for each child

Standard 5. Using content knowledge to build meaningful curriculum

5a: Understanding content knowledge and resources in academic disciplines: language and literacy, the arts -- music, creative movement, dance, drama, visual arts; mathematics; science; Physical activity, physical education, health and safety; and social studies.

5b: Knowing and using the central concepts, inquiry tools, and structures of content areas or Academic disciplines

5c: Using own knowledge, appropriate early learning standards, and other resources to design, Implement, and evaluate developmentally meaningful and challenging curriculum for each child.

Standard 6. Becoming a professional

6a: Identifying and involving oneself with the early childhood field

6b: Knowing about and upholding ethical standards and other early childhood professional Guidelines

6c: Engaging in continuous, collaborative learning to inform practice; using technology Effectively with young children, with peers, and as a professional resource

6d: Integrating knowledgeable, reflective, and critical perspectives on early education

6e: Engaging in informed advocacy for young children and the early childhood profession

Standard 7. Early childhood field experiences

7a. Opportunities to observe and practice in at least two of the three early childhood age groups (birth -- age 3, 3-5, 5-8)

7b. Opportunities to observe and practice in at least two of the three main types of early Education settings (early school grades, child care centers and homes, Head Start programs)

**Accreditation, Certification, and Licensure**

**Accreditation**

National Association of the Education of Young Children

National Council for Accreditation of Teacher Education Programs

South Dakota Department of Education

**Certification and Licensure**

With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the PRAXIS II PLT must be obtained for teaching licensure and varies by state.

**Course Delivery Format**

Courses in Early Childhood Education are delivered face to face, online and hybrid (face to face and online combination). All ECE courses have practical applications in field experience settings in childcare and Pre-K-Grade 3.

**Requirements for Early Childhood Education Major - Birth to 8**

**Specialization: 120 Credits**

**Bachelor of Science in Education and Human Sciences**

**System General Education Requirements*: 31-32**

- Goal #1 Written Communication: ENGL 101 and ENGL 201
  Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 and PSYC 101
  Credits: 6
- Goal #4 Humanities and Arts/Diversity (ENGL 240; and SGR4/Globalization Requirement) Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L and BIOL 101-101L
  Credits: 7-8

**Institutional Graduation Requirements**: 8

- Goal #1 First Year Seminar: EHS 109
  Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility: (ANTH/AIS 421 or AIS/HIST 368 Recommended) Credits: 3

College Requirements: 2
• EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 50
• ECE 150-150L - Early Experience and Lab Credits: 2
• ECE 371-371L - Infant and Toddler: Developmentally Appropriate Practices and Lab (COM) Credits: 3
• ECE 372 - Preschool to Middle Childhood Development Credits: 2

Professional Semester I
• ECE 328-328L - Guidance with Young Children and Lab (COM) Credits: 1, 1
• ECE 361-361L - Methods and Materials/Early Childhood Education and Lab (AW) Credits: 2, 1
• ECE 362-362L - Early Childhood Curriculum and Assessment and Lab Credits: 2, 1
• ECE 363-363L - Emergent Literacy and Numeracy and Lab Credits: 3, 0

Professional Semester II
• ECE 488 - Student Teaching (COM) (Pre-k-3) Credits: 6
• ECE 420 - Health, Safety and Nutrition of Young Children Credits: 2
• ECE 465 - Documentation, Inquiry and Teacher Research Credits: 2
• ECE 464 - Parent/Child Relationships in a Professional Context Credits: 3
• ECE 470 - Early Childhood Inclusion Strategies Credits: 3

Complete prior to entry into Professional Semester III
• ECE 495 - Practicum Credits: 2
• ECE 478-478L - Integrated Curriculum in Birth-to-Age Eight Education and Lab Credits: 4
• ECE 475 - Pedagogy and Guidance in Primary Grade Classrooms Credits: 2
• EDFN 466-466L - Literacy in Primary Grades and Lab Credits: 3
• MATH 141 - Survey of Mathematics Credits: 3

Professional Semester III
• ECE 488 - Student Teaching (COM) (K-3) Credits: 1-12
• ECE 473 - Orientation to K-3 Student Teaching Credits: 2

Additional Coursework
• HDFS 241 - Family Relations Credits: 3
• EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
• EDFN 475 - Human Relations (COM) Credits: 3
• Native American Course Approved for Teacher Education Credits: 3
• AIS/HIST 368 - History and Culture of the American Indian** Credits:3 or AIS/ANTH 421 - Indians of North America** Credits:3
• MATH 342 Math Concepts for Teachers II Credits: 3
• PE 360-360L - K-8 Physical Education Methods and Lab (COM) Credits: 2
• MUS 351 - Elementary School Music Methods (COM) Credits: 2
• PHYS 101-101L - Survey of Physics and Lab * (COM) Credits: 4 or CHEM 106-106L - Chemistry Survey and Lab * (COM) Credits: 4 or PHYS 185-185L - Introduction to Astronomy I and Lab * (COM) Credits: 3

Electives: 4-5
Total Required Credits: 120

Curriculum Notes
• Entry into the major academic courses in all ECE program tracks include passing scores in Praxis I: PPST Reading (173), Writing (173), and Math (172). Students will work their academic advisor for registering for the Praxis exams.
• A pre-graduate check is required 2 semesters before graduation semester. At beginning of graduation semester, a graduation application must be completed.
• A grade of "C" or better is required in PSYC 101, ENGL 101, SPCM 101, MATH 102, and all majors courses with an HDFS or ECE prefix.
• Students must meet all GPA Requirements (2.6 for graduation) and be accepted into the ECE Teacher Education program ECE- PSII and ECE-PS III.
• 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.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Ecology and Environmental Science Major

Program Coordinator/Contact
Nels H. Troelstrup, Jr., Interim Department Head
Department of Natural Resource Management
Northern Plains Biostress Laboratory, Room 138
605-688-5503
E-mail: nels.troelstrup@sdstate.edu
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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 their interests within the major. Most students enrolled in this major are planning careers with environmental monitoring and regulatory agencies or private consulting firms. Students are given the opportunity to select from two emphases, Ecology and Environmental Science.

• The Ecology Emphasis allows substantial flexibility in course selection for those interested in employment with state or federal agencies, or private consulting firms as an ecologist. Students graduating with this major meet requirements to be certified as an Ecologist in Training with the Ecological Society of America. Preparation for graduate programs also is a common goal for students in this emphasis.
• The Environmental Science Emphasis is for students seeking careers or graduate programs to address contemporary environmental issues. Students typically seek employment with state or federal environmental monitoring and regulatory agencies or private consulting firms. This emphasis includes a broad selection of elective credits, allowing the student to design a track optimal for their future career or graduate education path.

Accreditation, Certification, and Licensure
The Ecology and Environmental Science program is based on certification requirements of the Ecological Society of America. Curricula are designed so that upon completion, ecology students may become a Certified Ecologist in Training from the Ecological Society of America.

Course Delivery Format
Program coursework is delivered on-campus, in lecture, discussion, and laboratory settings, and off-campus in numerous field-based settings.
Requirements for Ecology and Environmental Science Major: 120
Bachelor of Science in Biological Sciences

System General Education Requirements*: 33-35
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 and MATH 120 OR MATH 115 OR MATH 121-121L OR MATH 123-123L Credits: 4-6
- Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: NRM109-109L Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PS 213-213L Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 and MATH 120 OR MATH 115 OR MATH 121-121L OR MATH 123-123L Credits: 4-6

Major Requirements: 50
- BIOL 371 - Genetics (COM) Credits: 3
- MICR 231-231L - General Microbiology and Lab (COM) Credits: 4
- NRM 311 - Principles of Ecology (COM) Credits: 3
- NRM 311L - Principles of Ecology Lab (COM) Credits: 1
- CHEM 112-112L - General Chemistry I and Lab (COM) Credits: 4
- CHEM 114-114L - General Chemistry II and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 4
- PHYS 111-111L - Introduction to Physics I and Lab (COM) Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab (COM) Credits: 4
- STAT 281 - Introduction to Statistics (COM) Credits: 3
- EES 425-425L/525-525L - Disturbance Ecology and Lab Credits: 4
- PS 243 - Principles of Geology Credits: 3
- or BIOL 373 - Evolution (COM) Credits: 3
- or EES 275 - Introduction to Environmental Science (G) Credits: 3
- or NRM 464-564 - Ecosystem Ecology Credits: 3
- GEOG 472 - Introduction to GIS Credits: 3 or BOT 419-419L Plant Ecology and Lab Credits: 3

Emphasis Credits: 14-25
Consult an advisor to select courses for either the ecology or environmental science emphasis.
- Ecology Emphasis Credits: 14-19
  - Systematics/Survey Electives Credits: 5-7 Complete at least one BOT and WL course.
  - BOT 301-301L - Plant Systematics (COM) Credits: 4
  - BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
  - BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
  - WL 355-355L - Mammalogy and Lab (COM) Credits: 3
  - WL 361 - Survey of Amphibians & Reptiles Credits: 2
  - WL 363-363L - Ornithology and Lab (COM) Credits: 4
  - WL 367-367L - Ichtyology and Lab Credits: 3
  - Additional Ecology Emphasis Elective Credits: 9-12
    Choose at least three courses from the following list.
    - BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
    - BIOL 325-325L - Physiology & Lab (COM) Credits: 4
- Environmental Science Emphasis Credits: 25
  - BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
  - BOT 327-327L - Plant Physiology and Lab (COM) Credits: 4
  - MICR 310-310L - Environmental Microbiology and Lab Credits: 4
  - MICR 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
  - NRM 440-440L - Restoration Ecology and Lab Credits: 4
  - NRM 457-557 - Ecological Modeling Credits: 3
  - NRM 466-566 - Environmental Toxicology and Contaminants Credits: 3
  - RANG 425-425L/525-525L - Rangeland Assessment and Monitoring Lab Credits: 3
  - WL 302 - Animal Behavior (COM) Credits: 3
  - WL 427-427L/527-527L - Limnology of Lakes & Streams and Lab Credits: 4

Electives: 4-18
Economics Major

Program Coordinator/Contact
Eluned Jones, Department Head
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
E-mail: jason.zimmerman@sdstate.edu
www.sdstate.edu/econ

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, business, or for future graduate study. The major allows students to customize their program of study by choosing electives in economics, business, accounting, agricultural economics, or entrepreneurship. This program also provides strong preparation for students pursuing a graduate degree in economics or a related field.

Program Admission
To be admitted, students must have completed at least 64 semester credits toward graduation, earned a cumulative grade point average of at least 2.1 for all courses taken, and attained at least a 2.1 grade point average for the following courses: ECON 201, ECON 202, ACCT 210, ENGL 101, and MATH 121 (or MATH 123). Students remain enrolled in Pre-Economics in the appropriate college until the requirements are met.

Student Learning Outcomes
Economics students will:
• Demonstrate the ability to apply concepts of economics and management that underlie the global economy and commerce;
• Demonstrate the ability to apply quantitative and qualitative analytical methods from economics and management to decision-making;
• Interpret and articulate analysis and decisions orally and in writing;
• Make and support ethical decisions.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Economics Major: 120 Credits
Bachelor of Arts or Bachelor of Science

System General Education Requirements*: 31-32
• Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity: ECON 201 and Non ECON course Credits: 6
• Goal #4 Humanities and Arts/Diversity Credits: 6
• Goal #5 Mathematics: MATH 123 Credits: 4-5
• Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Requirements: 17-34
Bachelor of Arts
• Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
• Social Sciences Credits: 8
  • ECON 202 - Principles of Macroeconomics *(COM) (G) Credits: 3
• Humanities Credits: 6
• Social Sciences Credits: 12
  • ECON 202 - Principles of Macroeconomics *(COM) (G) Credits: 3
• Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 39
• ACCT 210 - Principles of Accounting I (COM) Credits: 3
• ACCT 211 - Principles of Accounting II (COM) Credits: 3
• ECON 301 - Intermediate Microeconomics (COM) Credits: 3
• ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
• ECON 330 - Money and Banking (COM) Credits: 3
• ECON 423 - Introduction to Econometrics (COM) Credits: 3
• ECON 428 - Mathematical Economics Credits: 3
• STAT 281 - Introduction to Statistics *(COM) Credits: 3
• ENGL 379 - Technical Communication (COM) (AW) Credits: 3
• Electives in AGEC or ECON (except ECON 101) Credits: 6
• Choose Two Courses from the Following: 6
  • ECON 403 - History of Economic Thought (COM) Credits: 3
  • ECON 405 - Comparative Economic Systems (COM) Credits: 3
  • ECON 433 - Public Finance (COM) Credits: 3
  • ECON 440 - Economics of International Sector Credits: 3
  • ECON 450 - Industrial Organization (COM) Credits: 3
  • ECON 453 - Risk Management-Personal and Business Credits: 3
  • ECON 460 - Economic Development ** (G) Credits: 3
  • ECON 472 - Resource and Environmental Economics (COM) Credits: 3
  • ECON 482 - Labor Economics (COM) Credits: 3

General Electives: 27-39

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Program Coordinator/Contact
Eluned Jones, Department Head
Jason Zimmerman, Assistant Department Head
Department of Economics
Scoey Hall 142
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Program Information
The major in Economics with a Business Economics Specialization 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, finance, marketing, and entrepreneurship. Career opportunities for Business Economics majors include management, finance, banking, sales, real estate, and marketing. The Business Economics specialization also serves to prepare students for graduate work in law, economics, and business.

Program Admission
To be admitted, students must have completed at least 64 semester credits toward graduation, earned a cumulative grade point average of at least 2.1 for all courses taken, and attained at least a 2.1 grade point average for the following courses: ECON 201, ECON 202, ACCT 210, ENGL 101, and MATH 121 (or MATH 123). Students remain enrolled in Pre-Economics in the appropriate college until the requirements are met.

Student Learning Outcomes
Business Economics students will:
• Demonstrate the ability to apply concepts of economics and management that underlie the global economy and commerce;
• Demonstrate the ability to apply quantitative and qualitative analytical methods from economics and management to decision-making;
• Interpret and articulate analysis and decisions orally and in writing;
• Make and support ethical decisions.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Economics Major - Business Specialization: 120 Credits
Bachelor of Arts or Bachelor of Science

System General Education Requirements*: 31-32
• Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity: Credits: 6
• Goal #4 Humanities and Arts/Diversity: Credits: 6
• Goal #5 Mathematics: MATH 121 or MATH 123 Credits: 4-5
• Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34
Bachelor of Arts
• Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
• Social Sciences Credits: 8
• Humanities Credits: 6
• Bachelor of Science
• Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
• Social Sciences Credits: 12
• Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 51
• ACCT 210 - Principles of Accounting I (COM) Credits: 3
• ACCT 211 - Principles of Accounting II (COM) Credits: 3
• ECON 201 - Principles of Microeconomics ** (COM) Credits: 3
• ECON 202 - Principles of Macroeconomics (COM) (G) Credits: 3
• ECON 301 - Intermediate Microeconomics (COM) Credits: 3
• ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
• BADM 310 - Business Finance (COM) Credits: 3
• BADM 350 - Legal Environment of Business (COM) Credits: 3
• BADM 360 - Organization and Management (COM) Credits: 3
• BADM 370 - Marketing (COM) Credits: 3
• BADM 460 - Human Resource Management (COM) Credits: 3
• BADM 482 - Business Policy and Strategy (COM) Credits: 3
• ENGL 379 - Technical Communication (COM) (AW) Credits: 3
• STAT 281 - Introduction to Statistics * (COM) Credits: 3
• CSC 325 - Management Information Systems (COM) Credits: 3
• One additional upper division course with the prefix ECON (excluding ECON 494) Credits: 3
• Electives in upper division courses with the prefixes ACCT, AGEC, BADM, ECON, ENTR, or MGMT Credits: 9

General Electives: 8-21
Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.
English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Electrical Engineering Major
Program Coordinator/Contact
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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. Following this are two intensive years of study in circuit and machine theory, electronics, signal and system theory, electronic material and devices, digital and microprocessor systems. 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. The projects are often in collaboration with SDSU researchers or industry and provide students valuable "real world" team design experience.

Student Learning Outcomes
All graduates will have an ability to:
a. apply knowledge of science, engineering, and mathematics through
differential equations, complex variables, linear algebra, and discrete mathematics;

b. design and conduct experiments, as well as to analyze and interpret data;

c. design a system, component, or process to meet desired needs;

d. function on multi-disciplinary teams;

e. identify, formulate, and solve engineering problems;

f. understand professional and ethical responsibility;

g. communicate effectively;

h. understand the impact of electrical engineering solutions in a global and societal context;

i. recognize the need for, and the ability to engage in, life-long learning;

j. be knowledgeable of contemporary issues;

k. use the techniques, skill, and modern engineering tools necessary for engineering practice.

Academic Requirements

Students will be admitted into junior level EE courses only after they have completed EE 220, 220L, 222, 222L, 245 and 245L with minimum grades of "C." Students will not be permitted to enroll in subsequent courses for which EE 220, EE 222, or EE 245 is a prerequisite until the above requirement has been met. Students must also pass all junior electrical engineering courses (with the exception of EE 385) prior to taking EE 464 (Senior Design 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.

Accreditation, Certification, and Licensure

The undergraduate Electrical Engineering (EE) major is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Upon successful completion of the Electrical Engineering curriculum, a student is required to take the Fundamentals of Engineering (FE) exam. After 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' hands-on practical experience. The smart classrooms allow for a variety of methods for student engagement and faculty are able to record and post their lectures on-line.

Requirements for Electrical Engineering Major: 130 Credits

Bachelor of Science

System General Education Requirements*: 33

- Goal #1 Written Communication: ENGL 101, and ENGL 277 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 123 Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L, and PHYS 211-211L Credits: 8

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: GE 109-109L** Credits: 2
- Goal #2 Culture Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 27

- MATH 125 - Calculus II * (COM) Credits: 4
- MATH 225 - Calculus III * (COM) Credits: 4
- MATH 331 - Advanced Engineering Mathematics Credits: 3
- MATH 321 - Differential Equations (COM) Credits: 3
- PHYS 213-213L - University Physics II & Lab * (COM) Credits: 4
- ME 314 - Thermodynamics Credits: 3
- CSC 150 - Computer Science I (COM) Credits: 3
- CSC 317 - Computer Organization and Architecture (COM) Credits: 3

Major Requirements: 53

- EE 102 - Introduction to Electrical Engineering II Credits: 1
- EE 220-220L - Circuits I and Lab (COM) Credits: 4
- EE 222-222L - Circuits and Machines and Lab Credits: 4
- EE 224L - EE Software Tools Lab Credits: 1
- EE 245-245L - Digital Systems and Lab Credits: 4
- EE 260 - Electronic Materials Credits: 3
- EE 310 - Probabilistic Methods in Electrical Eng. Credits: 3
- EE 316 - Signals and Systems I (COM) Credits: 3
- EE 320-320L - Electronics I (COM) Credits: 4
- EE 347-347L - Microcontroller Systems Design and Lab Credits: 3
- EE 360 - Electronic Devices Credits: 3
- EE 315 - Linear Control Systems Credits: 3
- EE 317 - Signals and Systems II Credits: 3
- EE 321-321L - Electronics II and Lab Credits: 4
- EE 385 - Electromagnetics Credits: 4
- EE 422 - Engineering Economics and Management Credits: 2
- EE 464 - Senior Design I (COM) Credits: 2
- EE 465 - Senior Design II (COM) (AW) Credits: 2

Technical Electives: 12

The 12 required technical electives must be from Electrical Engineering courses at the 400 level. These may be selected from specialization areas: Biomedical, Communications, Computers, Electronic Devices, Image Processing, or Power Systems. All EE majors are strongly advised to select technical electives in a coherent manner to meet desired professional/employment goals.

Some suggested areas of emphasis are listed below, which also identify courses outside of EE (courses outside of EE do not apply toward the required technical elective credits). Thus, students are not required to take all courses in an emphasis area. Following are some suggested areas and supporting courses.

Biomedical Engineering Emphasis

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- EE 420-420L - Electronics III and Lab Credits: 4
- EE 454-554 - Biomedical Instrumentation and Electrical Safety Credits: 3

Communications and Advanced Electronics Emphasis

- CSC 474-574 - Computer Networks Credits: 3
- EE 420-420L - Electronics III and Lab Credits: 4
- EE 470 - Communications Engineering Credits: 3
- EE 471-471L/571-571L - Fiber Optic Communications and Lab Credits: 4
- PHYS 361 - Optics (COM) Credits: 3

Computers-Digital Hardware Emphasis

- CSC 474-574 - Computer Networks Credits: 3
- EE 420-420L - Electronics III and Lab Credits: 4
- EE 492-592 - Topics Credits: 1-3
- MATH 471-571 - Numerical Analysis I (COM) Credits: 3

Electronic Devices and Materials Emphasis

- EE 460-460L/560-560L - Sensor and Measurements Laboratory Credits: 2, 1
- EE 492-592 - Topics Credits: 1-3
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- PHYS 361 - Optics (COM) Credits: 3
- PHYS 439-539 - Solid State Physics (COM) Credits: 4
- PHYS 471-571 - Quantum Mechanics (COM) Credits: 4

Image Processing Emphasis

- EE 470 - Communications Engineering Credits: 3
Electronics Technology Major

Program Coordinator/Contact
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Program Information
The Electronics 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 technical and managerial skills to be successful in a variety of career choices. Electronics technology courses include circuits, analog and digital systems (intro and advanced), networking, industrial controls and PLCs, PCB design, power systems, and communication systems. The program also includes project management, quality systems management, statistics, and industrial safety.

Program Educational Outcomes
ET graduates will become professionals who:
1. apply principles of mathematics and science, modern management techniques, and technology to the solution of current and future problems in the field of electronics technology.
2. achieve positions of increasing responsibility or leadership with employers, professional organizations, or civic organizations in recognition of professional competence and the ability to function in team environments, and
3. apply licensure, certification, short courses, workshops, or advanced degrees in technical, professional, or management subject areas as they adapt to contemporary operations management practice and the global business environment.

Student Learning Outcomes
ET graduates have:
a. an ability to select and apply the knowledge, techniques, skills, and modern tools of their disciplines to broadly-defined engineering technology activities.
b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.
c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.
d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives, specifically the ability to analyze, design, and implement industrial control systems.
e. an ability to function effectively as a member or leader on a technical team.
f. an ability to identify, analyze, and solve broadly-defined engineering technology problems.
g. an ability to communicate effectively, and effectively use information from a variety of sources, regarding broadly-defined engineering technology activities.
h. an understanding of the need for and an ability to engage in self-directed continuing professional development.
i. an understanding of and a commitment to address professional and ethical responsibilities, including a respect for diversity.
j. a knowledge of the impact of engineering technology solutions in a societal and global context.
k. a commitment to quality, timeliness, and continuous improvement.
l. the knowledge to manage change and improve productivity.
m. the ability to apply project management techniques.
n. the ability to use appropriate engineering tools in the building, testing, operation, and maintenance of electronic systems.

Course Delivery Format
The program provides coursework on campus, in classroom, laboratory, and in field-based settings.

Requirements for Electronics Technology Major: 120 Credits
Bachelor of Science in Electronics Technology

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101 and ENGL 277 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 and Goal # 3 Elective Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: PHYS 111-111L and CHEM 106-106L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: GE 109-109L** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility:: GE 231 - Technology, Society, and Ethics ** (G) Credits: 3

Major Requirements: 35
- ET 210-210L - Introduction to Electronic Systems Credits: 4
- ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
- ET 240 - Techniques of Servicing Credits: 2
- ET 320-320L - Analog Electronics and Lab Credits: 3
- ET 325-325L - Advanced Analog Electronics and Lab Credits: 3
- ET 330-330L - Microcontrollers and Networks and Lab Credits: 3
- ET 352-352L - Advanced Digital Electronics and Lab Credits: 3
- ET 345-345L - Power Systems and Lab Credits: 3
- ET 380-380L - Circuit Boards and Design and Lab Credits: 3
- ET 426-426L - Communication Systems and Lab Credits: 4
- ET 451-451L - Industrial Controls and PLCs and Lab Credits: 3
- ET 471-471L - Capstone Experience and Lab (AW) Credits: 2
Supporting Coursework: 48

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drafting Credits: 1
- GE 425 - Occupational Safety and Health Management Credits: 3
- MATH 121-121L - Survey of Calculus and Lab* (COM) Credits: 5
- MGMT 310 - Business Finance (COM) Credits: 3
- MGMT 325 - Management Information Systems (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MGMT 460 - Human Resource Management (COM) Credits: 3
- MNET 367-367L - Production Strategy and Lab Credits: 3
- OM 462 - Quality Management Credits: 3
- OM 469 - Project Management Credits: 2
- OM 494 - Internship Credits: 2
- STAT 281 - Introduction to Statistics * (COM) Credits: 3
- Technical Electives Credits: 7

Total Required Credits: 120

Management Minor

The ET program has adopted the SDSU Management Core course sequence. Student may choose additional courses needed to fulfill the requirements for the Management Minor offered through the Economics Department.

Internship Program

Students are required to complete an internship prior to graduation via the course OM 494. A formal work plan must be approved by the Program Coordinator and Faculty Advisor prior to registering for internship credits. Further information can be found in the department.

Curriculum Notes

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.

** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

English Major

Program Coordinator/Contact

Jason McEntee, Department Head

Department of English

Pugsley Hall 301, Box 2218

605-688-5191

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Program Information

The English major prepares students for teaching careers; for writing and editorial work; for professional schools of law, business, theology, library science, and social work; and for any endeavor in which facility in the use of language is essential.

Academic Requirements

To count toward the Major, courses must be passed with a minimum grade of "C." Students who take ENGL 222 - one of the three required 300-400 level courses on British or American literature or the Capstone course must be on American literature since 1860. Students who take ENGL 242 - one of the required courses must be on British literature since 1660. Topics courses may only fulfill the specific requirements when approved by the department. All sections of English 210 count as a major elective.

Course Delivery Format

The department offers coursework on campus, online, and at attendance centers around the state.

Requirements for English Major: 120 Credits

Bachelor of Arts in Arts and Sciences

System General Education Requirements*: 30

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity (Select from ENGL and HIST) Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28

Bachelor of Arts

- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8 (Select HIST complimentary to SGR #4 choice)
- Humanities Credits: 6

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 39

- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 221 - British Literature I * ** (COM) (G) Credits: 3
- ENGL 241 - American Literature I ** (COM) Credits: 3
- ENGL 222 - British Literature II ** (COM) (G) Credits: 3
- ENGL 242 - American Literature II * ** (COM) Credits: 3
- 300-400 Level English or American Literature Courses: Credits: 9
- English or Linguistics Electives: 6
- ENGL 479 - Capstone Course and Writing in the Discipline (AW)

One Writing Course Credits: 3

- ENGL 397 - Technical Communication (COM) (AW) Credits: 3
- ENGL 383 - Creative Writing Credits: 3
- ENGL 483-583 - Advanced Creative Writing (COM) Credits: 3
- ENGL 492-592 - Topics (on Professional or Creative Writing) Credits: 3

One Linguistics Course Credits: 3

- LING 203 - English Grammar Credits: 3
- LING 420-520 - The New English Credits: 3
- LING 425 - Modern Grammar (COM) Credits: 3
- LING 443-543 - Development of the English Language Credits: 3
- LING 452-552 - General Semantics Credits: 3

One Multicultural/Minority Topics Course Credits: 3

- ENGL 211 - World Literature I * ** (COM) Credits: 3
- ENGL 242 - World Literature II * ** (COM) (G) Credits: 3
- ENGL 248 - Women in Literature * ** (COM) Credits: 3
- ENGL 249 - Literature of Diverse Cultures * ** (G) Credits: 3
- ENGL 268 - Literature * (COM) (if multicultural topic)** Credits: 3
- ENGL 410 - Mythology and Literature (COM) Credits: 3
- ENGL 445 - American Indian Literature (COM) Credits: 3
- ENGL 447 - American Indian Literature of the Present Credits: 3
- ENGL 492-592 - Topics (if multicultural topic)** Credits: 3

Supporting Coursework: 6

- HIST 111 - World Civilizations I * ** (COM) Credits: 3
- HIST 112 - World Civilizations II ** (COM) (G) Credits: 3
- HIST 121 - Western Civilization I * ** (COM) Credits: 3
- HIST 122 - Western Civilization II ** (COM) (G) Credits: 3

Academic Programs 147
Bachelor of Arts in Arts and Sciences

Junior Year.

Requirements for English Major - English Education Specialization: 120

The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.

1. When approved by the department.
2. Students must have senior standing and have completed English 151 in order to enroll in 479.

Accreditation

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.

Program Information

Advanced Writing Requirement.

Academic Requirements

To count toward the Major, courses must be passed with a minimum grade of "C." Students who take ENGL 222 - one of the three required 300-400 level courses on British or American literature or the Capstone course must be on American literature since 1860. Students who take ENGL 242 - one of the required courses must be on British literature since 1660. Topics courses may only fulfill the specific requirements when approved by the department. All sections of English 210 count as a major elective.

Accreditation, Certification, and Licensure

National Council for Accreditation of Teacher Education Programs (NCATE)

Certification and Licensure

With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format

The department offers coursework on campus, online, and at attendance centers around the state.

Requirements for English Major - English Education Specialization: 120

1. The department strongly recommends that students take 151 prior to their junior year.

English Major - English Education Specialization

Program Coordinator/Contact

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Department of English
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Course Delivery Format

The department offers coursework on campus, online, and at attendance centers around the state.

Requirements for English Major - English Education Specialization: 120

System General Education Requirement*: 30

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity SOC 100 and/or PSYC 101 Credits: 6
- Goal #4 Humanities and Arts/Diversity (Select from ENGL and

HIST) Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirement**: 5

- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28

Bachelor of Arts

- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8 (Select HIST complimentary to SGR #4 choice)
- Humanities Credits: 6
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 36

- ENGL 151 - Introduction to English Studies Credits: 3
- LING 203 - English Grammar Credits: 3
- ENGL 221 - British Literature I * ** (COM) (G) Credits: 3
- ENGL 240 - Juvenile Literature * ** Credit: 3
- ENGL 241 - American Literature I * ** (COM) Credits: 3
- ENGL 222 - British Literature II * ** (COM) (G) Credits: 3 or ENGL 242 - American Literature II * ** (COM) Credits: 3
- ENGL 339 - Shakespeare (COM) Credits: 3
- ENGL 424 - 7-12 Language Arts Methods (AW) Credits: 3
- ENGL 445 - American Indian Literature (COM) Credits: 3 or ENGL 447 - American Indian Literature of the Present Credits: 3
- ENGL 479 - Capstone Course and Writing in the Discipline (AW) Credits: 3
- English or Linguistics Electives: 6

Supporting Coursework: 6

- HIST 111 - World Civilizations I * ** (COM) Credits: 3 and HIST 112 - World Civilizations II * ** (COM) (G) Credits: 3
- or HIST 121 - Western Civilization I * ** (COM) Credits: 3 and HIST 122 - Western Civilization II * ** (COM) (G)

General Electives: 12

- EDFN 489 - Professional Issues in Education Suggested

Teaching Specialization Requirements

Professional Semester I

- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II

- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III

- Special Methods (varies by content area) Credits: 1-4
- Native American Course Approved for Teacher Education Credits: 3
  - AIS/HIST 368 - History and Culture of the American Indian** Credits: 3 or AIS/ANTH 421 - Indians of North America** Credits: 3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

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Professional Semester III
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
- SEED 410 - Social Foundations, Management and Law Credits: 2
- EDER 415 - Educational Assessment Credits: 2
- ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8

*Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits, enrolling in both SEED 488 and ELED 488

Additional Requirements
- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Total Required Credits: 120

Curriculum Notes
- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
- South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
- (G) Globalization Requirement.
- (AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**English Major - Writing Specialization**

Program Coordinator/Contact
Jason McEntee, Department Head
Department of English
Pugsley Hall 301, Box 2218
605-688-5191
E-mail: jason.mcentee@sdstate.edu

Program Information
Students with an English Major - Writing specialization 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.

Academic Requirements
To count toward the Major, courses must be passed with a minimum grade of "C." Students who take ENGL 222 - one of the three required 300-400 level courses on British or American literature or the Capstone course must be on American literature since 1860. Students who take ENGL 242 - one of the required courses must be on British literature since 1660. Topics courses may only fulfill the specific requirements when approved by the department. All sections of English 210 count as a major elective.

Course Delivery Format
The department offers coursework on campus, online, and at attendance centers around the state.

Requirements for English Major - Writing Specialization: 120 Credits

Bachelor of Arts in Arts and Sciences

System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 or 283 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity (Select from ENGL and HIST) Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28

Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8 (Select HIST complimentary to SGR #4 choice)
- Humanities Credits: 6
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 39
- ENGL 151 - Introduction to English Studies Credits: 3
- ENGL 479 - Capstone Course and Writing in the Discipline (AW) Credits: 3

One Course in English Literature
- ENGL 221 - British Literature I ** (COM) (G) Credits: 3
- ENGL 222 - British Literature II ** (COM) (G) Credits: 3
- ENGL 330 - Shakespeare (COM) Credits: 3
- ENGL 334 - English Drama: Credits: 3
- ENGL 335 - English Novel: Credits: 3
- ENGL 422-522 - Age of Chaucer Credits: 3
- ENGL 423-523 - Old and Middle English Literature Credits: 3
- ENGL 427-527 - Advanced Shakespeare Credits: 3
- ENGL 428-528 - English Renaissance/16th Century Literature (COM) Credits: 3
- ENGL 434-534 - 18th Century English Literature (COM) Credits: 3
- ENGL 437-537 - English Romantic Literature (COM) Credits: 3
- ENGL 448-548 - English Victorian Literature (COM) Credits: 3
- ENGL 439-539 - Modern English Literature (COM) Credits: 3
- ENGL 440-540 - Contemporary English Literature Credits: 3
- ENGL 492-592 - Topics Credits: 1-5

One course in American Literature
- ENGL 241 - American Literature I ** (COM) Credits: 3
- ENGL 242 - American Literature II ** (COM) Credits: 3
- ENGL 256 - Literature of the American West ** (COM) Credits: 3
- ENGL 356 - American Poetry: Credits: 3
- ENGL 367 - American Short Story: Credits: 3
- ENGL 368 - American Novel: Credits: 3
- ENGL 453-553 - American Renaissance (COM) Credits: 3
- ENGL 454-554 - American Realism and Naturalism (COM) Credits: 3
- ENGL 459-559 - American Literature Between the Wars Credits: 3
- ENGL 460-560 - Contemporary American Literature Credits: 3
- ENGL 492-592 - Topics Credits: 1-5

One course in Multi-Cultural/Women’s Literature
- ENGL 211 - World Literature I ** (COM) Credits: 3
- ENGL 212 - World Literature II ** (COM) (G) Credits: 3
- ENGL 248 - Women in Literature * ** (COM) Credits: 3
- ENGL 249 - Literature of Diverse Cultures ** (G) Credits: 3
- ENGL 445 - American Indian Literature (COM) Credits: 3
- ENGL 447 - American Indian Literature of the Present Credits: 3

Five courses in Writing or Rhetoric
- ENGL 283 - Creative Writing I ** (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3
- ENGL 383 - Creative Writing Credits: 3
- ENGL 483-583 - Advanced Creative Writing (COM) Credits: 3
- ENGL 492-592 - Topics Credits: 1-5

Academic Programs 149
Entrepreneurial Studies Major

Entrepreneurial Studies graduates will be able to demonstrate:
- Demonstrate the ability to apply concepts of economics and management that underlie the global economy and commerce;
- Demonstrate the ability to apply quantitative and qualitative analytical methods from economics and management to decision-making;
- Interpret and articulate analysis and decisions orally and in writing;
- Make and support ethical decisions.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Entrepreneurial Studies Major: 120 Credits
Bachelor of Science in Arts and Sciences

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements** Credits: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  - With 6 credits of Biological Sciences
  - With 8 credits of Physical Sciences
- STAT 281 - Intro to Statistics: Credits 3
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirement Credits: 58
- ECON 201 - Principles of Microeconomics ** (COM) Credits: 3
- ECON 202 - Principles of Macroeconomics ** (COM) (G) Credits: 3
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ENTR 236 - Innovation & Creativity Credits: 3
- ENTR 237 - ENTR II: Entrepreneurship Development Credits: 3
- BADM 310 - Business Finance (COM) Credits: 3
- ENTR 338 - ENTR III: New Venture Creation Credits: 3
- BADM 334 - Small Business Management (COM) Credits: 3
- BADM 350 - Legal Environment of Business (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BADM 370 - Marketing (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3
- ENTR 410 - Financing Innovative Ideas Credits: 3
- BADM 457 - Business Ethics Credits: 3
- BADM 460 - Human Resource Management (COM) Credits: 3
- CSC 325 - Management Information Systems (COM) Credits: 3
- BADM 476-576 - Marketing Research (COM) Credits: 3
- ENTR-483 - Small Business Consulting (COM) Credits: 3 or
- ENTR 494 - Internship Credits: 3
- ENTR 488 - Entrepreneurial Studies Capstone Credits: 1

Elective Credits: 13
Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs), (G) Globalization Requirement.
Exercise Science Major

Program Coordinator/Contact
Jessica Meendering, Coordinator
Department of Health and Nutritional Sciences
605-688-5949
E-mail: Jessica.Meendering@sdstate.edu

Program Information
The South Dakota State University Exercise Science Program aspires to prepare health and fitness professionals with a strong understanding of the scientific concepts behind the application that is practiced in a variety of health and fitness careers. The mission of the Exercise Science program at South Dakota State University is to prepare competent entry-level Exercise Science professionals in the cognitive (knowledge), psychomotor (skills), and affective (abilities) learning domains that will assist others in adopting and championing healthy, active lifestyles.

The Exercise Science graduate will have the ability to raise awareness about health and physical activity, change behavior, and create environments that support good health practices, including, but not limited to exercise and physical activity. The exercise science professional assists people to develop self-responsibility for their own health and wellness, and implement health assessments and wellness programs that promote a healthy lifestyle. Exercise Science professionals work and study in commercial, clinical, and workplace settings to increase health, fitness, and quality of life for the general population. The exercise science professional is also able to apply their knowledge of acute and chronic exercise physiology to promote better health, reduce chronic disease, or to enhance the performance of athletes.

Student Learning Outcomes
The goal of the Exercise Science program is to provide quality academic instruction and learning experiences in order to prepare:

- Students to procure entry-level employment in the health/fitness/wellness field, or continue formal education in schools offering advanced degrees in health related graduate programs
- Students to obtain the ACSM Health Fitness Specialist certification
- Produce qualified employees to the health and fitness profession
- Provide academic satisfaction to student graduates
- Provide an academic curriculum that engages students with hands on experiences and individual support to foster student retention

Upon completion of the exercise science major, students will:

- Implement personal fitness assessments
- Prescribe exercise and healthy lifestyle habits
- Create comprehensive wellness programs for diverse population needs
- Demonstrate effective communication/interpersonal skills

Program Application
Students interested in exercise science should complete coursework to meet system and institutional general education requirements, as well as BIOL 221 and BIO 225 during their freshman and sophomore years. Students who declare Exercise Science will be assigned an adviser who works closely with the Exercise Science Program. Application for admission into the Exercise Science major can begin during or after a student's sophomore year (approximately 32 credit hours). Students must complete BIOL 221 Human Anatomy and BIOL 325 Physiology by the final semester of the application year.

Students will complete an application to the Exercise Science program that consists of submission of the following components: application form, letter of reference form, self-evaluation questions and an academic transcript. A portion of the applicants will be called in for a formal face to face interview. Approximately 25-30 students are accepted into the program each year. However, please note that there are generally more students applying than can be accepted, so the process is competitive. Therefore, completion of basic requirements does not guarantee entrance into the Exercise Science program. The minimum selection criteria are as follows: student should display an interest and desire to pursue a career in an exercise science related field; successful completion (C or better) of BIOL 221 Anatomy and BIOL 325 Human Physiology; cumulative GPA of 2.75 or better; and the verification of technical standards. Students will be notified as to their admission status in early March.

Academic Requirements
A minimum final grade of "C" is required in all Major Requirements courses. Students must maintain a cumulative GPA of 2.75 or higher to progress/graduate from the program.

Accreditation, Certification, and Licensure
The program is accredited by the Commission on Accreditation of Allied Health Education Programs upon recommendation of the Committee on Accreditation for the Exercise Sciences.

All Exercise Science students have the opportunity to sit for the Health and Fitness Specialist Certification through the American College of Sports Medicine during their final year in the program.

Course Delivery Format
Course instruction occurs through face to face and online course instruction that includes lectures, discussions, laboratories, internship and field experiences, and service learning.

Requirements for Exercise Science Major: 120 Credits

Bachelor of Science

System General Education Requirements*: 32-33

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 and PSYC 101 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L and CHEM 108-108L Credits: 8-9

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: EHS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: NFS 111 Credits: 3

College Requirements: 2

- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 56-59

- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHRD 475 - Wellness Counseling Credits: 2
- or PSYC 417 - Health Psychology ** (COM) Credits: 3
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
- or HLTH 364-364L - Emergency Medical Technician and Lab (COM) Credits: 4
- HLTH 445 - Epidemiology Credits: 3
- HLTH 200 - Complementary and Alternative Health Care/HSC 200 - Complementary and Alternative Health Care Credits: 3
- or HLTH 230 - Stress Management for Life/HSC 230 - Stress Management for Life Credits: 3
- HLTH 479-479L - Health Promotion Programming and Evaluation and Lab Credits: 2
- HNS 380 - Professional Development Credits: 1
- HNS 480 - Certification Exam Preparation Credits: 1
- HNS 490 - Seminar Credits: 1
- HNS 494 - Internship Credits: 1
- HNS 496 - Field Experience Credits: 2
- NFS 315 - Human Nutrition Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- NURS 323 - Introduction to Pathophysiology Credits: 3
- PE 350 - Exercise Physiology (COM) Credits: 3

Academic Programs 151
Bachelor of Science in Education and Human Sciences

Accreditation

Requirements for Family and Consumer Sciences Education Major: 120

- The PRAXIS 1 content test, as well as the PRAXIS Principles of Teaching test. The minimum score for the Praxis must be obtained prior to taking this exam.

Accreditation, Certification, and Licensure

Family and Consumer Sciences Education Major

Program Coordinator/Contact
Deb Debates, Professor
Department of Teaching, Learning, and Leadership
Wenona Hall 108
605-688-5039
E-mail: deb.debates@sdstate.edu
www.sdstate.edu/tll

Program Information

As a family and consumer sciences educator, the FCSE 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, 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, Certification, and Licensure

Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure

With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format

Coursework in the FCSE program is delivered using lectures, discussions, group work, and applied learning in field experiences, practicums, and internships.

Requirements for Family and Consumer Sciences Education Major: 120

Bachelor of Science in Education and Human Sciences

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201
  Credits: 6
- Goal #2 Oral Communication: SPCM 101
  Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101* and HDFS 210*
  Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Science: (Biology or Chemistry recommended) Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: EHS 109** Credits: 3
- Cultural Awareness and Social and Environmental Responsibility: (Suggested AIS/ANTH 421** or AIS/HIST 368**) Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 82
- CA 442 - Family Resource Management Lab Credits: 3
- HDFS 425-525 - Family Resilience Credits: 3
- Native American Course Approved for Teacher Education (If not completed for IGR #2): Credits: 3
- AM 231-231L - Ready-To-Wear Analysis and Lab Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- CA 345 - Foundations in Financial Management Credits: 3
- ECE 420 - Health, Safety and Nutrition of Young Children

Total Required Credits: 120

Electives: 1-4

Curriculum Notes

Students must receive a grade of "C" or better in all majors courses, SPCM 101, ENGL 101 and MATH 102, and have a cumulative GPA of 2.5 or above
in order to be admitted to the teacher education program.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(AW) Advanced Writing Requirement. (G) Globalization Requirement. Students must take the proficiency examination after completing 48 credits.

English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

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**French Studies Major**

Program Coordinator/Contact
Marie-Pierre Baggett, French Program Coordinator
Department of Modern Languages and Global Studies
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South Dakota State University
605-688-5101
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www.sdstate.edu/mfl

Program Information
The French major at SDSU consists of language, culture, literature and professional courses to prepare students for careers in which they will use French as a language for communication. The major offers flexibility and can easily be added to another major.

Student Learning Outcomes
Upon the completion of the French major, students should be able to:

- Speak, read and write French at the intermediate-high or advanced level
- Demonstrate knowledge and understanding of the cultures and communication cultures of the Francophone world
- Demonstrate knowledge of the French civilizations and its cultural products, such as literature, art, government, etc.

Academic Requirements
There are no application requirements to enroll in the French Studies major. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. Additionally, all the courses for the major must be passed with a grade of "C" or better.

Course Delivery Format
Most courses in the French major are offered face-to-face on campus. Some upper-division courses are offered as part of the French cooperative program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

Requirements for French Studies Major: 120 Credits

Bachelor of Arts

System General Education Requirements*: 30

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar Credits: 2
- Goal #2 Culture Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28

Bachelor of Arts

- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 37

- FREN 102 - Introductory French II *(COM) (G) Credits: 4
- FREN 201 - Intermediate French I **(COM) (G) Credits: 4
- FREN 202 - Intermediate French II ** *(COM) (G) Credits: 4
- FREN 310 - French Language Skills (COM) Credits: 3
- FREN 333 - Topics in Francophone Culture (COM) Credits: 3
- FREN 433 - French Culture and Civilization (AW) Credits: 3
- Literature, Language, and Culture Elective Credits: 16
  9 Credits must be 300-400 Level French Courses

The following is a suggested sequence.

- FREN 211 - Intermediate Oral Practice I Credits: 2
- FREN 212 - Intermediate Oral Practice II Credits: 2
- FREN 353 - Exploring Literature in French (COM) Credits: 3
- FREN 385 - Travel Study Abroad Francophone (COM) Credits: 1-6
- FREN 491 - Independent Study Credits: 1-3
- FREN 492 - Topics Credits: 1-3
- FREN 496 - Field Experience Credits: 1-6
- Select additional credits with prefix FREN

Elective Credits: 47

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(AW) Advanced Writing Requirement. (G) Globalization Requirement. Students must take the proficiency examination after completing 48 credits.

English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

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**French Studies Major - Teaching Specialization**

Program Coordinator/Contact
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605-688-5101
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www.sdstate.edu/mfl

Program Information
The French major at SDSU consists of language, culture, literature and professional courses to prepare students for careers in which they will use French as a language for communication. The major offers flexibility and can easily be added to another major.

Student Learning Outcomes
Upon the completion of the French major, students should be able to:

- Speak, read and write French at the intermediate-high or advanced level
- Demonstrate knowledge and understanding of the cultures and communication cultures of the Francophone world
- Demonstrate knowledge of the French civilizations and its cultural products, such as literature, art, government, etc.

Academic Requirements
There are no application requirements to enroll in the French Studies 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.

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**Academic Programs 153**
Accreditation, Certification, and Licensure

Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
Most courses in the French major are offered face-to-face on campus. Some upper-division courses are offered as part of the French cooperative program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

Requirements for French Major - Teaching Specialization: 120 Credits

Bachelor of Arts

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Culture Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 37
- FREN 102 - Introductory French II * (COM) (G) Credits: 4
- FREN 201 - Intermediate French I ** (COM) (G) Credits: 4
- FREN 202 - Intermediate French II ** (COM) (G) Credits: 4
- FREN 310 - French Language Skills (COM) Credits: 3
- FREN 333 - Topics in Francophone Culture (COM) Credits: 3
- FREN 433 - French Culture and Civilization (AW) Credits: 3
- Literature, Language, and Culture Elective Credits: 16
9 Credits must be 300-400 Level French Courses
The following is a suggested sequence:
- FREN 211 - Intermediate Oral Practice I Credits: 2
- FREN 212 - Intermediate Oral Practice II Credits: 2
- FREN 353 - Exploring Literature in French (COM) Credits: 3
- FREN 385 - Travel Study Abroad Francophone (COM) Credits: 1-6
- FREN 491 - Independent Study Credits: 1-3
- FREN 492 - Topics Credits: 1-3
- FREN 496 - Field Experience Credits: 1-6
- Select additional credits with prefix FREN

Teaching Specialization Requirements

Professional Semester I
- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester II
- Native American Course Appr. for Teacher Education Credits: 3
- AIS/HIST 368 - History and Culture of the American Indian** Credits: 3
- or AIS/ANTH 421 - Indians of North America** Credits: 3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
- SEED 410 - Social Foundations, Management and Law Credits: 2
- EDER 415 - Educational Assessment Credits: 2
- ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8

*Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits, enrolling in both SEED 488 and ELED 488

Additional Requirements
- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Total Required Credits: 120

Curriculum Notes
- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
- South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
- (G) Globalization Requirement.
- (AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
General Studies (Associate of Arts)

Program Coordinator/Contact
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College of Arts and Sciences
Wintrode Student Success Center 102
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www.sdstate.edu/cee/degrees/general-studies

Program Information
The Associate of Arts degree in General Studies provides a foundation of general education courses at the university level supporting bachelor's degree programs, lifelong learning, leadership, service, and careers requiring general education coursework. Students completing this degree will have fulfilled the Board of Regents general education core requirements for a bachelor's degree at any of the Regental universities in South Dakota.

Academic Requirements
Each student enrolled in an Associate of Arts degree program must take the Proficiency Examination after the completion of 32 passed credit hours or prior to graduation. The student must have completed, or be enrolled in courses required to complete the 18 credit hours specified below. Students who do not complete the proficiency exam requirements cannot continue registration at the university.

Course Delivery Format
Students will have the ability to complete the associate of arts in General Studies online, on main campus, or through an attendance center (Capital University Center in Pierre, University Center in Sioux Falls, or University Center in Rapid City).

Requirements for General Studies Major: 60 Credits

System General Education Requirements: 30 Credits
- SGR Goal 1*: ENGL 101 - Composition I* Credits: 3 and ENGL 201 - Composition II* Credits: 3
- SGR Goal 2*: SPCM 101 - Fundamentals of Speech* (COM) Credits: 3
- SGR Goal 3*: Social Sciences/Diversity Credits: 6
- SGR Goal 4*: Humanities and Arts/Diversity Credits: 6
- SGR Goal 5*: Mathematics Credits: 3
- SGR Goal 6*: Natural Sciences Credits: 6

General Electives: 30 Credits

General Studies (Bachelor of)

Program Coordinator/Contact
Carey Kilmer, Assistant Director
Continuing and Extended Education
Briggs Library Room 119
605-688-4959 or 1-866-827-3918 (toll free)
E-mail: Carey.Kilmer@sdstate.edu
www.sdstate.edu/cee/degrees/generalstudies

Program Information
The Bachelor of General Studies program through the College of Arts and Sciences is designed for adult and returning students who have already completed significant college credit 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: allied health; business; education; fine arts; humanities; social science; science, engineering and mathematics; technology; and wellness.

Admission Requirements
For SDSU admission requirements, visit www.sdstate.edu/admissions. Potential students should schedule an appointment to meet with the assistant director to have their transcript evaluated. Once accepted, students will work closely with their advisor to prepare their degree completion plan.

Course Delivery Format
Adult and returning students will have the ability to complete the Bachelor of General Studies online, on-campus, or through an attendance center (Capital University Center, University Center – Sioux Falls, or University Center – Rapid City).

Requirements for General Studies Major: 120 Credits
Bachelor of General Studies

System General Education Requirements*: 30
- SGR #1 Written Communication: ENGL 101 - Composition I* and ENGL 201 - Composition II* Credits: 6
- Goal #2 Oral Communication Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 48
At least 20 credits of the focus area credits must be numbered 300 or above.
- GS 490 - Seminar (AW) Credits: 3
- Completion of 15 credits in at least 3 of the designated General Studies focus areas (45 credits):
  - Allied Health (Courses such as anatomy, athletic training, health sciences)
  - Business (Courses such as business administration, consumer affairs, economics, ag econ, entrepreneurial studies)
  - Education (Courses such as early childhood education, art education, ag education)
  - Fine Arts (Courses such as art, art history, interior design, theater, music)
  - Humanities (Courses such as foreign languages, English, religion, philosophy, mass and speech communication)
  - Social Science (Courses such as anthropology, human development, political science, psychology, sociology)
  - Science, Engineering and Mathematics (Courses such as biology, chemistry, construction management, mathematics)
  - Technology (Courses such as agricultural systems technology, computer science, electrical engineering technology)
  - Wellness (health, physical education and recreation; wellness)

Electives: 37

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Geographic Information Sciences Major

Program Coordinator/Contact
George White, Department Head
Department of Geography
109 Wecota Hall
605-688-4511
E-mail: george.white@sdstate.edu

Program Information
The major in Geographic Information Sciences allows students to gain hands-on experience with computerized Geographic Information System (GIS) that integrate hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. GIS allows researchers to work with data in many ways that reveal relationships, patterns, and trends in the form of maps, globes, reports, and charts. With GIS's capability to enhance geo-spatial data analysis, there is a demand for GIS trained college graduates by many local, state, and federal governmental agencies, including the US Geologic Survey.

Qualified students may also enhance their academic experience and career qualifications with participation in the GISc/CE Center of Excellence Scholars Program. The program is both an academic and a professional curriculum designed to enable SDSU students to achieve educational and research experiences that uniquely qualify them for a career in GISc/Remote Sensing.

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

Course Delivery Format
The Geographic Information Sciences program includes lecture, discussion, laboratory research, fieldwork, and travel, with limited online coursework.

Requirements for Geographic Information Sciences Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 30
• Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity Credits: 6
• Goal #4 Humanities and Arts/Diversity Credits: 6
• Goal #5 Mathematics Credits: 3
• Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
• Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
• Social Sciences Credits: 12
• Humanities Credits: 8
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 41
• GEOG 131-131L - Physical Geography: Weather and Climate and Lab * (COM) Credits: 4
• GEOG 132-132L - Physical Geography: Natural Landscapes and Lab * (COM) Credits: 4
• GEOG 200 - Introduction to Human Geography * ** (COM) (G) Credits: 3
• GEOG 210 - World Regional Geog. * ** (COM) (G) Credits: 3
• GEOG 382 - Quantitative Research Methods in Geog. (AW) Credits: 3

Electives: 41

For those seeking careers in GISc programming, these additional courses are suggested:
• GEOG 384-384L - Advanced Cartography & Lab Credits: 3
• GEOG 485-485L - Quantitative Remote Sensing & Lab Credits: 3
• CSC 105 - Introduction to Computers (COM) Credits: 3
• CSC 150 - Computer Science I (COM) Credits: 3
• CSC 205 - Adv. Computer Applications (COM) Credits: 3
• CSC 474-574 - Computer Networks Credits: 3
• MATH 115 - Precalculus * (COM) Credits: 5
• MATH 215 - Matrix Algebra Credits: 2
• GE 120-120L - Engineering Drawing/CAD & Lab Credits: 3
• GE 121 - Engineering Design Graphics I Credits: 1
• CEE 106-106L - Elementary Surveying and Lab Credits: 4
• CEE 304 - Land Surveying Credits: 3
• CEE 434-534 - Hydrology Credits: 3

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Geography Major

Program Coordinator/Contact
George White, Department Head
Department of Geography
109 Wecota Hall
605-688-4511
E-mail: george.white@sdstate.edu

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.

Academic Requirements
Students must complete a minimum of 18 upper division credits in major courses and earn at least a "C" in each course used to meet the major requirements.

Course Delivery Format
Geography is not only a classroom subject but one that also includes laboratory research, fieldwork, and travel, as well as limited online coursework.

Requirements for Geography Major: 120 Credits

<table>
<thead>
<tr>
<th>Bachelor of Science</th>
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<tbody>
<tr>
<td>System General Education Requirements*: 30</td>
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<tr>
<td>• Goal #1 Written Communication: ENGL 101, and ENGL 201</td>
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<tr>
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College of Arts & Sciences Bachelor of Science Requirements: 34

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Major Requirements: 35

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<tr>
<td>or GEOG 421-521 - Qualitative Research Methods in Geography (AW)</td>
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<td>Credits: 3</td>
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<tr>
<td>• GEOG 383-383L - Cartography and Lab Credits: 3</td>
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<td>or GEOG 472 - Introduction to GIS</td>
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<td>Credits: 3</td>
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<td>or GEOG 483-483L - Air Photo Interpretation and Lab Credits: 3</td>
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<td>• GEOG 447 - Geography of the Future Credits: 3</td>
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<td>• Advanced Physical Geography and Human-Earth Relationships Credits: 3</td>
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<td>• Regional Geography and Advanced Human Geography Credits: 3</td>
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<tr>
<td>• GEOG Elective Credits: 6 (200-level and above, maximum of 3 credits of GEOG 494 - Internship)</td>
</tr>
</tbody>
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Electives: 47

** Environmental Planning and Management Emphasis

| • GEOG 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) |
| Credits: 3 |
| • GEOG 337 - Atmospheric Sciences Credits: 3 |
| • GEOG 339 - Geomorphology Credits: 3 |
| • GEOG 343 - Environmental Disasters and Human Hazards Credits: 3 |
| • GEOG 351 - Economic Geography Credits: 3 |
| • GEOG 365 - Land Use and Planning ** Credits: 3 |
| • GEOG 383-383L - Cartography and Lab Credits: 3 |
| • GEOG 425 - Population Geography Credits: 3 |
| • GEOG 484-484L - Remote Sensing and Lab Credits: 3 |
| • GEOG 473-573 - GIS: Data Creation and Integration Credits: 3 |
| • GEOG 474-574 - GIS: Vector and Raster Modeling Credits: 3 |

Recommended Electives

| • PLAN 471-571 - Principles of State, Regional and Community Planning Credits: 3 |
| • PLAN 472-572 - Techniques of State, Regional and Community Planning Credits: 3 |

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
* South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

German Major

Program Coordinator/Contact
Eckhard Kolz, German Program Coordinator
Department of Modern Languages and Global Studies
SWG 121
605-688-5101
www.sdstate.edu/mfl

Program Information
The German major at SDSU consists of language, culture, literature and professional courses to prepare students for careers in which they will use German as a language for communication. The major offers flexibility and can easily be added to another major.
Student Learning Outcomes
Upon the completion of the German major, students should be able to:
• Speak, read and write German at the intermediate-high or advanced level
• Demonstrate knowledge and understanding of the cultures and communication cultures of the German-speaking world
• Demonstrate knowledge of the German civilizations and its cultural products, such as literature, art, government, etc.

Academic Requirements
There are no application requirements to enroll as a German major. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. Additionally, all the courses for the major must be passed with a grade of "C" or better.

Course Delivery Format
Most courses in the German major are offered face-to-face on campus. Some upper-division courses are offered as part of the German cooperative program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

Requirements for German Major: 120 Credits
Bachelor of Arts in Arts and Sciences

Academic Programs

System General Education Requirements*: 30
• Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity Credits: 6
• Goal #4 Humanities and Arts/Diversity Credits: 6
• Goal #5 Mathematics Credits: 3
• Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar Credits: 2
• Goal #2 Culture Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28
Bachelor of Arts
• Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper-division language course)
• Social Sciences Credits: 8
• Humanities Credits: 6
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 36
Major Core: 14
• GER 101 - Introductory German I (COM) (G) Credits: 4
• GER 102 - Introductory German II (COM) (G) Credits: 4
• GER 201 - Intermediate German I (COM) (G) Credits: 3
• GER 202 - Intermediate German II (COM) (G) Credits: 3

Major Electives: 22
Select at least 18 upper-division credits. The following is a suggested sequence. All majors are strongly encouraged to study abroad in a German-speaking country.
Composition and Conversation: 3
• GER 330 - Reading and Writing for Communication Credits: 3
• GER 310 - Practical German Language Skills Credits: 3
• GER 411 - Advanced Composition and Conversation I (COM) Credits: 3
• GER 412 - Advanced Composition and Conversation II (COM) Credits: 3

Literature Electives: 4
• GER 353 - Introduction to German Literature - Credits
• GER 453 - Survey of German Literature I (COM) Credits: 3

• GER 454 - Survey of German Literature II (COM) Credits: 3
• GER 392 & 492 - Topics (COM) (if literature focused) Credits: 2-3

Culture and Civilization: 3
• GER 433 - German Civilization I (COM) Credits: 3
• GER 434 - German Civilization II (AW) Credits: 3
• GER 380 - Deutschland Heute (COM) Credits: 3
• GER 392 & 492 - Topics (COM) (if culture focused) Credits: 2-3

Additional credits may come from travel or field experiences
• GER 491-591 - Independent Study Credits: 1-3
• GER 296 & 396 - Field Experience Credits: 1-6

Electives: 47
Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

German Major - Teaching Specialization
Program Coordinator/Contact
Eckhard Rolz, German Program Coordinator
Department of Modern Languages and Global Studies
SWG 121
605-688-5101

Program Information
The German major at SDSU consists of language, culture, literature and professional courses to prepare students for careers in which they will use German as a language for communication. The major offers flexibility and can easily be added to another major.

Student Learning Outcomes
Upon the completion of the German major, students should be able to:
• Speak, read and write German at the intermediate-high or advanced level
• Demonstrate knowledge and understanding of the cultures and communication cultures of the German-speaking world
• Demonstrate knowledge of the German civilizations and its cultural products, such as literature, art, government, etc.

Application 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. Refer to the Department, of Teaching, Learning and Leadership for more information the teacher education program and application.

Accreditation, Certification, and Licensure
Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching license, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching license and varies by state.

Course Delivery Format
Most courses in the German major are offered face-to-face on campus. Some upper-division courses are offered as part of the German cooperative program
with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

**Requirements for German Major - Teaching Specialization: 120 Credits**

**Bachelor of Arts**

**System General Education Requirements**: 30
- **Goal #1 Written Communication**: ENGL 101, and ENGL 201 Credits: 6
- **Goal #2 Oral Communication**: SPCM 101 Credits: 3
- **Goal #3 Social Sciences/Diversity Credits**: 6
- **Goal #4 Humanities and Arts/Diversity Credits**: 6
- **Goal #5 Mathematics Credits**: 3
- **Goal #6 Natural Sciences Credits**: 6

**Institutional Graduation Requirements**: 5
- **Goal #1 First Year Seminar Credits**: 2
- **Goal #2 Culture Awareness and Social and Environmental Responsibility Credits**: 3

**College of Arts and Sciences Bachelor of Arts Requirements: 17-28**

**Bachelor of Arts**
- **Modern Languages Credits**: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- **Social Sciences Credits**: 8
- **Humanities Credits**: 6

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

**Major Requirements: 36**

**Major Core: 14**
- **GER 101 - Introductory German I** (COM) (G) Credits: 4
- **GER 102 - Introductory German II** (COM) (G) Credits: 4
- **GER 201 - Intermediate German I** (COM) (G) Credits: 3
- **GER 202 - Intermediate German II** (COM) (G) Credits: 3

**Major Electives: 22**
Select at least 18 upper-division credits. The following is a suggested sequence. All major are strongly encouraged to study abroad in a German-speaking country.

**Composition and Conversation**: 3
- **GER 330 - Reading and Writing for Communication Credits**: 3
- **GER 310 - Practical German Language Skills Credits**: 3
- **GER 411 - Advanced Composition and Conversation I (COM) Credits**: 3
- **GER 412 - Advanced Composition and Conversation II (COM) Credits**: 3

**Literature Electives: 4**
- **GER 353 - Introduction to German Literature**: 3
- **GER 453 - Survey of German Literature** (COM) Credits: 3
- **GER 454 - Survey of German Literature II** (COM) Credits: 3
- **GER 392 & 492 - Topics (COM) (if literature focused) Credits**: 2-3

**Culture and Civilization: 3**
- **GER 380 - Deutschland Heute (COM) Credits**: 3
- **GER 433 - German Civilization I** (COM) Credits: 3
- **GER 434 - German Civilization II** (COM) (AW) Credits: 3
- **GER 392 & 492 - Topics (COM) (if culture focused) Credits**: 2-3

Additional credits may come from travel or field experiences.
- **GER 491-591 - Independent Study Credits: 1-3**
- **GER 296 & 396 - Field Experience Credits: 1-6**

**Electives: 13**

**Teaching Specialization Requirements**

**Professional Semester I**
- **EDFN 338 - Foundations of American Education (COM) Credits**: 2
- **EPSY 302 - Educational Psychology (COM) Credits**: 3

**Professional Semester II**
- **SEED 450 - 7-12 Reading and Content Literacy (COM) Credits**: 2
- **SEED 314 - Supervised Clinical/Field Experience Credits**: 1
- **SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits**: 2

Complete prior to entry into Professional Semester III
- **Special Methods (varies by content area) Credits**: 1-4
- **Native American Course Appr. for Teacher Education Credits**: 3
  - **AIS/HIST 368 - History and Culture of the American Indian** Credits: 3
  - **AIS/ANTH 421 - Indians of North America** Credits: 3
- **EDFN 365 - Computer-Based Technology and Learning (COM) Credits**: 2
- **EDFN 427-527 - Middle School: Philosophy and Application Credits**: 2
- **EDFN 475 - Human Relations (COM) Credits**: 3

**Professional Semester III**
- **SPED 405 - Educating Secondary Students with Disabilities (COM) Credits**: 2
- **SEED 410 - Social Foundations, Management and Law Credits**: 2
- **EDER 415 - Educational Assessment Credits**: 2
- **ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits**: 8

**Additional Requirements**
- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

**Total Required Credits: 120**

**Curriculum Notes**

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.

**South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).**

**Globalization Requirement.**

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Global Studies Major**

**Program Coordinator/Contact**
Charlie Yi Zhang, Program Coordinator
Molly Enz, Program Co-Coordinator
Department of Modern Languages and Global Studies
SWG 121 Campus, Box 2275
605-688-5101

**Program Information**

The Global Studies major integrates content and theory from a number of disciplines leading to an understanding of the interrelated processes of globalization in an increasingly interdependent world. Globalization, which has occurred over centuries, accelerated dramatically in the last half of the
20th century stimulated by rapid transportation and technological developments, leading to instant communication between all parts of the world. International activities are now globally based on new relationships between countries resulting from diminution of national boundaries and increased recognition of the global nature of environmental conditions, economics, politics, health and safety, the spread of terrorism, and the perceived homogenization of culture.

Student Learning Outcomes
By embracing two broad themes - intercultural competence and authentic global citizenship- the Global Studies major will:

- prepare students through the social sciences, natural sciences, and humanities with knowledge and a broad understanding of global society and the societies of diverse foreign countries and cultures;
- enable students to apply analytical and philosophical tools for interpretation of and critical thinking about global issues and data;
- prepare students for employment in many fields including government, non-governmental organizations, business with international marketing, journalism and other fields that require professionals with interdisciplinary education, global literacy, and cross-cultural competencies;
- provide the training, tools, and experiences for global studies majors to become authentic global citizens; and
- utilize the international resources of SDSU to benefit the citizens of South Dakota, the United States, and the world.

Course Delivery Format
Courses with the prefix GLST are offered face-to-face. Other courses required for the major may also be available via internet.

Requirements for Global Studies Major: 120 Credits
Bachelor of Arts

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101* and ENGL 201 Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202* and GEOG 210* Credits: 6
- Goal #4 Humanities and Arts/Diversity: HIST 112* and REL 250* Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: POLS 253** Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28 Credits
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
  21 credits total of language for the college and major requirements
- Social Sciences Credits: 8
- Humanities Credits: 6
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 43
Major Core: 18
- HIST 112 - World Civilizations II ** (COM) (G) Credits:3
- GLST 201 - Global Studies 1 ** (G) Credits: 3
- POLS 253 - Current World Problems * ** (G) Credits: 3
- ECON 202 - Principles of Macroeconomics * (COM) (G) Credits:3
- REL 250 - World Religions * (COM) (G) Credits:3
- GEOG 210 - World Regional Geography ** (COM) (G) Credits:3

Modern Languages Requirement: 21
- Option 1 - 7 Credits in one language above the 202 level
- Option 2 - Qualified Waiver
  May be waived if examination shows the student has achieved a level of language learning equivalent to that of students who have completed 21 credit hours in a language and are able to use the language at an intermediate level (Intermediate Low according to the ACTFL scale). The Department will evaluate the documentation. A student may be exempt from examination at SDSU if he or she has successfully completed one or more of the nationally administered tests showing an equivalent level of proficiency.
- Option 3 - Two Languages
  Global Studies students may, with the approval of the Coordinator of Global Studies and Department Head, design a Modern Language program that combines two languages. Students have the option of completing coursework in two languages offered at SDSU through the intermediate level (101, 102, 201, and 202) or combining one of the languages offered at SDSU through the 202 level with a less commonly taught language (e.g. Arabic, Chinese, Japanese, Russian, etc.). This option, including an assessment plan, must be approved in advance by the Department.

Global Studies Major Electives: 15
In consultation with an academic advisor, students develop a plan of study using courses listed below for a total of 15 credit with at least 2 different prefixes minimum
- No more than 9 credits per prefix;
- No more than 3 credits of lower division coursework

Other courses not listed below that have a significant global emphasis may also qualify but must be approved in advance

- World Economics/Geography
  - ABS 203 Global Food Systems Credits: 3
  - ECON 405 Comparative Economic Systems Credits: 3
  - ECON 440 Economics of International Sector Credits: 3
  - ECON 460 Economic Development Credits: 3
  - GEOG 320 Regional Geography Credits: 3
  - GEOG/REL 353 Geography of Religion Credits: 3
  - GEOG 400 Cultural Geography Credits: 3
  - GEOG 415 Environmental Geography Credits: 3
  - GEOG 425 Population Geography Credits: 3
  - GEOG 447 Geography of the Future Credits: 3
  - GEOG 459 Political Geography Credits: 3
  - GEOG 460 Geopolitics Credits: 3
  - GEOG 492 Geography of Terrorism Credits: 3
  - LMNO 201 Introduction to Leadership and Management of Non-Governmental Organizations Credits: 3

- World History/Politics
  - HIST 312 History of Modern Asia Credits: 3
  - HIST 313 History of the Middle East Credits: 3
  - HIST 401 History of Religious Thought Credits: 3
  - HIST 410 World History since 1945 Credits: 3
  - HIST 418 History of Latin America Credits: 3
  - HIST 420 Contemporary Europe Credits: 3
  - HIST 445 Cold War Europe Credits: 3
  - HIST 492 Topics—Turkey: East meets West Credits: 3
  - POLS 165 Political Ideologies Credits: 3
  - POLS 341/EURS 301 European Democratic Government Credits: 3
  - POLS 347/LAS 302 Latin American Politics Credits: 3
  - POLS 350 International Relations Credits: 3
  - POLS 352/EURS 301 European Union Credits: 3
  - POLS 454 International Law & Organization Credits: 3
• World Cultures/Societies
  • ANTH 210 Cultural Anthropology Credits: 3
  • ARTH 212 History of World Art Credits: 3
  • ARTH 320 Modern Art and Architecture Survey Credits: 3
  • ENGL 212 World Literature II Credits: 3
  • ENGL 249 Literature of Diverse Cultures Credits: 3
  • ENGL 470 Capstone Course in Peace and Conflict Studies Credits: 3
  • EURS 300 Topics in European Cultures Credits: 3
  • EURS 301 Societies in European Cultures Credits: 3
  • FREN 333 Topics in Francophone Cultures Credits: 3
  • FREN 433 French Civilization Credits: 3
  • FREN 492 Race, Revolution, and Slavery: Perspectives on Haiti Credits: 3
  • GER 380 Deutschland Heute Credits: 3
  • GER 434 German Civilization II Credits: 3
  • GLST/ENGL 380 Futuristic Communications Credits: 3
  • GLST/PHIL 480 Ethics of Globalization Credits: 3
  • GLST 491 Model UN Credits: 3
  • GLST 492 Canadian Values, Institutions, and Human Rights Credits: 3
  • GLST 492 Race, Revolution, and Slavery: Perspectives on Haiti Credits: 3
  • LAS 301 Latin American Cultures Credits: 3
  • LAS 302 Latin American Societies Credits: 3
  • PHIL 424/POLS 462 Modern Political Philosophy Credits: 3
  • PHIL 454/554/REL 332 Environmental Ethics Credits: 3
  • REL/GEOG 353 Geography of Religion Credits: 3
  • SOC 350 Race and Ethnic Relations Credits: 3
  • SPAN 433 Spanish Culture and Civilization Credits: 3
  • SPAN 435 Latin American Culture & Civilization Credits: 3
  • SPAN 476 19th and 20th Century Spain Credits: 3
  • SPAN 484 20th Century Latin America Credits: 3
  • SPAN 492 Visions of the United States from the Hispanic World Credits: 3

Cross Cultural Experiences: 3
• Students may use a variety of travel experience courses in the catalog to fulfill this requirement for a cross-cultural experience outside of the United States that includes at least three credits of academic coursework and lasts at least 4 weeks.
• Students may select several shorter experiences that add up to four weeks total with approval from the department head. However, a semester or academic year abroad is highly recommended.
• Exceptions to the cross cultural experience must be pre-approved by the department head.
• 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.

Capstone Experience: 3
• GLST 401 - Global Studies II ** (AW) Credits: 3

Electives: 43

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(AW) Advanced Writing Requirement.

Graphic Design Major
Program Coordinator/Contact
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdsu.artdept@sdstate.edu
www.sdstate.edu/art

Program Information
The major in Graphic Design prepares students for entry-level design positions. Graphic designers are professionals who plan and execute designs for visual communication according to the needs of audiences and in the context for which they are intended. The graphic design degree includes a five-semester sequence of courses beginning in the sophomore year which apply knowledge of art, design, digital technologies, and illustration with the intent to interpret, inform, instruct or persuade in consideration of physical, human, social, and cognitive factors.

A 30-hour visual arts core taken in conjunction with the graphic design sequence supports the degree and creates a foundation for success. Through taking the core, majors qualify for the Art Minor which adds breadth and depth to the degree.

Student Learning Outcomes
Upon graduation, majors demonstrate their competence in graphic design through senior projects and create portfolios needed for competing for professional positions. As defined by the American Institute of Graphic Arts (AIGA), upon completion of the degree, students are able to demonstrate the following outcomes through advanced writing and senior portfolio:
• Knowledge of design principles, theories, and history.
• Knowledge of how visual communication is planned, produced and distributed.
• Practice in new approaches to generate innovative visual communication solutions.
• Ability to construct narratives and scenarios in the creation of the design solutions.
• Effective use of typography, image, layout, motion, interactivity, and the principles and elements of design.
• Practice of critical evaluation about one's own designs and the designs of others with regard to usefulness, desirability, feasibility, economic viability and sustainability.
• Ability to work independently while learning and apply new technologies.

Academic Requirements
Visual Arts 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 "C" or better is required in all ART, ARTD, ARTE and ARTH courses required for the major.

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

Requirements for Graphic Design Major: 120 Credits
Bachelor of Arts and Bachelor of Science
System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6
Bachelor of Science
- Natural Science Credits: 14
- With 6 credits of Biological Sciences
- With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 42
- Advanced Writing Course Credits: 3
  - ARTH 310 - History of United States Art and Architecture (AW)
  - ARTH 320 - Modern Art and Architecture Survey (AW) (G)
  - ARTH 490 - Seminar (AW)
- Animation, Photography, or Video Media Electives Credits: 6
- ART/ARTD Electives Credits: 6
- ARTD 201 - Graphic Design I Credits: 3
- ARTD 202 - Computer Graphics I Credits: 3
- ARTD 301 - Graphic Design II Credits: 3
- ARTD 302 - Computer Graphics II Credits: 3
- ARTD 304 - Motion Graphics Credits: 3
- ARTD 352 - Design Media I Credits: 3
- ARTD 351 - Visual Communication I Credits: 3
- ARTD 451 - Visual Communication II: Senior Portfolio Credits: 3
- ARTD 452 - Design Media II Credits: 3

Supporting Coursework: 25.5
- Art History Elective Credits: 3
- ART 110 - First Review Credits: 0.5
- ART 111 - Drawing I ** (COM) Credits: 3
- ART 112 - Drawing II ** (COM) Credits: 3
- ART 121 - Design I ** (COM) Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design ** (COM) Credits: 3
- ART 200 - Portfolio Review Jury on Student Progress Credits: 0.5
- ART 400 - Senior Review Credits: 0.5
- ARTH 211 - History of World Art I ** (COM) Credits: 3
- ARTH 212 - History of World Art II ** (COM) Credits: 3

Electives: 4.5

Total Required Credits: 120

Curriculum Notes
* Students may use one Art course but cannot duplicate a course to meet SGR and IGR.
By written request to the Department Head, Graphic Design majors may substitute ARTD animation or a video production course for the MCOM photography requirement.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

G) Globalization Requirement.
Program Information
The health education program is designed to prepare students in conducting health education and health promotion activities in a non-classroom setting. The program objectives are to facilitate the development of professional skills in program planning, implementation and evaluation as well as offer a broad course work curriculum in personal and community health.

Majoring in health education is an excellent foundation for students to apply to various graduate and professional programs, which may include medical school, physician's assistant school, chiropractor school, physical therapy school, occupational therapy school, and health administration and counseling.

Student Learning Outcomes
Upon completion of the health education major, students should be able to:
- Think critically – utilize information obtained through various sources to solve problems related to academic and/or professional practice.
- Work effectively within a group or team to solve a problem or task
- Demonstrate competence and confidence in preparing health education/promotion programs to a variety of target populations.
- Discuss current issues related to the field of health education

Academic Requirements
A minimum final grade of "C" is required in all Major Requirements courses.

Accreditation, Certification, and Licensure
Upon graduating with the health education major, students are encouraged to apply for and take the Certified Health Education Specialist exam.

Course Delivery Format
Instruction for the health education major occurs through face to face and online course delivery methods.

Requirements for Health Education Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 32
- Goal #1 Written Communication ENGL 101 - Composition I and ENGL 201 - Composition II Credits: 6
- Goal #2 Oral Communication Credits: 3
- Goal #3 Social Sciences/Diversity PSYC 101 and HDFS 210 Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematic: MATH 102 Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L and 108-108L OR CHEM 112-112L and 114-114L Credits: 8
Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: EHS 109**: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: NFS 111**: Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 52
- HLTH 120 - Community Health Credits: 2
- HLTH 200 - Complementary and Alternative Health Care Credits: 3
- HLTH 479-479L - Health Promotion Programming and Evaluation and Lab Credits: 2
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
- HLTH 420-420L - Methods of Health Instruction (COM) Credits: 2
- HLTH 230 - Stress Management for Life Credits: 3
- PE 350 - Exercise Physiology (COM) Credits: 3
- PE 352 - Adapted Physical Education (COM) Credits: 2
- HLTH 443 - Public Health Science ** (G) Credits: 3
- HSC 260 - Women's Health Issues Credits: 3
- HLTH 445 - Epidemiology Credits: 3
- HDFS 441 - Professional Issues in Human Development and Family Studies Credits: 3
- NFS 315 - Human Nutrition Credits: 3
- PSYC 358 - Behavior Modification Credits: 3
- PSYC 417 - Health Psychology ** (COM) Credits: 3
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- NURS 201 - Medical Terminology Credits: 1
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3

Electives: 29

Required Total Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

History Major
Program Coordinator/Contact
William Prigge, Department Head
Department of History, Political Science, Philosophy, and Religion
West Hall Room 109
605-688-6042
E-mail: william.prigge@sdstate.edu
www.sdstate.edu/hist

Program Information
The history curriculum is adaptable to personal interests and needs, allowing students to explore the past and make connections to the present. The Bachelor of Arts or the Bachelor of Science degree in history prepares students for careers in various professional occupations, law, journalism, teaching, business, public service, library sciences, international work, historical research, and provides a necessary background for graduate work or other specialized training.

Student Learning Outcomes
History graduates will be able to effectively communicate, research, analyze, interpret, and apply information in various professional contexts.

Course Delivery Format
The program provides courses online and face to face on campus and at various off-campus attendance centers.

Requirements for History Major: 120 Credits
Bachelor of Arts and Bachelor of Science

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6

Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 6
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 36
- HIST 111 - World Civilizations I * ** (COM) Credits: 3
  or HIST 121 - Western Civilization I * ** (COM) Credits: 3
- HIST 112 - World Civilizations II * ** (COM) (G) Credits: 3
  or HIST 122 - Western Civilization II * ** (COM) (G) Credits: 3
- HIST 151 - United States History I * ** (COM) Credits: 3
- HIST 152 - United States History II * ** (COM) Credits: 3
- HIST 280 - Writing History Credits: 3
- HIST 480 - Historical Methods and Historiography (COM) (AW) Credits: 3
- Upper Division Non-US History Courses Credits: 6
- Additional Upper Division Courses (US or Non US History) Credits: 12

Electives: 38-45

Total Required Credits: 120

Curriculum Notes
- No more than 6 credits in HIST 491-591 - Independent Study (COM) and HIST 494 - Internship (COM) may be counted toward the major or minor.
- No grade below a "C" in history courses may be used to fulfill major and minor requirements.

*The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**History Major - Teaching Specialization**

**Program Coordinator/Contact**
Dr. William Prigge, Department Head
Department of History, Political Science, Philosophy, and Religion
West Hall Room 109
605-688-6042
E-mail: william.prigge@sdstate.edu
www.sdstate.edu/hist

**Program Information**
The history curriculum is adaptable to personal interests and needs, allowing students to explore the past and make connections to the present. Students pursuing a History Teaching Specialization may select either a Bachelor of Arts or Bachelor of Science degree in preparation for careers in various fields related to education. The program also provides a necessary background for graduate work or other specialized training.

**Student Learning Outcomes**
History graduates will be able to effectively communicate, research, analyze, interpret, and apply information in various professional contexts.

**Accreditation, Certification, and Licensure**

**Accreditation**
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

**Certification and Licensure**
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

**Course Delivery Format**
The program provides courses online and face to face on campus and at various off-campus attendance centers.

**Requirements for History Major - Teaching Specialization: 120 Credits**
Bachelor of Arts and Bachelor of Science in Arts and Sciences

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 and/or SOC 100 Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

**Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

**College of Arts & Sciences Requirements: 17-34**
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6
Bachelor of Science
- Natural Science Credits: 14
  - With 6 credits of Biological Sciences
  - With 8 credits of Physical Sciences
- Social Sciences Credits: 12

- Humanities Credits: 8
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

**Major Requirements: 36**
- HIST 111 - World Civilizations I ** (COM) Credits: 3
- or HIST 121 - Western Civilization I ** (COM) Credits: 3
- HIST 112 - World Civilizations II ** (COM) (G) Credits: 3
- or HIST 122 - Western Civilization II ** (COM) (G) Credits: 3
- HIST 151 - United States History I ** (COM) Credits: 3
- HIST 152 - United States History II ** (COM) Credits: 3
- HIST 280 - Writing History Credits: 3
- HIST 480 - Historical Methods and Historiography (COM) (AW) Credits: 3
- Upper Division Non-US History Courses Credits: 6
- Additional Upper Division Courses: (HIST 368 Recommended) Credits: 12

**Electives: 14-15**

**Teaching Specialization Requirements**
Professional Semester I
- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 2
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III
- Special Methods (varies by content area) Credits: 1-4
- Native American Course Approved for Teacher Education Credits: 3
- • AIS/HIST 368 - History and Culture of the American Indian** Credits: 3
- or AIS/ANTH 421 - Indians of North America** Credits: 3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
- SEED 410 - Social Foundations, Management and Law Credits: 2
- EDER 415 - Educational Assessment Credits: 2
- ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8

*Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits, enrolling in both SEED 488 and ELED 488

**Additional Requirements**
- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

**Total Required Credits: 120**

**Curriculum Notes**
- No more than 6 credits from HIST 491-591 - Independent Study
Honors College Distinction
Program Coordinator/Contact
Timothy Nichols, Dean
Honors Hall 119, SHON Box 2705A
605-688-5268
E-mail: timothy.nichols@sdstate.edu
www.sdstate.edu/honors

Program Information
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.

Program Admission and Requirements
Students who earn a 27 or higher ACT score and/or are in the top ten percent of their high school graduating class are eligible to take Honors College courses. Students not meeting these requirements but who wish to take Honors College courses should contact the Honors College. Continuing students need a 3.0 cumulative grade point average to enroll in Honors College courses.

When a student decides that they intend to pursue graduation with Honors College distinction, they submit an Honors College Continuing Enrollment Form and sign the Honors College Student ethic. At this point, students are officially enrolled as Honors College students, Dean Nichols is added as a second academic advisor to their program, and their progress is audited each semester to ensure progress toward requirements for graduation with Honors College distinction, and eligibility for Priority Registration.

Student Learning Outcomes
Graduates from the Van D. and Barbara B. Fishback Honors College demonstrate academic excellence, well-rounded, multi-disciplinary, global perspectives, critical thinking, creativity and problem solving skills, and oral and written communication abilities. Moreover, they are exemplars of the qualities of character elucidated in the Honors College Student Ethic.

Affiliation
The Van D. and Barbara B. Fishback Honors College is a member of the Upper Midwest Honors Council and the National Collegiate Honors Council.

Course Delivery Format
Honors courses are characterized by high levels of student engagement, faculty/student interaction, communications, critical thinking and multi-disciplinary perspectives. Most courses are taught face-to-face on the Brookings campus in lecture/discussion/essay formats. Many Honors College courses also include hands-on laboratory, service, travel and experiential components. A few Honors College courses are delivered each year through on-line and hybrid delivery formats.

Requirements for Honors College Distinction: 24 Credits
• Honors General Education Credits: 12-15
  • HON 109 First Year Seminar is not required but strongly recommended for first-semester students.
  • Students enroll in Honors sections of general education courses; for example English 101 - Honors; Biology 151-151L - Honors; Economics 202 - Honors; etc. Some 20 Honors general education are offered each semester; students may choose the sections that fit best with their academic interests, educational and professional goals.
• *Honors Colloquium HON 303 Credits: 3-6
• *Honors Contracted coursework (300-400 level, in students major/minor field of study): 3-6 credits
  Students work with faculty to identify appropriate supplemental learning opportunities to earn Honors credit for their courses. The Honors Contract form is filled with the college. Upon successful completion of the contract specifications, the course is transcripted as Honors.
• Honors Independent Study HON 491 Credits: 3
• 24-27 credits in Honors
• 3.5 cumulative grade point average

*Students must complete at least 3 credits of both Honors Colloquium (HON 303), and Upper Division (300-400 level) Honors Contracts. The additional 3 credits may be earned through contract, colloquium, or the Honors Seminar series (290, 390, 490).

Horticulture Major
Program Coordinator/Contact
David Graper, Coordinator
Department of Plant Science
Northern Plains Biostress Laboratory 254A
605-688-6253
E-mail: david.graper@sdstate.edu

Program Information
The Horticulture major is designed to prepare students for careers in nursery production, landscape, tree and turf management, garden center operation, greenhouse production, or for entry into research and graduate study in horticulture. Greenhouse facilities and extensive field plots in woody and herbaceous ornamentals, turf, fruit, and vegetables provide students with the opportunity to experience all aspects of plant production and management.

Program Emphases
The Horticulture Major offers five areas of emphasis. Students with an interest in:
• Crop management and production technologies of greenhouse, nursery, turf, 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 production and marketing should follow the Food Crop Emphasis.
• Careers in turf management should follow the Turfgrass 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 in Agriculture

System General Education Requirements*: 30-31
• Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity Credits: 6 suggested SGR#3 course that fulfills General Education. ABS 203 is a highly recommended course.
• Goal #4 Humanities and Arts/Diversity Credits: 6
• Goal #5 Mathematics: MATH 102 Credits: 3
• Goal #6 Natural Sciences: BIOL 101-101L or BIOL 151-151L Credits 3-4 and BOT 201-201L Credits: 3

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar: PS 109** Credits: 2
• Goal #2 Cultural Awareness & Social & Environmental Responsibility PS 213-213L** Credits: 2, 1

College Requirements: 9
• HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
Major Requirements: 71

- PS 213-213L - Soils and Lab ** Credits: 2, 1
- PS 223-223L - Principles of Plant Pathology and Lab Credits: 3
- PS 305-305L - Insect Biology and Lab (COM) Credits: 3

Technical Emphasis Electives: 15

- PS 222-222L - Fundamentals of Turf Management and Lab Credits: 3
- HO 250-250L - Woody Plants: Trees and Lab Credits: 3
- HO 260 - Woody Plants: Shrubs and Vines Credits: 2
- HO 311-311L - Herbaceous Plants and Lab Credits: 3
- HO 312-312L - Plant Propagation and Lab Credits: 3
- HO/PS 324 - Horticulture Pests 1: Entomology Credits: 2
- HO/PS 325 - Horticulture Pests II: Diseases Credits: 2
- HO 330 - Arboriculture Credits: 2
- HO 350 - Environmental Stewardship in Horticulture Credits: 3
- HO/PS 413-413L - Greenhouse Management and Lab Credits: 3
- HO 415 - Nursery Management Credits: 3
- HO/PS 434-534 - Local Food Production Credits: 2
- HO 440-540 - Vegetable Crop Systems Credits: 2
- HO 494 - Internship Credits: 1-2
- HO 498 - Undergraduate Research/Scholarship Credits: 1-3
- PHYS 101-101L - Survey of Physics and Lab * (COM) Credits: 4

Business Electives: 15

- ACCT 210 - Principles of Accounting  (I) (COM) Credits: 3
- ACCT 211 - Principles of Accounting (II) (COM) Credits: 3
- AST 434-434L - Landscape Irrigation and Lab *** Credits: 3
- BADM 280 - Personal Finance (COM) Credits: 3
- BADM 310 - Business Finance (COM) *** Credits: 3
- BADM 334 - Small Business Management (COM) *** Credits: 3
- BADM 350 - Legal Environment of Business (COM) *** Credits: 3
- BADM 360 - Organization and Management (COM) *** Credits: 3
- ECON 201 - Principles of Microeconomics * ** (COM) Credits: 3
- ECON 202 - Principles of Macroeconomics * (COM) (G) Credits: 3
- HO/BOT 303-303L - Forest Ecology and Management Lab *** Credits: 3
- HO 331 - Arboricultural Operations Credits: 1
- HO 383-383L - Principles of Crop Improvement and Lab Credits: 3
- HO 422 - Current Issues in Turfgrass Science Credits: 1
- HO 423-523 - Turfgrass Stress Physiology Credits: 3
- HO 434-534 - Local Food Production /PS 434-534 - Local Food Production Credits: 2-6
- HO 440-540 - Vegetable Crop Systems or HO 411-511 - Fruit Crop Systems Credits: 1-3
- HO 491 - Independent Study Credits: 1-2
- HO 498 - Undergraduate Research/Scholarship Credits: 1-3
- HO 494 - Internship Credits: 1-2
- or HO 496 - Field Experience Credits: 1-3

Food Crop Emphasis

The Horticulture Major offers five areas of emphasis. Students with an interest in food crop production and marketing should follow the Food Crop Emphasis.

Food Crop Electives: 15

- AST 434-434L - Landscape Irrigation and Lab Credits: 3
- BADM 334 - Small Business Management (COM) Credits: 3
- ENTR 301 - Marketing/Promotion in Entrepreneurship Credits: 1
- HO 440-540 - Vegetable Crop Systems or HO 411-511 - Fruit Crop Systems Credits: 1-3
- HO 434-534 - Local Food Production /PS 434-534 - Local Food Production Credits: 2-6
- HO 491 - Independent Study Credits: 1-2
- HO 494 - Internship Credits: 1-2 and HO 496 - Field Experience Credits: 1-3
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4
- MICR 311-311L - Local Food Microbiology and Lab Credits: 4
- NFS 111 - Food, People and the Environment ** (G) Credits: 3
- NFS 251 - Soil Safety and Technology Credits: 3

Production Emphasis

The Horticulture Major offers five areas of emphasis. Students interested in crop management and production technologies of greenhouse, nursery, turf, fruit, or vegetable crops can tailor their program of studies using the Production curriculum.

Production Electives: 15

- AST 434-434L - Landscape Irrigation and Lab Credits: 3
- HO 303-303L - Forest Ecology and Management and Lab Credits: 3
- HO 327-327L - Golf Course Design and Management and Lab Credits: 3
- HO 331 - Arboricultural Operations Credits: 1
- HO 383-383L - Principles of Crop Improvement and Lab Credits: 3
- HO 422 - Current Issues in Turfgrass Science Credits: 1
- HO 423-523 - Turfgrass Stress Physiology Credits: 3
- HO 434-534 - Local Food Production /PS 434-534 - Local Food Production Credits: 2-6
- HO 440-540 - Vegetable Crop Systems or HO 411-511 - Fruit Crop Systems Credits: 1-3
- HO 491 - Independent Study Credits: 1-2
- HO 498 - Undergraduate Research/Scholarship Credits: 1-3
- HO 494 - Internship Credits: 1-2
- or HO 496 - Field Experience Credits: 1-3
- LA 101 - Introduction to Landscape Architecture Credits: 3
- PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 4

Science Emphasis

The Horticulture Major offers five areas of emphasis. Students with an interest in pursuing a graduate degree or laboratory science career should follow the Science Emphasis.

Science Electives: 15

- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- BIOL 204-204L - Genetics and Cellular Biology and Lab (COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry 1 (COM) Credits: 3
- CHEM 466 - Laboratory Methods, Biochemistry Credits: 1
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

† Modules must be different than those used to satisfy core curriculum.
‡ ‡ Students seeking a Management Minor must take BADM/MGMT 310 and BADM/MGMT 360, and may take BADM/MGMT 350.
+++ It is recommended that students take no more than 6 credits of HO/AST courses in developing a plan of study for the Business Emphasis.
Kunsoon Park, Program Leader
Hospitality Management Major

Core Program Requirements: 120 Credits

** Hospitality Management Core Requirements: 18 Credits**
- HMGT 171 - Introduction to Hospitality Industry
- HMGT 251 - Foodservice Sanitation
- HMGT 295 - Practicum
- HMGT 371 - Leisure Activities and Club Management
- HMGT 381 - Quantity Food Production and Service
- HMGT 472 - Hospitality Facilities Management and Design
- HMGT 495 - Practicum
- NFS 141-141L - Foods Principles and Lab
- MGMT 210 - Principles of Accounting I
- MGMT 310 - Business Finance
- MGMT 360 - Organization and Management
- MGMT 460 - Human Resource Management

** Turfgrass Electives: 15 Credits**
- AM 381 - Professional Behavior at Work
- AST 234-234L - Ag, Industrial and Outdoor Power and Lab
- AST 434-434L - Landscape Irrigation and Lab
- BADM 334 - Small Business Management (COM)
- BADM 350 - Legal Environment of Business (COM)
- BADM 360 - Organization and Management (COM)
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab
- HO 327-327L - Golf Course Design and Management and Lab
- HO 383-383L - Principles of Crop Improvement and Lab
- HO 422 - Current Issues in Turfgrass Science
- HO 423-423L - Turfgrass Stress Physiology
- HO 491 - Independent Study Credits: 1-2
- HO 498 - Undergraduate Research/Scholarship Credits: 1-3
- HO 494 - Internship Credits 1-2 or HO 496 - Field Experience Credits: 1-3
- LA 101 - Introduction to Landscape Architecture
- PS 323 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 343-343L - Weed Science and Lab Credits: 3

** General Electives: 4-5 Credits**

Total Required Credits: 120

Curriculum Notes
* Modules must be different than those used to satisfy core curriculum.
* It is recommended that students take no more than 6 credits of HO/AST courses in developing a plan of study for the Business Emphasis.

South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

System General Education Requirements*: 30 Credits

** System General Education Requirements**: 30 Credits
- Goal #1 Written Communication: ENGL 101, and ENGL 201
- Goal #2 Oral Communication: SPCM 101
- Goal #3 Social Sciences/Diversity: PSYC 101 and ECON 202
- Goal #4 Humanities and Arts/Diversity: Credits: 6 Must be two different disciplines/prefixes or Modern Language sequence
- Goal #5 Mathematics: MATH 102 or higher

Institutional Graduation Requirements**: 5 Credits
- Goal #1 First Year Experience EHS 109
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: 3 Credits

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Consumer Sciences Department Requirements: 6-7
- LEAD 210 - Foundations of Leadership
- or CS 230 - Consumer Behavior Credits: 3
- or CS 282 - Customer Service Credits: 2
- CS 377 - Professional Documents Credits: 1
- LMNO 435 - Organizational Leadership and Team Development Credits: 3

Total Required Credits: 120

Elections: 17-18

Consult with advisor for approved list.

Turfgrass Electives: 15 Credits
- AM 381 - Professional Behavior at Work
- AST 234-234L - Ag, Industrial and Outdoor Power and Lab
- AST 434-434L - Landscape Irrigation and Lab
- BADM 334 - Small Business Management (COM)
- BADM 350 - Legal Environment of Business (COM)
- BADM 360 - Organization and Management (COM)
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab
- HO 327-327L - Golf Course Design and Management and Lab
- HO 383-383L - Principles of Crop Improvement and Lab
- HO 422 - Current Issues in Turfgrass Science
- HO 423-423L - Turfgrass Stress Physiology
- HO 491 - Independent Study Credits: 1-2
- HO 498 - Undergraduate Research/Scholarship Credits: 1-3
- HO 494 - Internship Credits 1-2 or HO 496 - Field Experience Credits: 1-3
- LA 101 - Introduction to Landscape Architecture
- PS 323 - Soil Fertility and Plant Nutrient Management Credits: 3
- PS 343-343L - Weed Science and Lab Credits: 3

General Electives: 4-5

Total Required Credits: 120

Curriculum Notes
* Modules must be different than those used to satisfy core curriculum.
* It is recommended that students take no more than 6 credits of HO/AST courses in developing a plan of study for the Business Emphasis.

South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

System General Education Requirements*: 30 Credits

** System General Education Requirements**: 30 Credits
- Goal #1 Written Communication: ENGL 101, and ENGL 201
- Goal #2 Oral Communication: SPCM 101
- Goal #3 Social Sciences/Diversity: PSYC 101 and ECON 202
- Goal #4 Humanities and Arts/Diversity: Credits: 6 Must be two different disciplines/prefixes or Modern Language sequence
- Goal #5 Mathematics: MATH 102 or higher

Institutional Graduation Requirements**: 5 Credits
- Goal #1 First Year Experience EHS 109
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: 3 Credits

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Consumer Sciences Department Requirements: 6-7
- LEAD 210 - Foundations of Leadership
- or CS 230 - Consumer Behavior Credits: 3
- or CS 282 - Customer Service Credits: 2
- CS 377 - Professional Documents Credits: 1
- LMNO 435 - Organizational Leadership and Team Development Credits: 3

Major Requirements: 59 Credits

Hospitality Management Core Requirements: 41 Credits
- ECON 201 - Principles of Microeconomics
- HMGT 171 - Introduction to Hospitality Industry
- HMGT 251 - Foodservice Sanitation
- HMGT 295 - Practicum
- HMGT 355 - Events and Facilities Administration Credits
- HMGT 361 - Hospitality Industry Law Credits: 3
- HMGT 370 - Lodging Management Credits: 3
- HMGT 371-371L - Leisure Activities and Club Management and Lab Credits: 3
- HMGT 380 - Foodservice Operations and Purchasing Management Credits: 3
- HMGT 381-381L - Quantity Food Production and Service and Lab Credits: 4
- HMGT 472 - Hospitality Facilities Management and Design Credits: 3
- HMGT 482 - Hospitality Marketing Credits: 3
- HMGT 495 - Practicum
- NFS 141-141L - Foods Principles and Lab
- MGMT 210 - Principles of Accounting I
- MGMT 310 - Business Finance
- MGMT 360 - Organization and Management
- MGMT 460 - Human Resource Management

Management Core Requirements: 18 Credits
- ACCT 210 - Principles of Accounting I (COM)
- ACCT 211 - Principles of Accounting II (COM)
- CSC 325 - Management Information Systems (COM)
- MGMT 310 - Business Finance (COM)
- MGMT 360 - Organization and Management (COM)
- MGMT 460 - Human Resource Management (COM)

Elections: 17-18
- Consult with advisor for approved list.

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.
English 101, and a course in each of the General Education areas of social
science, mathematics, natural science, and humanities and arts must be taken
prior to taking this exam.

Human Development and Family Studies Major
Program Coordinator/Contact
Carla Anderson, Academic Advisor
Department of Counseling and Human Development
E-mail: carla.anderson@sdstate.edu

Program Information
The goal of the BS in Human Development and Family Studies is to provide
an interdisciplinary approach to study and work with individuals and families. This program draws from theory and research that examines the process of
human development across the lifespan and the dynamic interaction of family members. Students pursuing the BS in Human Development and Family Studies gain knowledge and experience in the science of human growth and development, human interaction, and family relationships. Graduates work in careers that promote healthy development and positive family functioning across the lifespan, such as: a Social Services Case Worker, Provider at Residential Treatment Center, Youth Organization Worker, Program Director for Youth, Family or Senior Citizen Center.

Student Learning Outcomes
HDFS majors will share a common base of knowledge, skills, and experiences:
• Knowledge and understanding of
  • Developmental stages and processes across the lifespan
  • Family dynamic processes
  • The multi-directional influences of social contexts and the development of individuals, couples, and families
  • The interpersonal skills required for an effective helping relationship
• Skill and ability to
  • Interpret and evaluate current information regarding human and family development
  • Use human development and family theories to understand and explain individual growth and family interaction
  • Plan and evaluate intervention strategies designed to enhance the development of individuals, couples, and families
• Experiences in
  • The ranges of settings that human development and family studies professionals inhabit
  • Supervised work in a professional setting

Academic Requirements
A pre-graduation check is required by end of junior year. A Graduation Application must be completed at beginning of graduation semester. To effectively meet the wide range of professional interests of HDFS majors, students are required to develop a plan of study under the supervision of a faculty advisor. This plan should include the specification of courses within and outside of the department that are targeted to assist in the professional preparation of the student. Emphases might include a focus on areas such as: children's services, religious services, family organizations, youth development organizations, gerontology services, families with special needs, etc. A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with a department/program prefix is considered a course in the major.

Course Delivery Format
Courses are delivered face-to-face with Internet supplement, online, and through clinical experience. Some courses are also offered at the University Center in Sioux Falls and the Capital University Center in Pierre.

Requirements for Human Development and Family Studies Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 30
• Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101

• Goal #3 Social Sciences/Diversity: PSYC 101 and SOC 100 Credits: 6
• Goal #4 Humanities and Arts/Diversity Credits: 6
• Goal #5 Mathematics: MATH 102 Credits: 3
• Goal #6 Natural Sciences: BIOL 101-101L Credits: 3

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar: EHS 109** Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3
  Suggested (LEAD 210, NFS 111, or WMST 101)

College Requirements: 2
• EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 45
• HDFS 150 - Early Experience Credits: 2
• HDFS 241 - Family Relations Credits: 3
• HDFS 227 - Human Development and Personality I: Childhood Credits: 3
• HDFS 250 - Development of Human Sexuality Credits: 3
• HDFS 337 - Human Development II: Adolescence Credits: 3
• HDFS 341 - Family Theories Credits: 3
• HDFS 347 - Human Development III: Adulthood Credits: 3
• HDFS 441 - Professional Issues in Human Development and Family Studies Credits: 3
• HDFS 355 - Program Design, Implementation and Evaluation Credits: 3
• HDFS 410-510 - Parenting Credits: 3
• HDFS 425-525 - Family Resiliency Credits: 3
• HDFS 435-535 - Family Policy Credits: 3
• HDFS 487 - Preparation for Practicum Credits: 1
• HDFS 495 - Practicum Credits: 6
• SPCM 201 - Interpersonal Communication (COM) Credits: 3
  or SPCM 460 - Family Communication (COM) Credits: 3
  or SPCM 470 - Intercultural Communication (COM) (G) Credits: 3

Supporting Coursework: 15
• ENGL 379 - Technical Communication (COM) (AW) Credits: 3
• FCSE 421 - Adult Education Credits: 3
• SOC 307 - Research Methods I Credits: 3
• SOC 308 - Research Methods II Credits: 3
  or STAT 281 - Introduction to Statistics * (COM) Credits: 3
• POLS 100 - American Government (COM) Credits: 3
  or ECON 201 - Principles of Microeconomics ** (COM) Credits: 3
  or ECON 202 - Principles of Macroeconomics * (COM) (G) Credits: 3

Electives: 23

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Interdisciplinary Studies Major

Program Coordinator/Contact
Kathie Erdman Becker, Coordinator and Advisor
College of Arts and Sciences
Wagner Hall 224
605-688-6296
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Program Information
The Interdisciplinary Studies major is designed for those pursuing unique educational goals. Each student develops a goal-driven plan of study approved by the department. Career opportunities for graduates are vast, evolving from the knowledge, skills and abilities acquired through the individual's 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 their future goals.

Academic Requirements
Grade of C or higher is required for the IDL 262, 362 and 479.

Student Learning Outcomes
Interdisciplinary Studies graduates will be able to:
• Define interdisciplinary studies using historical references and metaphorical models.
• Articulate the contributions of the disciplines to interdisciplinary research and problem solving.
• Apply interdisciplinary research methods through case study analysis and independent research.
• Express interdisciplinary understanding of a complex problem through the integration of disciplinary insights in an undergraduate research project.
• Illustrate how the knowledge, skills and abilities gained through the plan of study contribute to success in the workplace or graduate/professional school.

Course Delivery Format
The four required courses (IDL 262, IDL 362, IDL 479, and UC 489) are delivered entirely online. Students may choose to take general education and remaining plan of study courses in any delivery format and/or at multiple locations as needed to meet their goals.

Requirements for Interdisciplinary Studies Major: 120 Credits

Bachelor of Science

System General Education Requirements*: 30
• Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
• Goal #2 Oral Communication Credits: 3
• Goal #3 Social Sciences/Diversity Credits: 6
• Goal #4 Humanities and Arts/Diversity Credits: 6
• Goal #5 Mathematics Credits: 3
• Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
• Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
• Social Sciences Credits: 12
• Humanities Credits: 8
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 40
• IDL 262 - Foundations of Interdisciplinary Studies Credits: 3
• IDL 362 - Interdisciplinary Inquiry and Integration Credits: 2
• IDL 479 - Interdisciplinary Studies Capstone (AW) Credits: 2
• UC 489 - Transition to Careers Credits: 1
• Plan of Study courses selected by student Credits: 32
The plan of study includes four required courses and at least 32 credits of goal-specific coursework integrating two or more disciplines. Plans may not duplicate existing SDSU majors. At least 33 upper division credits are required, but many plans include over 40. Students are encouraged to pursue service learning, undergraduate research or study abroad opportunities to enhance the academic experience. Prior credit and experiences may be used in the plan of study, if relevant to the goal, or as elective credit for graduation.

Electives: 29

Total Required Credits: 120

Curriculum Notes
*The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Interior Design Major

Program Coordinator/Contact
Angela Boersma, Lecturer
Department of Consumer Sciences
Wagner Hall 229, Box 2275A
605-688-5196
E-mail: angela.boersma@sdstate.edu

Program Information
The mission of the Interior Design Program is to prepare graduates for 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 design professionals in order to enrich the program and maintain currency. 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.). 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) certification 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.). 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) certification examination process.

The mission of the Interior Design Program is to prepare graduates for practice in interior design profession through research informed, design thinking infused and practice-based projects and opportunities that will strengthen their rational and creative thinking. This is rooted in its vision that the interior designers enrich users' experience of the built environment by creating space that is purposeful, compelling and socially and environmentally responsive.

Student Learning Outcomes
Upon completion of the Interior Design major, students should be able to:
• Promote and build upon design awareness and fundamentals to develop new ways of perceiving interior environments.
• Understand the historical and theoretical foundations of the profession, embedded in human sciences and behavior.
• Demonstrate comprehensive design thinking through creative problem
solving within interior environments founded in research and process.

- Demonstrate effective communication skills necessary to express research, analysis and design solutions.
- Demonstrate technical proficiencies necessary for understanding and representing the systems, methods and regulations of designing interior spaces.
- Understand contemporary issues affecting interior design.
- Understand the professional practices, values and social responsibilities necessary for design professionals.
- Demonstrate core values of collaboration and leadership.

Program Requirements
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.

Additionally, 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 earn at least a C in studio courses to advance to subsequent studios.

Accreditation, Certification, and Licensure
South Dakota State University offers the only four-year Interior Design degree in South Dakota accredited by the Council for Interior Design Accreditation (CIDA).

Course Delivery Format
Within the major, students are required to take 58 credits, with six credits of supporting coursework and 10-15 credits electives. The courses offered via distance education, which are program requirements include two credits of Professional Practice ID 317 and the Consumer Science Department Requirement—three credits of Professional Behavior at Work, CS 381 from 2012-13. Practicum ID 495 is an on-site professional practice/work experience course taken in the summer between their junior and senior years.

Requirements for Interior Design Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 or SPCM 222 Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 and SOC 100 Credits: 6
- Goal #4 Humanities and Arts/Diversity: ARTH 101 and HIST 122 Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: GEOG 131-131L and GEOG 132-132L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Experience: EHS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Consumer Sciences Department Requirements: 6-7
- LEAD 210 - Foundations of Leadership ** Credits: 3
- or CS 230 - Consumer Behavior Credits: 3
- or CS 282 - Customer Service Credits: 2
- CS 377 - Professional Documents Credits: 1
- CS 381 - Professional Behavior at Work Credits: 3

Major Requirements: 54-58
- ID 120-121L - Introduction to Interior Design I and Lab Credits: 4
- ID 151-151L - Introduction to Interior Design II and Lab Credits: 4
- ID 215-215L - Materials and Lab Credits: 3
- ID 222 - Interior Design Studio I Credits: 4 *
- ID 223 - Interior Design Studio II Credits: 4 *
- ID 224 - History of Interior Design I Credits: 2
- ID 225 - History of Interior Design II Credits: 2
- ID 319-319L - Building Systems and Construction and Lab Credits: 2
- ID 317 - Professional Practices in Interior Design Credits: 2
- ID 320-320L - Lighting and Acoustics and Lab Credits: 2
- ID 322 - Interior Design Studio III Credits: 4 *
- ID 333 - Interior Design Studio IV Credits: 4 *
- ID 329-329L - Building Codes and Regulations and Lab Credits: 2
- ID 377-377L - Portfolio and Lab Credits: 1
- ID 422 - Interior Design Studio V Credits: 4 *
- ID 423 - Interior Design Studio VI Credits: 4
- ID 480 - Travel Studies Credits: 1-5
- ID 490 - Seminar Credits: 1-3
- ID 495 - Practicum Credits: 3
- ID 498 - Undergraduate Research/Scholarship (AW) Credits: 1-3 (1 credit required)

Supporting Coursework: 6
- AM 242-242L - Textiles I and Lab Credits: 3
- ART 122 - Design II Color (COM) Credits: 3

Electives: 10-15
Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs).
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to finishing this exam.

Journalism Major
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www.sdstate.edu/mcom

Program Information
A degree in journalism prepares students with essential skills including: writing, speaking, critical thinking and technology. Graduates are well-positioned for a wide variety of careers, ranging from traditional media to business to non-profit organizations. MCOM students may pursue a B.A. or B.S. in Journalism. Students may choose from departmental emphases: News-Editorial Journalism Emphasis or Broadcast Journalism Emphasis.

- News-Editorial Journalism Emphasis. Students who want to be reporters, editors or page designers for print and online media, photojournalists and those seeking employment in corporate or government communications take this emphasis.
- Broadcast Journalism Emphasis. Students who want to pursue careers in digital video storytelling for radio, television or online media and corporate environments take this emphasis.

Academic Requirements
Journalism majors must have a "C" or better in Freshman Composition; must have a graduation average of 2.5 in journalism and mass communication courses; take a minimum of 80 credit hours outside of journalism and mass communication with a minimum of 65 credit hours in the liberal arts and sciences, and must have grades of "C" or better in all major courses.

Equipment and Supplies
Students are also encouraged to purchase a laptop (Macintosh preferred) and software appropriate for the discipline.

Accreditation, Certification, and Licensure
The Department is accredited by the national accrediting body of journalism and mass communication, the Accrediting Council on Education in Journalism
Bachelor of Arts and Bachelor of Science

Course Delivery Format
The Journalism major is offered both at the main campus in Brookings and at the University Center in Sioux Falls. The department offers coursework in classroom, studio, online, and field-based settings.

Requirements for Journalism Major: 120 Credits
Bachelor of Arts and Bachelor of Science

System General Education Requirements*: 30
- Goal #1 Written Communication Credits: 6
- Goal #2 Oral Communication Credits: 3
- Goal #3 Social Sciences/Diversity: POLS 210 * Credits: 6
- Goal #4 Humanities and Arts/Diversity: MCOM 151* (Recommended) Credits: 6
- Goal #5 Mathematics Credits: 3
- Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: (MCOM 109 Recommended) Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6

Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 36
- MCOM 155 - Information Gathering Credits: 2
- MCOM 210-210L - Basic Newswriting & Studio (COM) Credits: 3
- MCOM 220-220L - Introduction to Digital Media & Lab Credits: 3
- MCOM 416-516 - Mass Media in Society (G) Credits: 3 or MCOM 417-517 - History of Journalism Credits: 3
- MCOM 430-530 - Media Law (COM) Credits: 3
- MCOM 494 - Internship Credits: 1-12 (at least 2 credits required) Emphasis: 20

Choose one of the following suggested emphases.

Broadcast Journalism Emphasis
- MCOM 332-332L - Broadcast Writing and Reporting and Studio Credits: 3
- MCOM 333-333L - Television News Reporting and Studio Credits: 3
- MCOM 340-340L - Broadcast Announcing and Performance and Lab Credits: 3
- MCOM 433-433L - Advanced TV News Reporting and Lab (AW) Credits: 3
- MCOM Electives Credits: 8

News-Editorial Emphasis
- MCOM 265-265L - Basic Photography and Studio (COM) Credits: 2
- MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3
- MCOM 317 - News Gathering Credits: 3
- MCOM 490 - Seminar Credits: 1
- MCOM 316 - Magazine Writing and Editing (AW) Credits: 3
- MCOM 410 - Advanced Reporting (COM) Credits: 3
- MCOM 438-438L - Public Affairs Reporting and Studio (COM) (AW) Credits: 3
- MCOM Electives Credits: 5

General Electives: 15-44

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Landscape Architecture Major
Program Coordinator/Contact
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Department of Plant Science
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www.sdstate.edu/ps

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, Certification, and Licensure
Students seeking Certification and Licensure should contact their advisor and refer to https://www.clarb.org/Pages/default.aspx.

Course Delivery Format
The program provides coursework through hands-on and face-to-face learning in lecture, laboratory, and field-based settings.

Requirements for Landscape Architecture Major: 120 Credits
Bachelor of Science in Agriculture

System General Education Requirements*: 31-32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 and Goal #3 Elective Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L or CHEM 112-112L and BIOL 101-101L or BIOL 151-151L Credits: 7-8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: PS 109** or NRM 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PS 213-213L - Soils and Lab ** Credits: 2,1

College Requirements: 9
- HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1

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Major Requirements: 57
- HO 222-222L - Fundamentals of Turf Management and Lab Credits: 3
- HO 250-250L - Woody Plants: Trees and Lab Credits: 3
- HO 260 - Woody Plants: Shrubs and Vines Credits: 2
- HO 311-311L - Herbaceous Plants and Lab Credits: 3
- LA 120 - Fundamentals of Landscape Graphics Credits: 2
- LA 231 - Computer Applications in Landscape Architecture I Credits: 2
- LA 232 - Computer Applications in Landscape Architecture II Credits: 2
- LA 241 - History of Landscape Architecture Credits: 3
- LA 184 - Landscape Graphics and Theory of Design Credits: 4
- LA 214 - Residential Design Credits: 4
- LA 264 - Planting Design and Specifications Credits: 4
- LA 289 - Travel Studies in Landscape Architecture Credits: 2
- LA 289L - Travel Studies in Landscape Architecture Lab Credits: 1
- LA 322 - Landscape Site Engineering Credits: 3
- LA 323 - Landscape Construction Credits: 3
- LA 324-324L - Planning Public Grounds and Lab Credits: 3
- LA 325-325L - City Planning and Lab Credits: 3
- LA 423-423L - Construction Documentation and Practicum and Lab Credits: 2, 1
- LA 424-424L - Recreational Facilities Design and Lab Credits: 3
- LA 464 - Landscape Professional Practicum Studio Credits: 4

Technical Emphasis Focus: 12
Students select credits from one or both of the following focus areas.

Design/Build Focus: 12
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- BADM 280 - Personal Finance (COM) Credits: 3
- BADM 310 - Business Finance (COM) Credits: 3
- BADM 334 - Small Business Management (COM) Credits: 3
- BADM 350 - Legal Environment of Business (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BADM 474 - Personal Selling (COM) Credits: 3
- ECON 201 - Principles of Microeconomics ** (COM) Credits: 3
- HO 312-312L - Plant Propagation and Lab Credits: 3
- HO 413-413L - Greenhouse Management and Lab Credits: 3
- HO 350 - Environmental Stewardship in Horticulture Credits: 3
- LA 327-327L - Golf Course Design and Management and Lab Credits: 3
- LA 322 - Introduction to Landscape Architecture Credits: 3

Professional Practice Focus: 12
- ART 111 - Drawing I ** (COM) Credits: 3
- ART 121 - Design I 2D ** (COM) Credits: 3
- ART 123 - Three Dimensional Design *** (COM) Credits: 3
- BIOL 311-311L - Principles of Ecology and Lab (COM) Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
- GEOG 472 - Introduction to GIS Credits: 3
- GEOG 473-573 - GIS: Data Creation and Integration Credits: 3
- GEOG 474-574 - GIS: Vector and Raster Modeling Credits: 3
- LA 440-440L - Restoration Ecology and Lab Credits: 4
- PHIL 220 - Introduction to Ethics * (COM) Credits: 3
- PHIL 320 - Professional Ethics Credits: 3
- PLANT 471-571 - Principles of State, Regional and Community Planning Credits: 3
- PS 243 - Principles of Geology * Credits: 3
- RANG 210-210L - Range Plant Identification and Lab Credits: 2
- SOC 240 - The Sociology of Rural America * (COM) (G) Credits: 3
- SOC 440 - Urban Sociology (COM) (G) Credits: 3
- PSYC 244 - Environmental Psychology ** (COM) Credits: 3

Supporting Coursework: 6
- AST 434-434L - Landscape Irrigation and Lab Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3

Total Required Credits: 120
Curriculum Notes
1 Students wishing to complete a Horticulture Minor should take an additional 12 credits of HO courses.
2 Course requires completion of one or more prerequisites.

Mathematics Major
Program Coordinator/Contact
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mathstat.sdstate.edu

Program Information
The Mathematics degree program provides an outstanding educational experience to students interested in any of the wide range of excellent career or graduate school choices available in the mathematical sciences. The undergraduate mathematics curriculum is organized into three cores: the General Education Core, the Mathematics Core, and the Professional Core. Options for the Professional Core are the Computational Science Concentration, the Financial Engineering Curriculum, the Open Concentration, the Statistics Concentration, and the Mathematics Education Concentration. The flexible, specialized paths are available that lead to the best career options open to mathematicians and statisticians.

Student Learning Outcomes
Upon completion of the mathematics major, students should be able to:
- Outcome #1: Demonstrate competence in all core areas of undergraduate mathematics.
- Outcome #2: Develop strength in at least one career-focused or graduate school preparatory area of mathematics.
- Outcome #3: Use contemporary mathematical and presentation software and technology.
- Outcome #4: Apply research methods to mathematical problems.
- Outcome #5: Communicate clearly and succinctly in writing.
- Outcome #6: Articulate complex ideas to an audience.

Academic Requirements
A grade of "C" or above is required in all Math courses.

Course Delivery Format
Program courses are delivered on campus, in classroom and laboratory settings, online, and at off campus attendance centers.

Requirements for Mathematics Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 33
- Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 (G) Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 123 Credits: 4
Program Information

- Students must take the proficiency examination after completing 48 credits.
- (Challenging core upper level mathematics courses as those math majors
  must be completed as part of a student's first 64 credits.
- http://mathstat.sdstate.edu

Institutional Graduation Requirements: ** 5
- Goal #1 First Year Seminar: GE 109-109L** Credits: 2
- Goal #2 Culture Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 48
- CSC 150 - Computer Science I (COM) Credits: 3
- MATH 125 - Calculus II *(COM) Credit: 4
- MATH 225 - Calculus III *(COM) Credits: 4
- MATH 253 - Logic, Sets, and Proof Credits: 3
- MATH 315 - Linear Algebra (COM) Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- STAT 381 - Intro to Probability & Statistics (COM) Credits: 3
- MATH 413 - Abstract Algebra I (COM) Credits: 3
- MATH 425 - Real Analysis I (COM) Credits: 3
- MATH 401 Senior Capstone & Advanced Writing (AW) Credits: 1
- MATH 401 Senior Capstone & Advanced Writing (AW) Credits: 1
- Mathematics or Statistics Electives***(300 level or above) Credits: 16
  *Two sequences must be completed such as:
  - MATH 413 - Abstract Algebra I (COM) and MATH 414 - Abstract Algebra II (COM) Credits: 6
  - MATH 425 - Real Analysis I (COM) and MATH 426 - Real Analysis II (COM) Credits: 6
  - MATH 253 - Logic, Sets, and Proof and MATH 316 - Discrete Mathematics (COM) Credits: 6
  - MATH 261 - Geometry for Teachers and MATH 361 - Modern Geometry (COM) Credits: 6
  - STAT 381 - Introduction to Probability and Statistics (COM) and STAT 482-582 - Probability and Statistics II Credits: 6
  - MATH 355-355L - Methods of Teaching Mathematics and Lab and MATH 433 - Capstone: Mathematics Education Credits: 6
  - or other sequences approved by the department.

Electives: 34
- Students are encouraged to use elective credits to complete one or minors.

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(AW) Advanced Writing Requirement.
- Students must take the proficiency examination after completing 48 credits.
- English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Mathematics Major - Teaching Specialization

Program Contact/Coordinator
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http://mathstat.sdstate.edu

Program Information
Secondary school mathematics educators need to be mathematicians as well as skilled educators, so the Mathematics Education Specialists take the same challenging core upper level mathematics courses as those math majors pursuing other professional goals. In addition to this rigorous mathematics curriculum, Mathematics Education Specialists take the full block of education courses. This program allows graduates to find meaningful careers in secondary education, as well as preparing students for graduate study.

Student Learning Outcomes
Upon completion of the mathematics major with teaching specialization, students should be able to:
- Outcome #1: Demonstrate competence in all core areas of undergraduate mathematics.
- Outcome #2: Develop a career as a mathematics educator.
- Outcome #3: Use contemporary mathematical and presentation software and technology.
- Outcome #4: Apply pedagogical knowledge to allow them to grow as a teacher.
- Outcome #5: Communicate clearly and succinctly in writing in the discipline.
- Outcome #6: Articulate complex ideas to an audience.

Academic Requirements
A grade of "C" or above is required in all Math courses.

Accreditation, Certification, and Licensure
Accreditation
- National Council for Accreditation of Teacher Education Programs (NCATE)
- South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
Program courses are delivered on campus, in classroom and laboratory settings, online, and at off campus attendance centers.

Requirements for Mathematics Major - Teaching Specialization: 120 Credits
Bachelor of Science in Engineering

System General Education Requirements*: 33
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202(G) and SOC 100*Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 123 Credits: 4
- Goal #6 Natural Sciences: PHYS 211-211L AND PHYS 212-212L or CHEM 106-106L or CHEM 112-112L Credits: 8

Institutional Graduation Requirements: ** 5
- Goal #1 First Year Seminar GE 109-109L** Credits: 2
- Goal #2 Culture Awareness and Social and Environmental Responsibility (Recommended ANTH 421** or AIS/HIST 368 (COM)**) Credits: 3

Major Requirements: 48
- CSC 150 - Computer Science I (COM) Credits: 3
- MATH 125 - Calculus II *(COM) Credits: 4
- MATH 225 - Calculus III *(COM) Credits: 4
- MATH 253 - Logic, Sets, and Proof Credits: 3
- MATH 315 - Linear Algebra (COM) Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 413 - Abstract Algebra I (COM) Credits: 3
- MATH 425 - Real Analysis I (COM) Credits: 3
- MATH 401 Senior Capstone and Advanced Writing (AW) Credits: 1
- MATH 401 Senior Capstone and Advanced Writing (AW) Credits: 1
- Mathematics or Statistics Electives***(300 level or above) Credits: 16
  *Two sequences must be completed such as:
  - MATH 413 - Abstract Algebra I (COM) and MATH 414 - Abstract Algebra II (COM) Credits: 6
  - MATH 425 - Real Analysis I (COM) and MATH 426 - Real Analysis II (COM) Credits: 6
  - MATH 253 - Logic, Sets, and Proof and MATH 316 - Discrete Mathematics (COM) Credits: 6
  - MATH 261 - Geometry for Teachers and MATH 361 - Modern Geometry (COM) Credits: 6
  - STAT 381 - Introduction to Probability and Statistics (COM) and STAT 482-582 - Probability and Statistics II Credits: 6
  - MATH 355-355L - Methods of Teaching Mathematics and Lab and MATH 433 - Capstone: Mathematics Education Credits: 6
  - or other sequences approved by the department.

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Teaching Specialization Requirements

Electives: 0-3

Professional Semester I
- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III
- Special Methods (varies by content area) Credits: 1-4
- Native American Course Appr. for Teacher Education Credits: 3
  - AIS/HIST 368 - History and Culture of the American Indian** Credits: 3
  - or AIS/ANTH 421 - Indians of North America** Credits: 3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
- SEED 410 - Social Foundations, Management and Law Credits: 2
- EDER 415 - Educational Assessment Credits: 2
- ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8

* Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits, enrolling in both SEED 488 and ELED 488

Additional Requirements
- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

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 applications of the sciences are gained through a combination of study and practice.

Mechanical engineers have a remarkable range of career options from which to choose. Work is found in design and development of a wide range of machines and systems, in manufacturing and automation, in energy and power production, and in various related fields of research, management or business.

Program Educational Objectives
The Mechanical Engineering program provides a learning environment that prepares graduates to achieve the following career and professional accomplishments:

- Achieve positions of increasing responsibility or leadership with employers, professional organizations, or civic organizations in recognition of professional competence and the ability to function in team environments.
- Complete licensure, certification, short courses, workshops or advanced degrees in technical or professional subject areas as they adapt to contemporary engineering practice and the global business environment.

Student Learning Outcomes
Upon completing the Mechanical Engineering program, the student outcomes are:

a. an ability to apply knowledge of mathematics, science, and engineering
b. an ability to design and conduct experiments, as well as to analyze and interpret data
c. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d. an ability to function on multi-disciplinary teams
e. an ability to identify, formulate, and solve engineering problems
f. an understanding of professional and ethical responsibility
g. an ability to communicate effectively
h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i. a recognition of the need for, and an ability to engage in lifelong learning
j. a knowledge of contemporary issues
k. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Accreditation, Certification, and Licensure
The Mechanical Engineering Bachelor of Science program at SDSU is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Upon reaching the final semester of the curriculum, Mechanical Engineering students are eligible and required to sit for the Fundamentals of Engineering (FE) Exam. This nationally administered exam is the first step in the process of becoming licensed to practice as a Professional Engineer. Each state sets its own standards for licensing. In South Dakota, after successfully completing a B.S. degree from an accredited program and passing the FE Exam, four years of engineering experience under a licensed engineer are required to be eligible to sit for the Principles and Practices of Engineering Exam. Successfully passing this exam is the final step in becoming licensed as a Professional Engineer. Information can be found at http://www.ncees.org/.

Academic Requirements
- a combined average of "C" or better in the mechanical engineering courses
- a combined average of "C" or better in the mathematics courses
- a minimum grade of "C" in each of the following courses: MATH 123,
Mechanical engineering is an occupation requiring both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, and design project experiences.

Requirements for Mechanical Engineering Major: 130 Credits
Bachelor of Science

System General Education Requirements*: 33
- Goal #1 Written Communication: ENGL 101, and ENGL 277
  Credits: 6
- Goal #2 Oral Communication: SPCM 101
  Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 (G) Credits: 6
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: MATH 123 Credits: 4
- Goal #6 Natural Sciences: CHEM 112-112L, PHYS 211-211L
  Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 GE 109-109L - First Year Seminar and Lab ** Credits: 2
- Goal #2 Culture Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 77
- EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3
- EE 302-302L - Basic Electrical Engineering II and Lab Credits: 3
- EM 214 - Statics (COM) Credits: 3
- EM 215 - Dynamics (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
- GE 225 - Survey of Machine Tool Applications Credits: 1
- MATH 125 - Calculus I (COM) Credits: 4
- MATH 225 - Calculus III (COM) Credits: 4
- MATH 321 - Differential Equations (COM) Credits: 3
- MATH 331 - Advanced Engineering Mathematics Credits: 3
- or MATH 471-571 - Numerical Analysis I (COM) Credits: 3
- ME 240 - Introduction of Mechanical Design Credits: 3
- ME 241 - Engineering Materials Credits: 3
- ME 311 - Thermodynamics I Credits: 3
- ME 312 - Thermodynamics II (COM) Credits: 3
- ME 321 - Fundamentals of Machine Design Credits: 3
- ME 323 - Vibrations Credits: 3
- ME 376-376L - Measurements and Instrumentation and Lab Credits: 2
- ME 415 - Heat Transfer Credits: 3
- ME 421 - Design of Machine Elements Credits: 3
- ME 451 - Automatic Controls Credits: 3
- ME 452 - Dynamic Systems Lab Credits: 1
- ME 476 - Thermo-Fluids Lab Credits: 1
- ME 478 - Mechanical Systems Design I Credits: 2
- ME 479-479L - Mechanical Systems Design II and Lab (COM) (AW) Credits: 2
- PHYS 213-213L - University Physics II & Lab *(COM) Credits: 4
- STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3

Technical Electives: 15
The 15 credits of technical electives may be chosen from the following list. At least two courses must be in design, identified by a (D). At least three of the electives must have the ME prefix. Courses not listed may qualify as technical electives with departmental approval.
- ABE 350-350L - Hydraulic and Pneumatic Systems and Lab Credits: 3
- CSC 130 - Visual Basic Programming (COM) Credits: 3
- or CSC 150 - Computer Science I (COM) Credits: 3
- ME 341-341L - Metallurgy and Lab Credits: 3
- ME 362 - Industrial Engineering Credits: 3
- ME 410 - Principles of HVAC Engineering Credits: 3
- ME 412 - Internal Combustion Engines Credits: 3 (D)
- ME 413 - Turbomachinery Credits: 3 (D)
- ME 414-514 - Air Pollution Control Credits: 3 (D)
- ME 417-417L/517-517L - Computer-Aided Engineering and Lab Credits: 3 (D)
- ME 418 - Design of Thermal Systems Credits: 3 (D)
- ME 431 - Aerodynamics Credits: 3 (D)
- ME 437-537 - Gas Dynamics I Credits: 3
- ME 438-438L - Machine Design-Case Studies and Lab Credits: 3 (D)
- ME 439-439L - HVAC System Design and Lab Credits: 3 (D)
- ME 440-540 - Computer-Aided Design Credits: 3 (D)
- ME 461 - Analysis and Design of Industrial Systems Credits: 3 (D)
- ME 491 - Independent Study Credits: 1-5 (D) (1-3 Credits fulfill the Technical Elective requirement).
- ME 492-592 - Topics Credits: 1-5 (D)
- ME 494 - Internship Credits: 1-3 (D)
- ME 497 - Cooperative Education Credits: 1-3 (D)
- ME 498 - Undergraduate Scholarship/Research Credits: 1-3
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- NE 435 - Introduction to Nuclear Engineering Credits: 3

Total Required Credits: 130

Curriculum Notes
* In general, The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. The Mechanical Engineering program has been granted an exception to this requirement.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
  (G) Globalization Requirement.
  (AW) Advanced Writing Requirement.
  Students must take the proficiency examination after completing 48 credits.
  English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Medical Laboratory Science Major
Program Coordinator/Contact
Patricia Tille, Program Director
College of Pharmacy
Avera Hall
605-688-6016
E-mail: pat.tille@sdstate.edu
www.sdstate.edu/cee/degrees/mls

Program Information
The Medical Laboratory Science program prepares its graduates for employment in hospital or medical laboratories. The curriculum emphasizes basic science, medical laboratory science, critical thinking and communication skills, including structured learning in the laboratories of clinical affiliated laboratories. During the first two years, students complete basic science courses necessary for entrance into the professional clinical program. Upon completion of three semesters, students apply for entrance into the professional component of the major. The professional program consists of on-campus medical laboratory science courses and an off-campus clinical experience. The program provides the scientific background in hematology,
immunohematology, urinalysis, phlebotomy, microbiology, immunology, molecular biology, clinical chemistry, and management necessary for a laboratory career.

Program Goals
- Provide an educational program within the framework of the University setting in accordance with the Standards of Accredited Programs for the Medical Laboratory Scientist as established by the National Accrediting Agency for Clinical Laboratory Science (NAACLS).
- Provide adequate numbers of entry-level medical laboratory scientists to meet the workforce needs of the state of South Dakota and surrounding areas.
- Provide the health care community with quality individuals who are competent to conduct laboratory procedures in large medical facilities and small rural laboratories and who demonstrate positive professional attitudes, ethics and practices.

Program Admission
Professional Program Admission
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. Upon receipt of notification the student will have ten days to notify the MLS Program Director of their intent to accept the position.

On-Campus Traditional Program (Application deadline for SDSU designated MLS majors, November 15th. All other applications including transfer students are due March 15th.)

Consideration for admission to the professional component of the Medical Laboratory Science major is made in the fall of the sophomore year. Admission will be contingent upon the student successfully meeting all admission criteria listed.
- Minimum cumulative GPA of 2.8 on a 4.0 scale in all college work completed.
- Grade of "C" or "70%" minimum in all prerequisite courses.
- Completion of a minimum of 60 credit hours including prerequisite courses Chemistry 106/106L, 108/108L, Biology 221/221L, 325/325L, Stats 281 or equivalents before the start of the fall semester of the professional program (Junior year).
- Successful completion of the SDSU Academic Proficiency exams.
- Ability to meet the non-academic Essential Functions of the program.
- A grade of "C" or better is required in all courses required for the major.

Medical Laboratory Science Upward Mobility Program
The Medical Laboratory Science Upward Mobility Program provides an educational experience for the development of responsible, competent entry-level professionals in medical laboratory science who want to further their training and education. The program accepts up to 24 in the on-line upward mobility program. Applicants will be notified of the decision regarding their application in writing. Upon receipt of notification the student will have ten days to notify the MLS Program Director of their intent to accept the position. Admission into the on-line program is contingent upon the student meeting the following criteria:
1. Minimum cumulative GPA of 2.8 on a 4.0 scale,
2. Statement of support from the current employer,
3. Documentation of a minimum of 2 years work experience in a clinical laboratory,
4. Completion of a one or two year regionally or nationally accredited or certified program in medical laboratory science,
5. Successful completion of all SDSU General Education Requirements including the College of Arts and Sciences or an academic plan of completion approved by the MLS program director.

The MLS course, MLS 368 Medical Laboratory Science Technical Training, provides for the transcription of the completion of a laboratory science technical program, work experience and course reduction for laboratory courses and clinical internship reduction for employed laboratory professionals. Work experience in a clinical laboratory (two years minimum, equivalency credits of 10 credits granted provided the regionally or nationally accredited or certified program included the minimum of credit equivalent to the scientific content equivalent course work as described below.) If the program does not contain the content described, or the student has not taken college level equivalent course work, the student may be required to complete additional scientific pre-requisite courses.

Completion of a one or two year regionally or nationally accredited or certified program in medical laboratory science equivalency credit of 30 credits may be applied towards pre-requisite course work for entry level MLS courses, laboratory courses, chemistry, anatomy and physiology, and reduction in clinical course work.

All upward mobility students that have completed a one or two year regionally or nationally accredited or certified program in laboratory science (consistent with Board of Certification requirements) may be granted an equivalency of 20 credits for the following laboratory and junior level SDSU MLS courses prior to beginning the on line MLS baccalaureate program: MLS201, MLS301/301L, MLS311, MLS341L, MLS402L, MLS403L, MLS411L, MLS412L, MLS441L, MLS431(431L), MLS 451L, MLS 471L The additional equivalency credit (10 credit hours) may be applied within the clinical practicum.

An additional 12 credits may be transcripted for MLS 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 for the MLS program online completion only to meet the maximum of 42 credit transfer into the MLS 398. This provides for the recognition of the completion of a NAACLS accredited MLS program, national certification and practicing professionals knowledge.

In order to receive a bachelors of science (B.S.) degree in MLS – a student must successfully complete at least 120 semester credit hours. In addition, to all of the required courses for the program the student must complete all general education requirements and requirements of the College of Arts and Sciences.

Accreditation, Certification, and Licensure
Accreditation
The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119.

Certification
Graduates will be eligible to take the certification examination as a medical laboratory scientist from the Board of Certification by the American Society of Clinical Pathologists.

Licensure
Licensure requirements will vary by state.

Course Delivery Format
MLS courses are delivered through lecture, discussion, laboratory, and clinical practice experiences. The on campus program consists of lectures and laboratory courses that provide hands-on skills and technical training. The MLS program is a technology and lab-top based program. Course materials are provided electronically utilizing the Desire 2 learn course management system.

Clinical Practice 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 Brookings Health System, Avera Health System facilities, Mayo SW Regional Health Network, Allina Health System facilities, VA Regional Medical Center Sioux Falls, Huron Regional Medical Center, Prairie Lakes Healthcare, VA Medical Center Black Hills of Hot Springs, Rapid City Regional Hospital, Sanford Health Network Affiliated Hospitals and Spearfish Regional Hospital. Availability of clinical placement is not guaranteed.
Requirements for Medical Laboratory Science Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 33
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L Credits: 4 and CHEM 108-108L Credits: 5

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: UC 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Select A&S approved Social Science Course Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  - With 6 credits of Biological Sciences: BIOL 221-221L and BIOL 325-325L
  - With 8 credits of Physical Sciences: CHEM 106-106L and CHEM 108-108L
- Social Sciences Credits: 12
- Humanities Credits: 8
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 77
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- STAT 281 - Introduction to Statistics * (COM) Credits: 3
- MLS 201 - Understanding Medical Laboratory Science Credits: 2
- MLS 301-301L - Hematology I and Lab Credits: 3
- MLS 311 - Clinical Chemistry I Credits: 4
- MLS 321 - Hemostasis Credits: 1
- MLS 341-341L - Diagnostic Microbiology I and Lab Credits: 3, 2
- MLS 401 - Hematology II Credits: 2
- MLS 402L - Advanced Hematology & Hemostasis Lab Credits: 1
- MLS 403-403L - Diagnostic Immunology Credits: 3, 1
- MLS 411-411L - Clinical Chemistry II and Lab Credits: 3, 1
- MLS 412-412L - Laboratory Methods and Lab Credits: 2, 1
- MLS 431-431L - Principles of Immunohematology and Lab Credits: 2, 1
- MLS 441-441L - Diagnostic Microbiology II and Lab Credits: 3, 2
- MLS 451-451L - Immunohematology II and Lab Credits: 2, 1
- MLS 461 - Introduction to Management and Education (AW) Credits: 2
- MLS 471-471L - Advanced Medical Diagnostics and Lab Credits: 2, 1
- MLS 480 - Molecular Diagnostics Clinical Practice Credits: 1
- MLS 481 - Chemistry, Urinalysis and Body Fluid Analysis Clinical Practice Credits: 4
- MLS 482 - Hematology & Hemostasis Clinical Practice Credits: 4
- MLS 483 - Senior Capstone Clinical Practice Credits: 2
- MLS 484 - Clinical Immunohematology Clinical Practice Credits: 4
- MLS 485 - Diagnostic Microbiology Clinical Practice Credits: 5
- MLS 489 - Phlebotomy Clinical Practice Credits: 1

MLS Upward Mobility Program Requirements
- MLS 321 - Hemostasis Credits: 1
- MLS 341 - Diagnostic Microbiology I Credits: 3
- MLS 401 - Hematology II Credits: 2
- MLS 403 - Diagnostic Immunology Credits: 3
- MLS 411 - Clinical Chemistry II Credits: 3
- MLS 412 - Laboratory Methods Credits: 2
- MLS 431 - Principles of Immunohematology Credits: 2
- MLS 441 - Diagnostic Microbiology II Credits: 3
- MLS 451 - Immunohematology II Credits: 2
- MLS 461 - Intro. to Management and Education (AW) Credits: 2
- MLS 471 - Advanced Medical Diagnostics Credits: 2
- MLS 483 - Senior Capstone Clinical Practice Credits: 2
- MLS 486 - Advanced Supervised Clinical Experience I Credits: 5
- MLS 489 - Advanced Supervised Clinical Experience II Credits: 5
- MLS 368 - Medical Laboratory Science Technical Training Credits: 20-42*
*Transfer credits only - Requirements for Upward Mobility may be satisfied under this course code

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.
English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Microbiology Major
Program Contact/Coordinator
Volker Brzel, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141
E-mail: biomicro@abs.sdstate.edu
www.sdstate.edu/biomicro

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, 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.

Academic Requirements
A minimum GPA of 2.0 must be maintained in the major courses.

Course Delivery Format
Program coursework is on-campus, in classrooms and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

Requirements for Microbiology Major: 120 Credits
Bachelor of Science in Biological Sciences

System General Education Requirements*: 33-35
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity Credits: 3
- Goal #4 Humanities and Arts/Diversity Credits: 6
- Goal #5 Mathematics: Choose A, B, C, or D Credits: 4-6 (A. MATH 102 and MATH 120, B. MATH 115, C. MATH 121-121L, D. MATH 123)
- Goal #6 Natural Sciences: BIOL 151-151L and BIOL 153-153L Credits: 8
Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: BIOL 109-109L** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 67-74

- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- BIOL 204-204L - Genetics and Cellular Biology and Lab (COM) Credits: 3, 1
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4
- BIOL 290 - Seminar Credits: 1
  or MICR 290 - Seminar Credits: 1
- MICR 332 - Microbial Physiology Credits: 2
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 439 - Medical and Veterinary Immunology Credits: 3
- MICR 466 - Laboratory Methods- Biochemistry Credits: 1

Applied and Environmental Microbiology

Choose at least two courses from the following:

- MICR 414-414L/514-514L - Anaerobic Microbiology and Lab Credits: 3
- MICR 450 - Applied Microbiology and Biotechnology Credits: 3
- MICR 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
- MICR 310-310L - Environmental Microbiology and Lab Credits: 4
- MICR 311-311L - Food Microbiology and Lab Credits: 4

Infectious Disease

Choose at least two courses from the following:

- BIOL 467-467L/567-567L - Parasitology & Lab (COM) Credits: 3
- MICR 424-524 - Medical and Veterinary Virology Credits: 3
- MICR 433-533 - Medical Microbiology (COM) Credits: 3
- MICR 440L - Infectious Disease Lab Credits: 3

Capstone and Advanced Writing

- MICR 490 - Seminar (AW) Credits: 1
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3

Chemistry

- CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1

Physics

- PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
  and PHYS 113-113L - Introduction to Physics II and Lab * (COM) Credits: 4

Mathematics

- MATH 125 - Calculus II * (COM) Credits: 4
  or STAT 281 - Introduction to Statistics * (COM) Credits: 3

Electives: 6-15

Total Required Credits: 120

Curriculum Notes

1 Students selecting this option who plan to enter professional or graduate degree programs should also take MATH 121 or 123 and 125.
2 PHYS 101-101L is not sufficient for students planning to enter professional or graduate degree programs.
3 Pre-professional students should consult their advisor before selecting an option.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

Music Education Major

Program Coordinator/Contact
David Reynolds, Department Head
Department of Music
Lincoln Music Hall 205, Box 2212
605-688-5187
E-mail: paul.reynolds@sdstate.edu
www.sdstate.edu/mus

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.

Music Program Application Requirements

1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student’s major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the Department in that area. To that end, students must:
   1. successfully complete a jury examination each semester.
   2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
   3. complete a minimum of 6 hours of upper level (300-400) applied study
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the Department for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
   1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
   2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E program, and while the required pedagogies develop proficiency within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/271 general voice for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.

8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.

9. A senior recital is required of all music majors.

10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

Accreditation, Certification, and License

Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
The department offers coursework in classroom, studio, and performance areas.

Requirements for Music Education Major: 126 Major
Bachelor of Music Education

System General Education Requirements*: 32

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 9
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 or SOC 100 Credits: 6
- Goal #4 Humanities and Arts/Diversity: MUS 130 and MUS 131 Credits: 8
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 4

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: MUS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: Credits: 3

Major Requirements: 63

- 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
- MUEN 100-122, Music Organization Credits: 4
- MUEN 300-322, Music Organization Credits: 3
- MUS 110 - Basic Music Theory I (COM) Credits: 4
- MUS 110L - Basic Music Theory I Lab (COM) Credits: 0
- MUS 111 - Basic Music Theory II (COM) Credits: 4
- MUS 111L - Basic Music Theory II Lab (COM) Credits: 0
- MUS 210 - Advanced Music Theory I (COM) Credits: 4
- MUS 210L - Advanced Music Theory I Lab (COM) Credits: 0
- MUS 211 - Advanced Music Theory II (COM) Credits: 4
- MUS 211L - Advanced Music Theory II Lab (COM) Credits: 0
- MUS 313 - Form and Analysis (COM) Credits: 3
- MUS 433 - Music Literature and History III (AW) Credits: 3
- MUS 185 - Recital Attendance (COM) Credits: 0
- MUS 360-360L - Conducting (COM) Credits: 2
- MUS 361-361L - Music Education II: Conducting and Lab Credits: 2
- MUS 270 - Pedagogy I Credits: 2-2

Education Program Requirements

The Secondary Teacher Education program is structured around the three components of General Studies (meeting university core requirements), Specialty Studies (meeting major content requirements), and Professional Studies. Professional Studies has three professional semesters which directly prepare students for the profession of teaching.

The Education curriculum below is unique to Music Education. Please contact the Department of Teaching, Learning, and Leadership for information about other education programs, or the program coordinators for information on Agricultural Education, Family and Consumer Sciences Education, and Physical Education as these programs differ significantly from other content areas.

Professional Semester I

- EDFN 338 - Foundations of American Education (COM) Credits: (1-2)
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II

- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1

In addition, the following courses must be successfully completed prior to entry into Professional Semester III:

- Native American Course Approved for Teacher Education - HIST 368 - History and Culture of the American Indian ** (COM) Credits: 3
- MUS 355 - Computer Based Technology and Learning for Music Educators Credits: 2
- or EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Academic Programs 179
Total Required Credits: 126

Note One: Concurrent enrollment with all MUAP courses

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs).
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Music Major - Music Entrepreneurship Specialization

Program Coordinator/Contact
David Reynolds, Department Head
Department of Music
Lincoln Music Hall 205, Box 2212
605-688-5187
E-mail: paul.reynolds@sdstate.edu
www.sdstate.edu/mus

Music Program Application Requirements
1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student’s major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the Department in that area. To that end, students must:
   1. successfully complete a jury examination each semester.
   2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
   3. complete a minimum of 6 hours of upper level (300-400) applied study
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the Department for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
   1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
   2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E program, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/271 general instrument for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
9. A senior recital is required of all music majors.
10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

Course Delivery Format
The department offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

Requirements for Music Major - Music Entrepreneurship Specialization:
120 Credits
Bachelor of Arts

System General Education Requirements*:
1. Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
2. Goal #2 Oral Communication: SPCM 101 Credits: 3
3. Goal #3 Social Sciences/Diversity: Credits: 6
4. Goal #4 Humanities and Arts/Diversity: Credits: 6
5. Goal #5 Mathematics: Credits: 3
6. Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**:
1. Goal #1 First Year Seminar MUS 109 Credits: 2
2. Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 5-16
Bachelor of Arts

- Modern Languages* (completion and competency in one language at the 202 level or a department-approved advanced upper division language course) Credits: 3-14
- Humanities
- Social Sciences Credits: 0-2
See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications

Major Requirements: 63-66
Music Core Requirements: 32

- MUS 110 - Basic Music Theory I (COM) Credits: 4
- MUS 110L - Basic Music Theory I Lab (COM) Credits: 0
- MUS 111 - Basic Music Theory II (COM) Credits: 4
- MUS 111L - Basic Music Theory II Lab (COM) Credits: 0
- MUS 130 - Music Literature and History I (G) Credits: 2
- MUS 201 - History of Country Music * Credits: 3
- MUS 202 - The Music Industry Credits: 3
- MUS 203 - Blues, Jazz, and Rock * Credits: 3
- MUS 210 - Advanced Music Theory I (COM) Credits: 4
- MUS 210L - Advanced Music Theory I Lab (COM) Credits: 0
- MUS 211 - Advanced Music Theory II (COM) Credits: 4
- MUS 211L - Advanced Music Theory Lab II (COM) Credits: 0
- MUS 302 - Introduction to Recording Industry Credits: 2
- MUS 433 - Music Literature and History III (AW) Credits: 3
Music Organization Requirements: 7
- MUEN 100-299 - Music Ensemble Credits: 4
- MUEN 300-499 - Music Ensemble Credits: 3
Applied Music Requirements: 6
- MUAP 115-116 - Class Instruction - Keyboard (COM) Credits: 2
- MUAP 100-299 - Applied Music Credits: 4
- MUS 185 - Recital Attendance (COM) Credits: 0
Entrepreneurial Requirements: 18-21
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- BADM/ECON 370 - Marketing (COM) Credits: 3
- ENTR 236 - Innovation & Creativity Credits: 3
- ENTR 237 - ENTR II: Entrepreneurship Development Credits: 3
- MCOM 225-225L - Introduction to Digital Production and Lab Credits: 3
- MUS 494 - Internship Credits: 3-6
Electives: 3-17
Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
* South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
- (G) Globalization Requirement.
- (AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Music Major - Music Studies Specialization
Program Coordinator/Contact
David Reynolds, Department Head
Department of Music
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www.sdstate.edu/mus
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.

Music Program Application Requirements
1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student's major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the Department in that area. To that end, students must:
   1. successfully complete a jury examination each semester.
   2. apply for and be granted approval to advance to upper level applied study (300-400 levels).
   3. complete a minimum of 6 hours of upper level (300-400) applied study.
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the Student Handbook published and available from the Department for more specifics. The piano proficiency must be passed before the senior recital may be scheduled.
4. Voice or instrumental proficiency is required of all keyboard majors.
5. Ensemble Requirements:
   1. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the Student Handbook for more details.
   2. Participation in small ensembles is strongly encouraged for all majors and minors.
6. A minimum of five pedagogy courses is required for students in the B.M.E program, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential. For instrumental B.M.E. majors, this must include one semester each of string, woodwind, brass, and percussion pedagogy. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take MUS 270/271 general voice for instrument majors. For vocal B.M.E. majors, the four required semesters of vocal pedagogy are augmented by MUS 270/271 general instrument for voice majors.
7. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her advisor.
8. Recommendations for music entrepreneurship students wishing to enroll for the Internship experience must be issued by the program Coordinator.
9. A senior recital is required of all music majors.
10. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons.

Course Delivery Format
The department offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

Requirements for Music Major - Music Studies Specialization: 120 Credits
Bachelor of Arts

System General Education Requirements*:
- Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Social Science courses only Credits: 6
- Goal #4 Humanities and Arts/Diversity: Humanities (no foreign language) Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: MUS 109 Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 5-16
Bachelor of Arts
- Modern Languages* (completion and competency in one language at the 202 level or a department-approved advanced upper division language course) Credits: 3-14
- Social Sciences Credits: 0-2
See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications

Major Requirements: 50
Music Studies Core: 30
- MUS 110-110L Basic Music Theory I & Lab (COM) Credits: 4
- MUS 111-111L - Basic Music Theory II & Lab (COM) Credits: 4
- MUS 130-Music Literature and History I* Credits: 2
- MUS 131-Music Literature and History II* Credits: 3
- MUS 210-210L - Advanced Music Theory I & Lab (COM) Credits: 4
- MUS 211 - Advanced Music Theory II (COM ) Credits: 4
- MUS 270/370 - Pedagogy Credits: 1
- MUS 313 - Form and Analysis (COM) Credits: 3
- MUS 360-360L - Conducting (COM) Credits: 2, 0
Electives: 19-30

Total Required Credits: 120

Notes
Students must earn at least a "C" in each course used to meet the departmental requirements of all majors, minors, and certificates.

Curriculum Notes
* Concurrent enrollment with all MUAP courses.

**South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits.

English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Nursing Major

Program Coordinator/Contact

Standard Option, Brookings

Linda M. Herrick, Association Dean, Ph.D., RN

SDSU Wagner Hall 327

Brookings, SD 57007

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Standard Option, Rapid City

West River Department, SDSU

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Rapid City, SD 57701

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Standard Option, Sioux Falls

College of Nursing, SDSU

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Sioux Falls, SD 57107

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Program Information

The bachelors 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. Graduates of the RN Upward Mobility option, already registered nurses, are prepared to expand their practice in the areas of community health, health promotion, and leadership. They also 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.

Program Delivery Options

Three types of undergraduate curricula lead to the Bachelor of Science with a major in nursing: one for standard students, one for RNs who are academically prepared at the associate degree or diploma level and now seek a bachelor's degree, and the accelerated option for students with non-nursing baccalaureate degrees who wish to obtain a degree in nursing. The Standard Option is designed to meet the educational needs of persons who are not registered nurses and can be completed in two and a half years.

Program Admission

Admission Application Dates

- September 25 is the admission application deadline to enter in the Spring Semester.
- January 25 is the admission application deadline to enter in the Fall Semester.
- The Brookings and Rapid City programs admit students to the nursing major for both the Fall and Spring semesters.
- The Sioux Falls program admits students in courses each Fall to begin courses each January.

Admission Requirements

To be considered for admission to the Standard Option, students must have:

- a cumulative GPA of 2.7
- a pre-nursing GPA of 2.7 at time of admission
- a grade of "C" or higher in all completed courses required for graduation,
- completed the following core requirements:
  - System Graduation Requirement (SGR) #1: Written Communication - ENGL 101 Composition I
  - One course from the System Graduation Requirement (SGR) #1: Oral Communication list
  - One course from the System Graduation Requirement (SGR) #4: Humanities list
  - System Graduation Requirement (SGR) #5: Mathematics (MATH 102 or higher)
  - Institutional Graduation Requirement (IGR) #1: NURS 109 First-Year Seminar

Any student eligible for regular admission to SDSU who plans to enroll in the College of Nursing and Department of Undergraduate Nursing is accepted into pre-nursing and has an academic adviser from the College of Nursing. During the semester in which students complete their final pre-nursing required courses, they apply for admission to the nursing major. Applicants with courses in progress at the time of application will be required to provide written documentation of their registration in those courses with the application form.

Fulfillment of course and application requirements does not ensure admission. The number of students accepted to enroll in the nursing major may vary depending upon available clinical facilities, qualified faculty and funds. Students who want to enter the nursing major are required to submit an application for admission to the major. Prior to applying to any option, all students must apply for admission to SDSU.

Additional Coursework Policies

Students who have failed (earned a "D" or "F") in two or more of the pre-nursing science courses (CHEM 106/106L or 112/112L, or 108/108L or 114/114L; MICR 231/231L; BIOL 221/221L, 325/325L), repeated and passed them on the second attempt will not be admitted to the Nursing Major. Students who have failed one pre-nursing course (CHEM 106/106L or 112/112L, 108/108L or 114/114L; MICR 231/231L; BIOL 221/221L, 325/325L; PSYC 101; one of the following: SOC 100, 150, or 240; NFS 315; HDFS 210), repeated and failed the same course a second time will not be admitted to the Nursing Major. If the failure is over five years old, it does not count as a failure. Students who have taken Anatomy or Physiology more than seven years prior to their admission date will be required to update these courses.

Technical Standards

Students preparing for or seeking additional education in the field of professional nursing must demonstrate the ability to meet the demands of the professional nurse role. For admission to and progression in the nursing major courses, the student must meet Technical Standards for the nursing major. These standards are in the areas of general abilities, observational ability, communication, motor ability, intellectual/conceptual ability, and behavioral/social attributes. The Technical Standards are available on the Nursing website or through the academic advisors at each of the program sites.

Background Checks

All students seeking admission into a nursing program in the College of Nursing must submit federal and supplemental criminal background checks. Admission to a program is conditional based on the results of the background checks.

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check. The required background check is based on requirements for licensure as a registered nurse in South Dakota (South Dakota Nurse Practice Act, SD Codified Law Chapter 36-9-97). If you have been convicted, pled guilty or no contest to, or received a suspended imposition of sentence for a felony or other criminal offense (excluding minor traffic violations), you are advised that it may not be possible for you to be accepted into the major at South Dakota State University. You may also be prevented from taking the required licensure exam for registered nurses, and you may be prevented from gaining employment in the field of nursing. If you have questions about this policy, please contact the Department Head, Nursing Student Services at 605-688-4106.

Transfer Students
Transfer students who have begun but not completed a nursing program at another college or university must submit a letter to the College of Nursing indicating their reason for transfer. They must also apply for admission to SDSU, as well as to the College of Nursing. Three letters of recommendation must also be submitted to the College of Nursing: one from the dean/director of their former program and two from faculty members.

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 higher than it is for other colleges in the University. The College of Nursing requires all students who meet the definition of student with English as a Second Language to complete the Test of English as a Foreign Language (TOEFL). International English Language Testing System (IELTS), 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 minimum TOEFL score required for admission to the Nursing Major is 600 (paper-based), with no score below 56; 250 (computer-based), with a minimum reading score of 22, writing 23, and listening 22; or 100 (internet-based) (with a minimum reading score of 21, writing 19, listening 22, and speaking 26). The required IELTS band score for admission to the nursing major is 7.0. The TOEFL or IELTS 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 major. The student is responsible for all testing fees.

Academic Requirements
A GPA of 2.5 or higher is required for continuation in the nursing major. A grade of "C" or higher is required in all nursing courses. Students may repeat one failed nursing course with permission. Upon failing a second nursing course, the student is dismissed from the program. A student who needs to retake a failed 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 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, 2001). The Code of Ethics for Nurses communicates a standard of professional behavior expected throughout the total program and in each individual nursing course. Therefore, in addition to dismissal for academic failure, the faculty and administration of the Departments of Undergraduate Nursing and Graduate Nursing reserve the right to dismiss any student enrolled in either the undergraduate or graduate program for unethical, dishonest, illegal, or other conduct that is inconsistent with the Code of Ethics for Nurses.

Accreditation, Certification, and Licensure

Accreditation
The program is accredited by the National League for Nursing Accrediting Commission (NLNAC) and approved by the South Dakota Board of Nursing. Certification
Graduates of the standard and the accelerated programs in nursing are eligible to write the National Council Licensure Examination to become registered nurses. Graduates of the RN Upward Mobility option, already registered nurses.

Licensure
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.

Course Delivery Format
The Nursing program promotes a combination of 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 field based learning experiences.

Requirements for Nursing Major: 120 Credits

Bachelor of Science

System General Education Requirements*: 32-33

- Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 * Credits: 3 and SOC 100 * or SOC 150* or SOC 240 * Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits:3
- Goal #6 Natural Sciences: CHEM 106-106L* or CHEM 112-112L* Credits: 4 and CHEM 108-108L* or CHEM 114-114L* Credits: 5-4

Institutional Graduation Requirements: 5

- Goal #1 First Seminar: NURS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PSYC 101** Credits:3

Pre-Nursing Requirements: 15

- BIOC 221-221L - Human Anatomy and Lab (COM) Credits: 4
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4
- NIFS 315 - Human Nutrition Credits: 3
- BIOC 325-325L - Physiology and Lab (COM) Credits: 4

Major Requirements: 62

- HSC 452 - Interprofessional Issues in Health Care Credits: 2
- NURS 234 - Patient-Centered Care Concepts I Credits: 2
- NURS 235 - Clinical Application I Credits: 2
- NURS 258-258L - Nursing Principles and Application I: Assessment and Interventions Lab Credits: 3
- NURS 272 - Professional Nursing Concepts I Credits: 2
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 334 - Patient-Centered Care Concepts II Credits: 5
- NURS 335 - Clinical Application II Credits: 4
- NURS 344 - Patient-Centered Care Concepts III Credits: 4
- NURS 345 - Clinical Application III Credits: 4
- NURS 358 - Nursing Principles and Applications II: Interventions Lab Credits: 3
- NURS 360 - Research and Evidence-Based Practice Credits: 3
- NURS 372 - Professional Nursing Concepts II Credits: 2
- NURS 434 - Patient-Centered Care Concepts IV Credits: 4
- NURS 435 - Clinical Application IV Credits: 4
- NURS 441-444L - Population-Centered Care and Lab Credits: 1.5, 1.5
- NURS 472 - Professional Nursing Concepts III Credits: 5
- NURS 495-495L - Practicum and Clinical Lab (AW) Credits: 6
- PHA 321 - Pharmacology Credits: 3

Electives: 5-6

Total Required Credits: 120

Curriculum Notes
West River pre-nursing courses may not be offered in exactly the same semester as they are on the main campus in Brookings. Must be accepted into Nursing program prior to taking major courses. Sioux Falls standard program implementation Spring 2016.

* The 30 credit Board of Regents System General Education Requirements

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South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs). (G) Globalization Requirement. (AW) Advanced Writing Requirement. Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Nursing Major - Accelerated Program
Program Coordinator/Contact
Accelerated Option, Sioux Falls
College of Nursing, SDSU
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Accelerated Option, Aberdeen
Northern State University, SDSU
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Program Information
The bachelors 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.

Program Delivery Options
The Accelerated Option is for students who have completed a Bachelor's degree in any field and wish to obtain a Bachelor of Science in Nursing (BSN) degree. The program takes 12 months to complete and starts once a year (August) at University Center in Sioux Falls. Students take coursework and participate in lecture, on-campus labs, and clinical rotations in Sioux Falls and surrounding communities.

Program Admission
Admission Application Deadline Dates
- Sioux Falls Accelerated Option, January 25.
- Aberdeen Accelerated Option, July 1.

Admission Requirements
To be considered for admission to the Accelerated Option, students must have:
- a cumulative GPA of 2.8 or higher,
- a pre-nursing GPA of 3.0 or higher,
- a grade of "C" or higher in all completed nursing major support courses and courses meeting general education and institutional requirements.
- Students may apply when they have completed at least six of the pre-nursing courses AND have at least two of the remaining four pre-nursing courses in progress.

Any student eligible for regular admission to SDSU who plans to enroll in the College of Nursing and Department of Undergraduate Nursing is accepted into the program. However, students must meet university core requirements and major support courses in communication and the social, physical, and biological sciences, and humanities and arts prior to enrollment. Students are required to submit a letter of recommendation from a nurse practitioner or a registered nurse before being accepted into the program.

Admission to SDSU, as well as to the College of Nursing. Three letters of recommendation must also be submitted to the College of Nursing: one from the dean/director of the former program and two from faculty members.

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 patients. The College of Nursing requires all students who meet the definition of student with English as a Second Language to complete the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or an accepted substitute. English as a Second Language is defined as a student who is not a native English speaker and whose first language is not English. Students must meet the minimum TOEFL score required for admission to the Nursing Major is 100 (internet-based), with a minimum reading score of 22, writing 23, and listening 22; or 100 (internet-based) (with a minimum reading score of 21, writing 19, listening 22, and speaking 26). The required IELTS band score for admission to the nursing major is 7.0. The TOEFL or IELTS 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 major. The student is responsible for all testing fees.

Academic Requirements
A GPA of 2.5 or higher is required for continuation in the nursing major. A grade of "C" or higher is required in all nursing courses. Students may repeat one failed nursing course with permission. Upon failing a second nursing course, the student is dismissed from the program. A student who needs to retake a failed course is re-enrolled in the course on a space available basis.
student who fails a course due to unsafe practice in a clinical experience will not be eligible for readmission to the 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, 2001). The Code of Ethics for Nurses communicates a standard of professional behavior expected throughout the total program and in each individual nursing course. Therefore, in addition to dismissal for academic failure, the faculty and administration of the Departments of Undergraduate Nursing and Graduate Nursing reserve the right to dismiss any student enrolled in either the undergraduate or graduate program for unethical, dishonest, illegal, or other conduct that is inconsistent with the Code of Ethics for Nurses.

Accreditation, Certification, and Licensure
Accreditation
The program is accredited by the Commission on Collegiate Nursing Education (CCNE) and approved by the South Dakota Board of Nursing.

Licensure
Unencumbered RN license is an RN-BS admission requirement.

Course Delivery Format
All coursework is delivered in the online format. Curriculum is flexible, and designed to accommodate personal and professional needs of the RN. There are many opportunities for collaboration with experienced, well-qualified faculty and other RNs.

Requirements for Nursing Major - Accelerated Program: 120 Credits
Bachelor of Science

System General Education Requirements*: 32-33
- Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: HDFS 210 * Credits: 3 and SOC 100 * or SOC 150* or SOC 240 * Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits:3
- Goal #6 Natural Sciences: CHEM 106-106L* or CHEM 112-112L* Credits: 4 and CHEM 108-108L* or CHEM 114-114L* Credits: 5-4

Institutional Graduation Requirements**: 5
- Goal #1 First Seminar: NURS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PSYC 101** Credits:3

Pre-Nursing Requirements: 15
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4
- NFS 315 - Human Nutrition Credits: 3

Major Requirements: 65
- HSC 445 - Epidemiology Credits: 3 or STAT 281 - Introduction to Statistics * (COM) Credits: 3
- NURS 215 - Professional Nursing Credits: 2
- NURS 265-265L - Health Assessment and Interventions and Lab Credits: 4
- NURS 280-280L - Professional Communication and Lab Credits: 3
- NURS 310-310L - Introduction to Public Health and Population-based Nursing and Lab Credits: 4
- NURS 323 - Introduction to Pathophysiology Credits: 3
- NURS 325-325L - Beginning Nursing Care of the Client with Health Problems and Lab Credits: 6
- NURS 355 - Research: Appraisal and Utilization Credits: 2
- NURS 365-365L - Nursing Care of the Client with Health Problems and Lab Credits: 6
- NURS 380-380L - Nursing Care of the Childbearing Family and Lab Credits: 5
- NURS 410-410L - Advanced Nursing Care of the Client with Health Problems and Lab Credits: 6
- NURS 420-420L - Nursing Care of the Client with Mental Health Problems and Lab Credits: 5
- NURS 425 - Nursing Leadership Credits: 3
- NURS 480-480L - Advanced Population based Nursing Practice and Lab (G) Credits: 4
- NURS 495-495L - Practicum and Clinical Lab (AW) Credits: 6
- PHA 321 - Pharmacology Credits: 3

Electives: 2-3

Total Credits Required: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.

Nursing Major - RN Upward Mobility
Program Coordinator/Contact
Susan Rosen, Coordinator, RN Upward Mobility
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www.sdstate.edu/nurs/programs/undergraduate/rn-bs

Program Information
The bachelors of science in nursing is recommended as the minimum preparation for nursing practice. The RN Upward Mobility specialization enhances the educational preparation of the diploma or associate degree RN and further develops the RNs foundation for advanced study in nursing. Graduates of the RN Upward Mobility specialization provides opportunities for new career opportunities in emerging healthcare environments. The curriculum includes university core requirements, nursing major prerequisite courses in communication and the social, physical, and biological sciences, and RN-BS courses.

Program Delivery Options
The RN Upward Mobility program is designed as a degree completion for registered nurses who have completed a diploma or associate degree nursing program.

Program Admission
Admission Application Dates
- March 1 submission date for RN-BS application.

Admission
- GPA, "C" grades in all coursework applied to baccalaureate requirements.
- RN's apply to the nursing major when 2 or fewer pre-requisite requirements remain.
- Evidence of personal liability insurance, criminal background check, and unencumbered nursing license.

Notes
- RN's interested in the RN Upward Mobility option are encouraged to contact the RN Upward Mobility office on the Brookings campus for individual advising.
- Eligibility requirements include: Online application available through March 1 each year. Failure to meet submission requirements may disqualify an applicant for the annual admission cycle. RN-BS courses may be completed in one or two year plans of study.
Technical Standards
Students preparing for or seeking additional education in the field of professional nursing must demonstrate the ability to meet the demands of the professional nurse role. For admission to and progression in the nursing major courses, the student must meet Technical Standards for the nursing major. These standards are in the areas of general abilities, observational ability, communication, motor ability, intellectual/conceptual ability, and behavioral/social attributes. The Technical Standards are available on the Nursing website or through the academic advisors at each of the program sites.

Background Checks
All students seeking admission into a nursing program in the College of Nursing must submit federal and supplemental criminal background checks. Admission to a program is conditional based on the results of the background check. The required background check is based on requirements for licensure as a registered nurse in South Dakota (South Dakota Nurse Practice Act, SD Codified Law Chapter 36-9-97). If you have been convicted, plead guilty or no contest, or received a suspended sentence for a felony or other criminal offense (excluding minor traffic violations), you are advised that it may not be possible for you to be accepted into the major at South Dakota State University. You may also be prevented from taking the required licensure exam for registered nurses, and you may be prevented from gaining employment in the field of nursing. If you have questions about this policy, please contact the Department Head, Nursing Student Services at 605-688-4106.

Transfer Students
Transfer students who have begun but not completed a bachelor’s in nursing program at another college or university must submit a letter to the College of Nursing indicating their reason for transfer. They must also apply for admission to SDSU, as well as to the College of Nursing. Three letters of recommendation must also be submitted to the College of Nursing: one from the dean/director of their former program and two from faculty members.

Academic Requirements
A GPA of 2.5 or higher is required for continuation in the nursing major. A grade of “C” or higher is required in all nursing courses. Students may repeat one failed nursing course with permission. Upon failing a second nursing course, the student is dismissed from the program. A student who needs to retake a failed 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 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, 2001). The Code of Ethics for Nurses communicates a standard of professional behavior expected throughout the total program and in each individual nursing course. Therefore, in addition to dismissal for academic failure, the faculty and administration of the Departments of Undergraduate Nursing and Graduate Nursing reserve the right to dismiss any student enrolled in either the undergraduate or graduate program for unethical, dishonest, illegal, or other conduct that is inconsistent with the Code of Ethics for Nurses.

Accreditation, Certification, and Licensure
Accreditation
The program is accredited by the Commission on Collegiate Nursing Education (CCNE) and approved by the South Dakota Board of Nursing.

Licensure
Unencumbered RN license is an RN-BS admission requirement.

Course Delivery Format
All coursework is delivered in the online format. Curriculum is flexible, and designed to accommodate personal and professional needs of the RN. There are many opportunities for collaboration with experienced, well-qualified faculty and other RNs.

Requirements for Nursing Major - RN Upward Mobility Specialization:
120 Credits
Bachelor of Science

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101* and ENGL 201* Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: NURS 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: PSYC 101** Credits: 3

College Requirements: 24
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- HSC 443 - Public Health Science ** (G) Credits: 3
- HSC 445 - Epidemiology Credits: 3
- or STAT 281 - Introduction to Statistics *(COM) Credits: 3
- NPS 315 - Human Nutrition Credits: 3
- PHA 321 - Pharmacology Credits: 3
- Electives Credits: 4

Major Requirements: 59
- NURS 215 - Professional Nursing Credits: 2 ***
- NURS 222 - Transition to BS in Nursing Credits: 1
- NURS 265-265L - Health Assessment and Interventions and Lab Credits: 4 ***
- NURS 280-280L - Professional Communication and Lab Credits: 3 ***
- NURS 310-310L - Introduction to Public Health and Population-based Nursing and Lab Credits: 3 ***
- NURS 325-325L - Beginning Nursing Care of the Client with Health Problems and Lab Credits: 6 ***
- NURS 381 - Family and Communication Credits: 3
- NURS 385 - Health Assessment, Clinical Decision-Making and Nursing Interventions Credits: 5
- NURS 416 - Community Health Nursing (AW) Credits: 5
- NURS 454 - Leadership and Management Credits: 3
- NURS 474 - Nursing Research and Nursing Theory Credits: 3
- Associate Degree Nursing Transfer Credits: 20
Note: *** Nursing Credits Earned by Exam

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs). (G) Globalization Requirement, (AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Nutrition and Food Science Major

Program Coordinator/Contact
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Program Information
The Nutrition and Food Science major is a dynamic field based in science and focuses on the chemical, physiological and biological aspects of foods and nutrients. The program has two emphasis and the curriculum can be designed to meet the student's interest in food science or nutritional sciences. The Nutritional Sciences emphasis prepares students for entry into either graduate school or a professional school such as medical, chiropractic or physician assistant. Nutritional Sciences is the discipline in which the biological, physiological and chemical sciences are used to study the nature of how the body digests food, absorbs and metabolizes nutrients, and the and the impact on health and well-being. Students will develop knowledge in the basic biological, chemical and physiological sciences for application in a health profession or in research and development. This emphasis does not meet the requirements to become a Registered Dietitian, but prepares students for entry into professional schools or for graduate study in Nutritional Sciences.

The Food Science emphasis prepares students for professional positions in the food manufacturing industry or for graduate study in Food Science. Food Science is the study of the science of production, processing, preservation, packaging and distribution of safe, wholesome and nutritious foods. Students will develop knowledge in the basic physical, chemical and engineering sciences. These sciences are used to study the nature of foods, the causes of food deterioration, and principles of food preservation. Creative approaches are employed to develop new food products for the rapidly changing consumer who desires good taste and good nutrition at a good price.

Student Learning Outcomes
Graduates will be able to:
- Upon completion of the Nutrition and Food Science major, students should demonstrate the following:
- The ability to gain factual knowledge and learn fundamental principles of nutrition or food science.
- The development of specific skills, competencies, and points of view needed by professionals in nutrition or food sciences.
- The ability to apply critical thinking skills in the context of distinguishing fact.
- The application of scientific principles to nutrition or food and food products.
- Awareness of and appreciation of ethical practice and diversity within the student's respective profession.
- Ability to use oral and written communication skills effectively in a group or team environment.
- Competence in quantitative skills.
- Experience with computers and other emerging information technologies and their application to nutrition or food science.

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 graduate from the program.

Accreditation, Certification, and Licensure
The Food Science emphasis follows curricula guidelines prescribed by the Institute of Food Technologists. The Nutritional Sciences emphasis has curricula similar to other nutrition programs across the nation. Additionally, students graduating with the Food Science emphasis can seek the Certified Food Scientist credential through the Institute of Food Technologists. The Nutritional Sciences emphasis does not meet the requirements to become a registered dietitian.

Course Delivery Format
The program offers instruction through lecture, discussion, laboratory exercises, and practical training.

Requirements for Nutrition and Food Science Major: 120 Credits

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101, and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101, and ECON 202 Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: CHEM 112-112L, and CHEM 114-114L Credits: 8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Experience: UC 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: NFS 111** Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 38
- BIOL 151-151L - General Biology I and Lab *(COM) Credits: 4
- BIOL 383 - Bioethics **(COM) (G) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3,1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3,1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- NFS 141-141L - Foods Principles and Lab Credits: 4
- NFS 251 - Food Safety and Technology Credits: 3
- NFS 315 - Human Nutrition Credits: 3
- HNS 490 - Seminar Credits: 1
- PHYS 111-111L - Introduction to Physics I and Lab *(COM) Credits: 4
- STAT 281 - Introduction to Statistics *(COM) Credits: 3

Electives: 43

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits.

Operations Management Major

Program Coordinator/Contact
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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 two emphases for the OM program. The **Manufacturing** emphasis includes Lean, quality management systems, process development, workplace safety, supply chain management, and industrial controls. Students may elect to pursue an additional professional certification at graduation. The **Electronics** emphasis prepares students to work as supervisors or project team leaders in industries that manufacture, service, or develop electronic devices or distributed systems. Courses include circuits, digital & analog devices, networks, microcontrollers, PCBs, industrial controls, and PLCs.

**Program Educational Outcomes**
OM graduates will become professionals who:

1. apply principles of mathematics and science, modern management techniques, and technology to the solution of current and future problems in the field of operations management,
2. achieve positions of increasing responsibility or leadership with employers, professional organizations, or civic organizations in recognition of professional competence and the ability to function in team environments, and
3. complete licensure, certification, short courses, workshops, or advanced degrees in technical, professional, or management subject areas as they adapt to contemporary operations management practices and the global business environment.

**Student Learning Outcomes**
OM graduates have:

- an ability to apply knowledge of mathematics, science, and applied sciences including algebra, calculus, physics, probability, and statistics.
- an ability to design and conduct experiments, use appropriate methodologies including Design of Experiments, analyze and interpret data, and demonstrate proficiency in data analysis using appropriate computer software and hardware.
- an ability to formulate or design a system, process, or program to meet desired needs.
- an ability to function as members and leaders on multidisciplinary teams.
- an ability to identify problems, understand risk, interpret information, and put theory into practice to solve current applied science and management problems.
- an understanding of professional and ethical responsibility.
- an ability to communicate effectively and use information from a variety of sources.
- an ability to apply knowledge of mathematics, science, and applied sciences to the solution of current and future problems in the field of operations management.
- a recognition of the need for and an ability to engage in life-long learning.
- a knowledge of contemporary issues.
- an ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice.
- an understanding of management theory and practice, including the strategic planning process, project management, personal and organizational goal setting, leveraging resources, quality management theory and practice, and the ability to use these tools effectively in the workplace.

**Course Delivery Format**
The program provides coursework on the Brookings campus in classroom, laboratory, and field based settings.

**Requirements for Operations Management Major: 120 Credits**

**Bachelor of Science in Operations Management**

**System General Education Requirements**: 32
- Goal #1 Written Communication: ENGL 101 and ENGL 277 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202 Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: CHEM 106-106L and PHYS 101-101L Credits: 8

**Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: GE 109-109L Credits: 1, 1
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: GE 231 Credits: 3

**Major Requirements: 61**
- ET 210-210L - Introduction to Electronic Systems Credits: 4
- ET 451-451L - Industrial Controls and PLCs and Lab Credits: 3
- GE 425-525 - Occupational Safety and Health Management Credits: 3
- MGMT 310 - Business Finance (COM) Credits: 3
- MGMT 325 - Management Information Systems (COM) Credits: 3
- MGMT 460 - Human Resource Management (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MNET 367-367L - Production Strategy and Lab Credits: 3
- MNET 460-560 - Manufacturing Cost Analysis Credits: 3
- OM 462-562 - Quality Management Credits: 3
- OM 463-563 - Supply Chain Management Credits: 3
- OM 469-569 - Project Management Credits: 2
- OM 471-471L - Capstone Experience and Lab (AW) Credits: 2
- OM 494 - Internship Credits: 1-3

**Supporting Coursework: 22**
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- GE 121 - Engineering Design Graphics I Credits: 1
- GE 123 - Computer Aided Drawing Credits: 1
- MATH 121-121L - Survey of Calculus and Lab (COM) Credits: 5
- STAT 281 - Introduction to Statistics *(COM) Credits: 3
- Technical Electives Credits: 6

**Emphasis: 20-21**
Select One Emphasis

**Electronics Emphasis: 21**
- ET 232-232L - Digital Electronics and Microprocessors and Lab Credits: 3
- ET 320-320L - Analog Electronics and Lab Credits: 3
- ET 330-330L - Microcontrollers and Networks and Lab Credits: 3
- ET 380-380L - Circuit Boards and Design and Lab Credits: 3
- OM 425 - Production/Operations Management Credits: 3
- OM 465 - Quality Control Applications Credits: 3
- Technical Electives Credits: 6

**Manufacturing Emphasis: 20**
- MNET 231-231L - Manufacturing Processes I and Lab Credits: 3
- OM 425 - Production/Operations Management Credits: 3
- OM 465 - Quality Control Applications Credits: 3
- Technical Electives Credits: 11

**Total Required Credits: 120**

**Internship Program**
Students are required to complete an industry—based internship prior to graduation via the course OM 494. The Program Coordinator and Faculty Advisor must approve a formal work plan before registering for internship credits. Further information can be found in the department.

**Curriculum Notes**
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

**G) Globalization Requirement.**
- (AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Pharmacy Major

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

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

Application Process
All students seeking admission to the 4-year professional program leading to the Doctor of Pharmacy degree must submit an application for the professional program. Applications are available from the College of Pharmacy web site. 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 experiences on sites make it necessary to limit the class size in the professional program. Each student admitted into the professional program is required to authorize and pay for a criminal background check. The background check report is automatically sent to the student and to the College and must be approved by the Admissions Committee.

Selection is competitive and based upon several factors including pre-pharmacy coursework, ACT or PCAT scores, written and oral communication skills, knowledge of the profession, residency status and other factors. Any student who anticipates successful completion of the pre-pharmacy mathematics, science and communication requirements prior to fall semester is eligible to apply.

Notification of initial acceptance into the professional program will be made by March 15. Students admitted to the professional program must submit a non-refundable pharmacy major fee to secure their position for the fall semester.

Program Format
The curriculum is divided into a 2-year pre-pharmacy and a 4-year professional program phase. The pre-pharmacy courses provide a solid knowledge base and ability to use critical thought processes in the biological and physical sciences.

The four years of the professional program incorporate a solid foundation of pharmaceutical science courses as well as a comprehensive sequence of therapeutics and professional practice courses. Students earn a B.S. in Pharmaceutical Sciences after successful completion of the first two years of the professional program. The application of drug knowledge, basic science, and critical thinking to resolve problems of drug distribution and patient care are emphasized throughout the curriculum. In their first three years of the program, students gain initial practice experience through introductory pharmacy practice experiences in settings such as community and hospital pharmacies.

In the final year of the program, students have an opportunity to apply knowledge and pharmacy care principles to pharmacy practice situations in a series of advanced pharmacy practice experiences in a variety of patient care settings which include patient care areas of hospitals, nursing homes, community pharmacies, hospital pharmacies, Indian Health Service facilities and clinic pharmacies.

Curriculum Notes
1. Eligible for B.S. in Pharmaceutical Sciences after completion of all general education requirements, 300 and 400-level required PHA courses, and general elective credits for a total of 138 credits.
2. Successful completion of the capstone activities are required as part of the degree requirements for both the BS in Pharmaceutical Science and the Doctor of Pharmacy degrees.
3. P3 year courses are taught at the University Center North in Sioux Falls. Advanced Pharmacy Practice Experiences (APPEs) are completed during Summer Sessions, Fall, and Spring Semesters.

Pharmacy Regulations
Students in the College of Pharmacy 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:

1. Pharmacy GPA Calculation – Pharmacy GPA is calculated using all pharmacy PHA prefix courses, excluding 201 & 321.
   A. For pharmacy courses repeated at SDSU, only the repeated grade will be used to calculate the pharmacy GPA.
   B. For pharmacy courses repeated at another college of pharmacy, a grade of "C" will be used to calculate the pharmacy GPA in place of the grade received for the corresponding course at SDSU (grades of "D" or "F" for pharmacy courses from other pharmacy programs do not satisfy the course requirement).
2. Probation - A student will be placed on "pharmacy probation" when the student's pharmacy GPA for a semester falls below 2.0. Each subsequent semester while on "pharmacy probation" the student must earn a pharmacy GPA of 2.0 or better or the student will be placed on "refused status." The student will be on probation for a minimum of one semester while taking pharmacy courses (PHA prefix, excluding 201 & 321) and will remain on "pharmacy probation" until the student’s cumulative Pharmacy GPA is 2.0 or greater.
3. Graduation - A student must earn a minimum 2.0 grade point average for all pharmacy courses (excluding PHA201 & PHA 321) to qualify for graduation with a B.S. in Pharmaceutical Sciences or to progress to the P3 year.
4. Progression –
   A. To progress to the P3 year a student cannot have more than 9 credits of "D" and/or "F" grades in PHA prefix courses.
   B. The Exit Exam is a capstone activity that each student must take for completion of the P2 year and progression into the P3 year; it is administered during the spring semester of the P2 year. The exam is intended to determine competency in the general and professional curricular outcomes that are pertinent through the P2 year (see Outcome Statements for Pharmacy Curriculum in the Student Handbook). If a student does not pass the P2 exam (passing determined by Assessment Committee based on College and National results), the student will carry out remediation according to instructions provided to the student. The student will also be required to take the exam in the spring of the P3 year, pay for the exam, and achieve a passing score. If a passing score is not achieved in the P3 year, the student will be required to take the exam in the spring of the P4 year, pay for the exam, and achieve a passing score (see Outcome Statements for Pharmacy Curriculum in the Student Handbook).
C. Standing - Some pharmacy courses have prerequisites such as "P1 Year Standing", etc. 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 109.
   P3 Year Standing - Completion of all PHA 400 level required courses and 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 practice experience courses are required to progress to the subsequent semester.
   P4 Year Standing - completion of all PHA 600-700 level required, non-advanced practice courses.
D. Students must have a C or better (or "S" where applicable) for completion of each 700 level course taken in the Doctor of Pharmacy program.
E. If completion of an Advanced Pharmacy Practice Experience (APPE) is not achieved by a student, the student may repeat that APPE the following summer according to availability after the next class has selected their APPEs. If completion of an elective APPE is not achieved, the student may select another elective APPE rather than repeating the same elective APPE. If a student fails completion of more than one APPE, the student will not be allowed to progress to another semester of the program.

F. The student must successfully complete P4 capstone requirements including P4 seminar, the P4 knowledge exam, all items on the Student Activities Checklist, and all components of the P4 Assessment Activities. In addition, the student must maintain a portfolio of activities according to distributed portfolio guidelines.

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**Student Learning Outcomes**

**General Outcomes**

A. Critical Thinking and Decision Making Abilities - Demonstrate critical thinking skills in making informed, rational, and responsible decisions.

1. Demonstrate the use of critical thinking skills to identify problems, goals, and alternatives to assess, prioritize, and solve problems.
2. Evaluate decisions by integrating factors such as, scientific, social, cultural, economic, and ethical issues in decision making.
3. Take responsibility for the outcomes of each decision made.

B. Communication Abilities and Skills - Use appropriate and effective communication in all situations.

1. Demonstrate appropriate comprehension and interpretation in reading, listening, and use of data.
2. Demonstrate effective writing, speaking, reading, listening, and interpersonal skills.
3. Demonstrate effective communication skills that apply aspects of cultural competency.

C. Self-Assessment and Life-Long Learning Skills - Demonstrate the ability to accurately self-assess strengths and areas needing improvement.

1. Demonstrate the ability to accurately self-assess strengths and areas needing improvement.
2. Take responsibility for maintaining professional competency through life-long learning.

D. Appreciation and Understanding of the Social Sciences, Humanities, Aesthetics (i.e., Fine Arts) and International and Multicultural experiences - Demonstrate an understanding and the ability to effectively use ideas and skills from social sciences, humanities, fine arts, and international and multicultural experiences.

1. Demonstrate an understanding of concepts from areas such as, music, art, literature, political science, foreign cultures, psychology, religion, sociology, history, and philosophy.
2. Appreciate the impact that these areas have on society and one’s own personal and professional life.

E. Knowledge of the Principles and Application of the Scientific Method - Articulate and apply the principles of science and mathematics in experimental design, analysis of data, and evaluation of the scientific validity of investigational studies.

F. Leadership and Social Responsibility - Demonstrate an understanding of the concepts of leadership and social responsibility and apply these concepts to personal and professional life.

**Professional Outcomes**

A. Medication therapy management: Patient-centered - Apply knowledge of the biomedical sciences, pharmaceutical sciences, and medication therapy management principles to provide patient-centered care.

1. Demonstrate a thorough understanding and ability to use critical thought processes in the following areas: Biomedical Sciences, Pharmaceutical Sciences, Behavioral, Administrative and Social Sciences, Clinical Sciences

2. Demonstrate professional competency in the provision of patient-centered medication therapy management which includes: Preparation, dispensing and administration of medications in multiple practice settings, Design, implement, monitor, and evaluate safe and effective evidence-based medication therapy regimens to optimize patient outcomes Communicate and collaborate with other health-care professionals to provide patient-centered care.

B. Medication therapy management: Population-based - Apply knowledge of the biomedical sciences, pharmaceutical sciences, and medication therapy management principles to promote health, wellness and prevent disease with a population-based focus.

1. Develop and implement population-specific, evidence-based programs and protocols to resolve public health problems.
2. Communicate and collaborate with other health-care professionals and policy makers to promote public health and wellness.

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**Accreditation, Certification, and Licensure**

**Accreditation**

The Pharm.D program is accredited by the Accreditation Council for Pharmacy Education, 135 S. LaSalle Street, Suite 4100, Chicago, IL 60603-4810

**Certification and Licensure**

Graduates with a Doctor of Pharmacy degree are eligible to apply for licensure in any state. Licensure as a pharmacist requires graduation with the Pharm.D. degree from an accredited pharmacy program, a certified period of supervised internship experience and successful completion of the North American Pharmacist Licensure Examination and the Multistate Pharmacy Jurisprudence Examination in order to practice as a pharmacist.

These requirements vary slightly from state to state. Students interested in practicing in a particular state should contact the Board of Pharmacy of that state for information concerning requirements.

**Requirements for Doctor of Pharmacy Degree: 218 Credits**

**System General Education Requirements**: 34

- Goal #1 Written Communication: ENGL 101*, and ENGL 201* Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity: ECON 202* Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 121-121L* Credits: 5
- Goal #6 Natural Sciences: CHEM 112-112L*, and CHEM 114-114L* Credits: 8

**Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: PHA 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3
Major Requirement Credits: 179.*

- BIOL 151-151L - General Biology I and Lab *(COM) Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3
- MICR 231-231L - General Microbiology and Lab *(COM) Credits: 4
- STAT 281 - Introduction to Statistics *(COM) Credits: 3
- PHA 109 - First Year Seminar - Pharmacy ** Credits: 2
- PHA 320 - Introduction to Pathophysiology Credits: 3
- PHA 323 - Pharmaceutical Biochemistry Credits: 4
- PHA 324 - Biomedical Science I Credits: 4
- PHA 331 - Pharmaceutics I Credits: 3
- PHA 332-332L - Pharmaceutics II and Lab Credits: 4
- PHA 340-340L - Medicinal Chemistry I and Lab Credits: 4
- PHA 341-341L - Medicinal Chemistry II and Lab Credits: 4
- PHA 367-367L - Pharmacy Practice I and Lab Credits: 2
- PHA 368-368L - Pharmacy Practice II and Lab Credits: 3
- PHA 410 - Introductory Practice Experience I Credits: 3
- PHA 415 - Biopharmaceutics and Pharmacokinetics Credits: 4
- PHA 425 - Biomedical Science II Credits: 3
- PHA 430 - Pharmacy Practice Law Credits: 3
- PHA 442 - Pharmacology I Credits: 5
- PHA 443 - Pharmacology II Credits: 4
- PHA 444 - Toxicology Credits: 2
- PHA 445 - Pharmacotherapeutics I Credits: 2
- PHA 446 - Pharmacotherapeutics II Credits: 3
- PHA 467-467L - Pharmacy Practice III and Lab (AW) Credits: 3
- PHA 468-468L - Pharmacy Practice IV and Lab (AW) Credits: 3

Must have a bachelor's degree to begin the P3, 600-700 level courses.

- PHA 610 - Introductory Practice Experience II Credits: 3
- PHA 714 - Community Pharmacy Practice Experience Credits: 5
- PHA 716 - Hospital/Institutional Pharmacy Practice Experience Credits: 5
- PHA 723 - Ethics in Healthcare Practice Credits: 2
- PHA 727 - Professional Resource Management Credits: 3
- PHA 741-741L - Public Health and Wellness and Lab Credits: 2
- PHA 742-742L - Patient Assessment and Self Care and Lab Credits: 2
- PHA 756 - Pharmacotherapeutics III Credits: 4
- PHA 757 - Pharmacotherapeutics IV Credits: 4
- PHA 761 - Pharmacotherapeutics V Credits: 5
- PHA 762 - Pharmacotherapeutics VI Credits: 5
- PHA 767-767L - Pharmacy Practice V and Lab Credits: 3
- PHA 768-768L - Pharmacy Practice VI and Lab Credits: 3
- PHA 772 - Internal Medicine I Practice Experience Credits: 5
- PHA 774 - Ambulatory Care Practice Experience Credits: 5

Assigned Advanced Pharmacy Practice Experiences: Choose 10 credits from the following:

- PHA 700 - Directed Studies Practice Experience Credits: 5
- PHA 706 - Critical Care Practice Experience Credits: 5
- PHA 707 - Infectious Disease Practice Experience Credits: 5
- PHA 717 - Community Health and Patient Monitoring Practice Experience Credits: 5
- PHA 770 - Pediatrics Practice Experience Credits: 5
- PHA 771 - Geriatrics Practice Experience Credits: 5
- PHA 773 - Internal Medicine II Practice Experience Credits: 5
- PHA 775 - Psychiatry Practice Experience Credits: 5

- Advanced Pharmacy Practice Experiences (APPEs) are completed during Summer sessions, Fall, and Spring semesters.

Elective Advanced Pharmacy Practice Experiences: Choose 10 credits from the following:

- PHA 700 - Directed Studies Practice Experience Credits: 5
- PHA 701 - Home Health/Hospice Practice Experience Credits: 5
- PHA 702 - Indian Health Services Practice Experience Credits: 5
- PHA 703 - Pharmacy Administration Practice Experience Credits: 5
- PHA 704 - Nutrition Support Practice Experience Credits: 5
- PHA 705 - Clinical Research Practice Experience Credits: 5
- PHA 708 - Surgery Practice Experience Credits: 5
- PHA 709 - Nephrology Practice Experience Credits: 5
- PHA 710 - Pharmacokinetics Practice Experience Credits: 5
- PHA 711 - Oncology Practice Experience Credits: 5
- PHA 712 - Nuclear Pharmacy Practice Experience Credits: 5
- PHA 713 - Managed Care Practice Experience Credits: 5
- PHA 780 - International Pharmacy Practice Experience Credits: 5

APPEs not utilized from list of Assigned APPEs

Elective Credits: 10

- General Electives Credits: 6
- Pharmacy Electives, PHA 700 level, nonAPPE Credits: 4

Total Required Credits: 218

Footnotes
1. Eligible for B.S. in Pharmaceutical Sciences after completion of all general education requirements, 300 and 400-level required PHA courses, and general elective credits for a total of 138 credits.
2. Students must meet progression standards and capstone requirements in order to advance within the program.
3. PHA 410 must be completed during the summer between the P1 and P2 years.
4. General Electives are a College of Pharmacy requirement and can be from any discipline but must be completed by the end of the P2 year. For all students, general elective credits can include credits in excess of System Graduation Requirements (SGR) or SDSU Core (IGR). Students starting at SDSU summer 2012 or more recently will complete 8 IGR credits according to the catalog, students starting fall 2012 or later will complete 5 IGR credits (excluding PHA 109 for 2 credits) and BIOL 151.
5. PHA 610 must be completed during the summer between the P2 and P3 years.

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Physical Education Teacher Education Major

Program Coordinator/Contact
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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.

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 HNS Department Professional Advisor. Students interested in PETE should complete coursework to meet system and institutional general education requirements. Prior to admission to the program they must also complete PE 170 Fundamental Movement and PE 180 Foundations of HPER/A (and make a minimum grade of C in both PE classes, and in ENGL 101, SPCM 101 and MATH 102)

Specific requirements for admission include a minimum cumulative GPA of 2.6, minimum grade of C in ENGL 101, SPCM 101, completion of (with a minimum C) PE 170 and PE 180. Application decisions are determined in time for early registration for the following fall semester. Students will either be fully accepted or accepted pending receipt of spring grades. If you have questions about this policy, please contact the PETE Coordinator.

Program Assessment
Technical standards and elements from the National Association of Sport and Physical Education aid in development of assessments used throughout the PETE program. Teacher candidates are assessed frequently on performance as well as teaching and Professional Dispositions. These assessments are kept on file as part of the PETE assessment program. Additionally, the PETE Coordinator monitors semester and cumulative GPA and communicates with teacher candidates.

Accreditation, Certification, and Licensure

Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE) South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. All Physical Education students are required to take the PRAXIS II Physical Education content test, as well as the PRAXIS II Principles of Learning and Teaching test. If pursuing the Health Education minor, the PRAXIS II Health Education test must be taken by graduation. A minimum score must be achieved on the PRAXIS II Physical Education content test to be eligible to enroll in Professional Semester III. A minimum score on the Praxis II PE LT test must be obtained for teaching licensure, and a minimum score on the Praxis II Health test to be eligible to teach health education in schools.

Prior to student teaching students must submit and continue to be compliant with federal and supplemental criminal background checks, as required by state law, detailed in South Dakota Codified Law. This law covers convictions as well as pleading guilty to misdemeanors and felony offenses, as well as a variety of other situations that may result in a teacher candidate being ineligible for licensure, or being prevented from gaining employment in South Dakota.

Student Learning Outcomes
Upon completion of the physical education teacher education major, teacher candidates:
• know and apply discipline specific scientific and theoretical concepts critical to the development of physically educated individuals.
• will be physically educated individuals with the knowledge and skills necessary to demonstrate competent movement performance and health-enhancing fitness as delineated in NASPE K-12 Standards.
• will plan and implement developmentally appropriate learning experiences aligned with local, state and national standards to address the diverse needs of all students.
• will use effective communication and pedagogical skills and strategies to enhance student engagement and learning.
• will use assessments and reflection to foster student learning and inform decisions about instruction.
• will demonstrate dispositions that are essential to becoming effective professionals. (NASPE Standards & Guidelines for Physical Education Teacher Education, 3rd Ed.; 2009)

Course Delivery Format
The program provides instruction through traditional classroom settings, hybrid and distance learning (online) settings, as well as classes that mix of classroom, lab and field/clinical experiences.

Requirements for Physical Education Teacher Education Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 30
• Goal #1 Written Communication ENGL 101 - Composition 1 * and ENGL 201 - Composition II * Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity: PSYC 101 and/or SOC 100 Credits: 6
• Goal #4 Humanities and Arts/Diversity Credits: 6
• Goal #5 Mathematics: MATH 102 Credits: 3
• Goal #6 Natural Sciences Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar: UC 109** Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2
• EHS 309 - Interdisciplinary Group Processes

Major Requirements: 51
• PE 170 - Fundamental Movement (COM) Credits: 1
• PE 180 - Foundations of HPER/A (COM) Credits: 2
• PE 252-252L - Fundamentals of Motion Learning and Development and Lab (COM) Credits: 2
• PE 300 - Applied Sport and Exercise Science or PE 350 - Exercise Physiology (COM) Credits: 3
• PE 354-354L - Prevention and Care of Athletic Injuries and Lab (COM) Credits: 2
• PE 454-454L - Biomechanics and Lab Credits: 3
• PE 490 - Seminar (AW) Credits: 2-3
• DANC 130 - Dance Fundamentals Credits: 1
• HLTH 120 - Community Health Credits: 2 or HLTH 212 - Contemporary Health Problems Credits: 2
• RECR 342 - Recreational Sports Programs and Administration (COM) Credits: 3
• PE 200 - Professional Preparation: Fitness (COM) Credits: 1
• PE 201 - Professional Preparation: Gymnastics (COM) Credits: 1
• PE 202 - Professional Preparation: Individual and Dual Activities (COM) Credits: 1
• PE 203 - Professional Preparation: Team Activities (COM) Credits: 1
• PE 204 - Professional Preparation: Rhythm and Dance (COM) Credits: 1
• PE 341 - Curriculum Development and Evaluation (COM) Credits: 2
• PE 355 - Assisting Teaching Credits: 1
• PE 352 - Adapted Physical Education (COM) Credits: 2
• PE 360-360L - K-8 Physical Education Methods and Lab (COM) Credits: 2
• PE 440 - Organization and Administration of HPER/Athletics (COM) Credits: 2
• PE 451-451L - Tests and Measurements and Lab (COM) Credits: 2
• PE 480-480L - 7-12 Methods of Teaching PE Credits: 3
• RECR 260 - Fundamentals of Recreation Leadership Credits: 3
• DANC 241-241L - Creative Movement for Children and Lab
Teacher Education Coursework: 30

Professional Semester I
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1

In addition, the following courses must be successfully completed prior to entry into Professional Semester III
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- HIST 368 - History and Culture of the American Indian ** (COM) Credits: 3
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
- ELED 488 - K-8 Student Teaching (COM) Credits: 6
- SEED 488 - 7-12 Student Teaching (COM) Credits: 6

Electives: 2

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRS).

(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Phy...
194 Academic Programs

This group prepares students who have career objectives in health biological sciences. This is the preferred choice for pre-medicine physics, medical physics, or other areas of physics applications in the biological sciences. Pre-medicine students may desire additional coursework.

Group 2: Health/Medical Physics

This group prepares students who have career objectives in health physics, medical physics, or other areas of physics applications in the biological sciences. This is the preferred choice for pre-medicine students. Pre-medicine students may desire additional coursework.

Group 3: Applied Physics

This group prepares students for careers in applied physics. Students choosing this group will find opportunities in the many diverse areas of applied physics such as nuclear energy, industrial research and development, and many other areas of interest.

Group 4: Flexible Emphasis

This group prepares students for a non-traditional emphasis area. All plans for Group 4 require working closely with an academic advisor to create a coherent plan of study that must be approved by the Head of the Physics Department. Many non-traditional emphasis areas are possible; examples include Science Journalism, Biophysics, Pre-Law, Chemical Physics, Digital Electronics, Financial Physics, Materials Science, etc. Electives for this option must conform to the follow categories.

**South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).**

Total Required Credits: 120

Curriculum Notes

- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
- **South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).**
- (G) Globalization Requirement.
- (AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Physics Major - Science Teaching Specialization

Program Coordinator/Contact
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Department of Physics
Daktronics Engineering Hall 225
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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.

Program Outcomes

Graduates will be productively employed and will compare favorably in their theoretical and technical knowledge with students completing similar programs nationally. Physics students will have learned to apply technical knowledge; to design an experiment and analyze and interpret the data; to communicate effectively in a team environment; and to use appropriate scientific tools in solving problems. They will have a basic understanding of contemporary issues and professional/ethical responsibilities in a local and global context. Physics graduates will have enhanced learning skills that prepare them to be lifelong learners.

Academic Requirements

The program requires a cumulative GPA of 2.0 or above for all physics courses and a GPA 2.0 or above in PHYS 211-213 (or PHYS 111-113) and PHYS 331.
Accreditation, Certification and Licensure

Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format
Physics students learn through hands-on and face to face learning in lecture, laboratory, and field based experiences.

Requirements for Physics Major - Science Teaching Specialization: 120 Credits
Bachelor of Science

System General Education Requirements*: 33
• Goal #1 Written Communication: ENGL 101 and ENGL 201 or ENGL 277 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity: SOC 100 and/or PSYC 101 Credits: 6
• Goal #4 Humanities and Arts/Diversity: Credits: 6
• Goal #5 Mathematics: MATH 123 Credits: 4
• Goal #6 Natural Sciences: PHYS 211-211L and PHYS 213-213L Credits: 8

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar: PHYS 109** Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility: ANTH 421** Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34 Bachelor of Science
• Natural Science Credits: 14
  With 6 credits of Biological Sciences: BIOL 101-101L and BIOL 103-103L Credits: 6
  With 8 credits of Physical Sciences
• Social Sciences Credits: 12 including EPSY 302 Credits: 3
• Humanities Credits: 8 including PHIL 200 or PHIL 331 Credits: 3
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 39
• PHYS 316-316L - Measurement Theory and Experiment Design and Lab (AW) Credits: 2
• PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
• PHYS 421-521 - Electromagnetism (COM) Credits: 4
• PHYS 341 - Thermodynamics (COM) and PHYS 343 - Statistical Physics (COM) Credits: 4
  or PHYS 451-551 - Classical Mechanics (COM) Credits: 4
  or PHYS 471-571 - Quantum Mechanics (COM) Credits: 4
• PHYS 490-590 - Seminar Credits: 1-3 (1 Credit Required)
• PHYS 337 - Foundations of Health Physics Credits: 3
• PHYS 185-185L - Introduction to Astronomy 1 and Lab *(COM) Credits: 3
  or PHYS 187-187L - Introduction to Astronomy II and Lab *(COM) Credits: 3
• MATH 125 - Calculus II *(COM) Credits: 4
• MATH 225 - Calculus III *(COM) Credits: 4
• MATH 321 - Differential Equations (COM) Credits: 3
• CHEM 112-112L - General Chemistry I and Lab *(COM) Credits: 3, 1
  or CHEM 106-106L - Chemistry Survey and Lab *(COM) Credits: 3, 1
• CHEM 114-114L - General Chemistry II and Lab *(COM) Credits: 3, 1
  or CHEM 120-120L - Elementary Organic Chemistry and Lab *(COM) Credits: 3, 1

Teaching Specialization Requirements
Professional Semester I
• EDFN 338 - Foundations of American Education (COM) Credits: 2
• EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
• SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
• SEED 314 - Supervised Clinical/Field Experience Credits: 1
• SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III
• Special Methods (varies by content area) Credits: 1-4
• Native American Course Appr. for Teacher Education Credits: 3
  • AIS/HIST 368 - History and Culture of the American Indian** Credits: 3
  or AIS/ANTH 421 - Indians of North America** Credits: 3
• EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
• EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
• EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
• SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
• SEED 410 - Social Foundations, Management and Law Credits: 2
• EDER 415 - Educational Assessment Credits: 2
• ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8

Additional Requirements
• Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
• There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Political Science Major
Program Coordinator/Contact
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Program Information
The study of Political Science examines politics, governments, and political processes. The Bachelor of Science and Bachelor of Arts degrees in Political Science prepare graduates for work in government agencies, party headquarters, political consulting firms, advocacy organizations, business, or non-profit agencies. The flexibility of the major also positions students for law school and other professional or graduate degree programs.
Program Emphases

Criminal Justice Emphasis
Consult advisor to develop a plan of study with the Criminal Justice Minor to prepare for career opportunities in law enforcement, justice administration or various justice system agencies.

General Political Science Emphasis
Students choose to take a very flexible program in Political Science. Such a program might be designed to lead to graduate work in Political Science, or employment in both the public and private sectors.

Pre-law Emphasis
Although a particular major is not specified, Political Science is a common choice because of its flexibility. Consult advisor to develop a plan of study in conjunction with law school entrance requirements. Review the (Pre-) Law information for further suggested curriculum.

Public Administration Emphasis
Students interested in working in government, non-profit organizations, or advocacy groups at the local, state, or national level should plan to take several courses related to public administration and American politics. Students are encouraged to take the practicum or an internship with a government agency or non-profit organization. Students with this focus might pursue the Leadership and Management of Nonprofit Organizations minor.

Research/Graduate School Emphasis
Students wishing to pursue graduate studies in political science or careers in political opinion research should consider the research oriented alternative courses which may be applied toward the major.

Teaching Emphasis
Students preparing to teach secondary school, take education block prerequisite courses in the sophomore and junior years. Consult with the department head of the Teaching, Learning, and Leadership Department prior to the junior year. Set aside one semester for the education block and off-campus teaching assignment during the senior year.

Curriculum Objectives
Political science courses are designed to achieve the following objectives:
• convey the values and traditions of our democratic governmental institutions and processes and encourage students to assert their talents in preserving and nurturing those values and traditions through participation in the body politic;
• promote global awareness and understanding;
• engender critical thinking and a high proficiency in communication skills;
• serve the other social sciences as a cognate field;
• provide the student majoring in political science with foundation and advanced courses in the many sub-disciplines of political science which, in turn, will contribute to the student's intellectual growth and occupational pursuits.

Course Delivery Format
The program provides courses online and face to face on campus and at various off-campus attendance centers.

Requirements for Political Science Major: 120 Credits
Bachelor of Arts and Bachelor of Science

System General Education Requirements*: 30
• Goal #1 Written Communication: Credits: 6
• Goal #2 Oral Communication: Credits: 3
• Goal #3 Social Sciences/Diversity: Credits: (except POLS) 6
• Goal #4 Humanities and Arts/Diversity: Credits: 6
• Goal #5 Mathematics: Credits: 3
• Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements** Credits: 5
• Goal #1 First Year Seminar: UC 109 ** Credits: 2
• Goal #2 Culture Awareness and Social and Environmental Responsibility (POLS 210 ** or POLS 253 ** suggested) Credits: 3

College Requirements: 28-34
Bachelor of Arts
• Modern Languages* (completion and competency in one language at the 202 level or a department-approved advanced upper division language course) Credits: 3-14
• Humanities Credits: 8
• Social Sciences (except POLS) Credits: 12

Bachelor of Science
• Natural Sciences Credits: 14
With 6 credits of Biological Sciences
With 8 credits of Physical Sciences
• Humanities Credits: 6
• Social Sciences (except POLS) Credits: 8
See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications

Major Requirements: 36
• POLS 100 - American Government * (COM)
• POLS 280 - Political Inquiry
• POLS 461 - Early Political Philosophy (COM) (AW)
OR POLS 462 - Modern Political Philosophy (COM) (AW)
• International or Comparative Political Science Courses Credits: 6
• POLS 300-400 Level Elective Credits: 21

Electives: 32-35
• POLS 253 - Current World Problems ** (G) or other Globalization Requirement Credits: 3
• General Elective Credits: 32

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Psychology Major
Program Coordinator/Contact
Brad Woldt, Department Head
Department of Psychology
Scobey Hall 336
605-688-4322
E-mail: bradley.woldt@sdstate.edu
www.sdstate.edu/psych

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. Students interested in a major in psychology may pursue the major with one of two emphases, graduate school preparation and psychological services. Advisors assist students to personalize curriculum plans to meet career and educational goals.

Psychology Emphases
Students interested in preparation for a specific area may pursue the major with one of two emphases.

Graduate School Preparation Emphasis
The Graduate School Preparation Emphasis is designed to provide preparation for continued training in psychology at the graduate level. It establishes a strong foundation in principles of psychology, techniques for analyzing behavior and mental processes, the history of psychology and contemporary research. Students engage in hands-on research training and complete an undergraduate research project.
Psychological Services Emphasis

The Psychological Services emphasis is designed to provide preparation for employment working as a diagnostic and therapeutic aide or case manager in human service and/or nonprofit agencies with a Bachelor of Science degree. The program for this emphasis includes familiarization with standard assessment protocols and techniques of therapy, as well as a supervised senior internship.

Student Learning Outcomes

- Identify and explain the scientific foundation of psychology; use and evaluate scientific evidence for psychological claims.
- Recognize the existence of universal and culture-bound psychological principles; exhibit sensitivity, appreciation, and respect for all dimensions of human diversity.
- Demonstrate ethical knowledge and skills appropriate to level of experience and education.
- Demonstrate knowledge of theory and research central to the four basic content domains of psychology: biological, learning and cognition, life-span developmental; and sociocultural approaches.
- Gain an appreciation of the application of psychological knowledge through experiences in applied settings, such as internships, student research, or service learning.

Course Delivery Format

Psychology courses are delivered at multiple locations (Brookings Main Campus and the University Center in Sioux Falls), and in multiple formats including face-to-face lecture, discussion, and laboratory courses, as well as online courses.

Requirements for Psychology Major: 120 Credits
Bachelor of Science

System General Education Requirements*: 30

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: 3 credits not PSYC Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility: Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science

- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8
- SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 39

- PSYC 101 - General Psychology ** (COM) Credits: 3
- PSYC 202 - The Psychology Major (COM) Credits: 3
- PSYC 210 - Introduction to Biopsychology Credits: 3
- PSYC 375-375L - Research Methods in Psychology and Lab Credits: 4
- PSYC 376-376L - Research Methods II and Lab (AW) Credits: 4
- PSYC 409 - History and Systems of Psychology (COM) Credits: 3

Domain I- Choose one from the following: 3
- PSYC 244 - Environmental Psychology ** (COM) Credits: 3
- PSYC 287 - Controversial Issues in Psychology Credits: 3

Domain II- Choose two from the following: 6
- PSYC 301 - Sensation and Perception (COM) Credits: 3
- PSYC 305 - Learning and Conditioning (COM) Credits: 3
- PSYC 406 - Cognitive Psychology (COM) Credits: 3
- PSYC 411 - Physiological Psychology Credits: 3
- PSYC 414 - Drugs and Behavior (COM) Credits: 3

Domain III- Choose one from the following: 3
- PSYC 324 - Psychology of Aging Credits: 3
- PSYC 327 - Child Psychology ** (COM) Credits: 3
- PSYC 364 - Cross Cultural Psychology ** Credits: 3
- PSYC 367 - Psychological Gender Issues Credits: 3

Domain IV- Choose one from the following: 3
- PSYC 417 - Health Psychology ** (COM) Credits: 3
- PSYC 441 - Social Psychology ** (COM) Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior ** (COM) Credits: 3
- PSYC 461 - Theories of Personality (COM) Credits: 3

Domain V- Choose one from the following: 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 440-540 - Forensic Psychology Credits: 3
- PSYC 477 - Psychology Testing and Measurement (COM) Credits: 3

Domain VI- Choose one from the following: 1
Lab courses must be taken concurrently with the corresponding lecture course.
- PSYC 301L - Sensation and Perception Lab (COM) Credits: 1
- PSYC 305L - Learning and Conditioning Lab Credits: 1
- PSYC 367L - Psychological Gender Issues Lab Credits: 1
- PSYC 406L - Cognitive Psychology Laboratory Credits: 1
- PSYC 441L - Social Psychology Lab Credits: 1
- PSYC 477L - Psychology Testing and Measurement Laboratory Credits: 1

Electives: 33-34

Total Required Credits: 120

Curriculum Notes

Courses used for the major or minor require a minimum grade of C.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Psychology Major - Teaching Specialization

Program Coordinator/Contact
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Department of Psychology
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605-688-4322
E-mail: bradley.woldt@sdstate.edu
www.sdstate.edu/psych

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, Certification and Licensure

Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Student Learning Outcomes
• Identify and explain the scientific foundation of psychology; use and evaluate scientific evidence for psychological claims.
• Recognize the existence of universal and culture-bound psychological principles; exhibit sensitivity, appreciation, and respect for all dimensions of human diversity.
• Demonstrate ethical knowledge and skills appropriate to level of experience and education.
• Demonstrate knowledge of theory and research central to the four basic content domains of psychology: biological, learning and cognition, life-span developmental; and sociocultural approaches.
• Gain an appreciation of the application of psychological knowledge through experiences applied settings, such as internships, student research, or service learning.

Course Delivery Format
Psychology courses are delivered at multiple locations (Brookings Main Campus and the University Center in Sioux Falls), and in multiple formats including face-to-face lecture, discussion, and laboratory courses, as well as online courses.

Requirements for Psychology Major - Teaching Specialization: 120 Credits

Bachelor of Science

System General Education Requirements*: 30
• Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
• Goal #2 Oral Communication: SPCM 101 Credits: 3
• Goal #3 Social Sciences/Diversity: PSYC 101 and 3 credits not PSYC Credits: 6
• Goal #4 Humanities and Arts/Diversity: Credits: 6
• Goal #5 Mathematics: MATH 102 Credits: 3
• Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
• Goal #1 First Year Seminar: Credits: 2
• Goal #2 Cultural Awareness and Social and Environmental Responsibility: Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34 Credits
• Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
• Social Sciences Credits: 12

Major Requirements: 45
• Humanities Credits: 8
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Requirements for Psychology Major - Teaching Specialization:

Professional Semester I
• EDFN 338 - Foundations of American Education (COM) Credits: 2
• EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
• SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
• SEED 314 - Supervised Clinical/Field Experience Credits: 1
• SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Professional Semester III
• Special Methods (varies by content area) Credits: 1-4

198 Academic Programs
Requirements for Range Science Major: 120 Credits
Bachelor of Science in Agriculture

System General Education Requirements*: 31-32
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 3
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: SOC 100 or SOC 150 or SOC 240 or ANTH 210 and ECON 201 Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 or higher Credits: 3
- Goal #6 Natural Sciences: BIOL 153-153L or BOT 201-201L and CHEM 106-106L or CHEM 112-112L Credits: 7-8

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: NRM 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirement Credits: 34
- AS 101-101L - Introduction to Animal Science and Lab Credits: 3
- AS 233-233L - Applied Animal Nutrition and Lab Credits: 4
- AS 474-474L - Cow/Calf Management and Lab: 3 or AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- RANG 105-105L - Introduction to Range Management and Lab * Credits: 3
- RANG 210-210L - Range Plant Identification and Lab Credits: 2
- RANG 215 - Introduction to Integrated Ranch Management Credits: 3
- RANG 321 - Wildland Ecosystems Credits: 3
- RANG 425-425L/525-525L - Rangeland Assessment and Monitoring Lab Credits: 3
- RANG 415-415L - Range Improvements and Grazing Management and Lab Credits: 4
- RANG 421-521 - Grassland Fire Ecology Credits: 3

Capstone Course: 3 Select one course:
- RANG 485-485L - Advanced Integrated Ranch Management and Lab Credits: 3

Required Support Course Credits: 38
- PS 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3 or PS 362-362L - Environmental Soil Management and Lab ** Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3 or SPCM 215 - Public Speaking (COM) * Credits: 3
- PS 313 - Forage Crop and Pasteure Management Credits: 3 or PR/BOT 303-303L - Forest Ecology and Management and Lab Credits: 3 or WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3 or EES 425-425L/525-525L - Disturbance Ecology and Lab Credits: 4 or NRM 440-440L - Restoration Ecology and Lab Credits: 4
- PS 212-212L - Soils and Lab * ** Credits: 3
- AGEC 271-271L - Farm & Ranch Management and Lab Credits: 4
- BIOL 151-151L - General Biology 1 and Lab * (COM) Credits: 4
- BOT 301-301L - Plant Systematics (COM) Credits: 4
- BOT 327-327L - Plant Physiology and Lab (COM) Credits: 4
- GEOG 472 - Introduction to GIS Credits: 3
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

Emphasis: 13-15
Choose among the following courses in one of the two emphases.
Bachelor of Science and Bachelor of Arts in Arts and Sciences

System General Education Requirements*: 30

- Goal #1 Written Communication: Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34

Bachelor of Arts

- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6

Bachelor of Science

- Natural Science Credits: 14
- With 6 credits of Biological Sciences
- With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

** Major Requirements: 33

- SOC 100 - Introduction to Sociology *(COM) (G) Credits: 3
- SOC 307 - Research Methods I Credits: 3
- SOC 308 - Research Methods II Credits: 3
- SOC 403 - Sociological Theory (COM) Credits: 3
- SOC/ANTH Elective Credits: 21

Electives: 38-55

Total Required Credits: 120

Curriculum Notes

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Sociology Major

Program Coordinator/Contact
Mary Emery, Department Head
Department of Sociology and Rural Studies
Scobey Hall 224
605-688-4132
E-mail: mary.emery@sdstate.edu
www.sdstate.edu/soc

Program Information

The world awaits all who have a major in sociology. The mission of the Department of Sociology & Rural Studies is to provide students with the theoretical and substantive knowledge to participate as skilled professionals within the institutions and organizations that shape our increasingly diverse and global society. Students receive a broad liberal arts education that will qualify them for many different kinds of occupations, such as group work with youth or the elderly, community development, business, college admissions, family planning, criminal justice, and other government jobs. In addition to four options within the major, the Department also offers a minor in Criminal Justice and in Sociology.

Academic Requirements

A minimum GPA of 2.2 and at least a C in all major courses is required.

Course Delivery Format

The program offers coursework on campus, on-line, and at attendance centers around the state.

Requirements for Sociology Major: 120 Credits

Bachelor of Science and Bachelor of Arts in Arts and Sciences

System General Education Requirements*: 30

- Goal #1 Written Communication: Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34

Bachelor of Arts

- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6

Bachelor of Science

- Natural Science Credits: 14
- With 6 credits of Biological Sciences
- With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

** Major Requirements: 33

- SOC 100 - Introduction to Sociology *(COM) (G) Credits: 3
- SOC 307 - Research Methods I Credits: 3
- SOC 308 - Research Methods II Credits: 3
- SOC 403 - Sociological Theory (COM) Credits: 3
- SOC/ANTH Elective Credits: 21

Electives: 38-55

Total Required Credits: 120

Curriculum Notes

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Sociology Major - Human Resources Specialization

Program Coordinator/Contact
Mary Emery, Department Head
Department of Sociology and Rural Studies
Scobey Hall 224
605-688-4132
E-mail: mary.emery@sdstate.edu
www.sdstate.edu/soc

Program Information

Graduates who go into human resources work in employee recruitment, personnel management, customer relations, marketing, and sales. Students are required to take Business, Economics, and Accounting electives. An internship is strongly encouraged.

Academic Requirements

A minimum GPA of 2.2 and at least a C in all major courses is required.
course Delivery Format
The program offers coursework on campus, online, and at attendance centers around the state.

Requirements for Sociology Major - Human Resources Specialization:

BFA in Science and Arts Sciences

General Education Requirements*: 30

- Goal #1 Written Communication: Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34

Bachelor of Science

- Natural Science Credits: 14
  - With 6 credits of Biological Sciences
  - With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 38

Specialization Core: 21

- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- SOC 100 - Introduction to Sociology * (COM) (G) Credits: 3
- SOC 307 - Research Methods I Credits: 3
- SOC 308 - Research Methods II Credits: 3
- SOC 353 - Sociology of Work (COM) Credits: 3
- SOC 403 - Sociological Theory (COM) Credits: 3
- SOC 453 - Industrial Sociology (G) Credits: 3

Directed Electives Courses: 12

- BADM 350 - Legal Environment of Business (COM) Credits: 3
- BADM/MGMT 360 - Organization and Management (COM) Credit: 3
- BADM/MGMT 460 - Human Resource Management (COM) Credits: 3*
- BADM/ECON 370 - Marketing (COM) Credits: 3
- CA 289 - Consumers in the Market Credits: 3
- CSC 105 - Introduction to Computers (COM) Credits: 3
- CSC 205 - Advanced Computer Applications (COM) Credits: 3
- CSC 325 - Management Information Systems (COM) Credits: 3
- ECON 101 - Global Economy Credits: 3
- ECON 201 - Principles of Microeconomics * ** (COM) Credits: 3
- ECON 433 - Public Finance (COM) Credits: 3
- ECON 467 - Labor Law and Economics Credits: 3
- ECON 431-531 - Managerial Economics Credits: 3
- ECON 450-550 - Industrial Organization (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3*
- POLS 320 - Public Administration (COM) Credits: 3
- POLS 454 - International Law and Organization (COM) Credits: 3

- PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
- PSYC 477 - Psychology Testing & Measurement (COM) Credits: 3
- PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
- SOC 330 - Self and Society (COM) Credits: 3
- SOC 350 - Race and Ethnic Relations (COM) (AW) Credits: 3
- SOC 433-533 - Leadership and Organizations (COM) Credits: 3*
- SPAN 350 - Spanish for Business Comm. (COM) Credits: 3
- SPCM 215 - Public Speaking (COM) * Credits: 3*

Department Electives Courses: 5

- SOC 494 - Internship Credits: 1-12 Strongly Recommended
- ANTH 210 - Cultural Anthropology * (COM) Credits: 3
- ANTH 220 - Physical Anthropology * (COM) Credits: 3
- ANTH 421-521 - Indians of North America ** (COM) Credits: 3
- ANTH 491-591 - Independent Study Credits: 1-3
- ANTH 492-592 - Topics Credits: 1-3
- ANTH 494 - Internship Credits: 1-12
- ANTH 496 - Field Experience Credits: 1-12
- SOC 150 - Social Problems * (COM) (G) Credits: 3
- SOC 240 - The Sociology of Rural America * (COM) (G) Credits: 3
- SOC 250 - Courtship and Marriage * (COM) Credits: 3
- SOC 270 - Introduction to Social Work (COM) Credits: 3
- SOC 271 - Social Work Skills and Methods I Credits: 3
- SOC 325 - Domestic and Intimate Violence Credits: 3
- SOC 351 - Criminology (COM) Credits: 3
- SOC 354 - Victimology Credits: 3
- SOC 382 - The Family (COM) Credits: 3
- SOC 400 - Social Policy (COM) Credits: 3
- SOC 402-502 - Social Deviance (COM) Credits: 3
- SOC 440 - Urban Sociology (COM) (G) Credits: 3
- SOC 455-555 - Juvenile Delinquency (COM) Credits: 3
- SOC 456-556 - Community Corrections (COM) Credits: 3
- SOC 460-560 - Advanced Criminology (COM) Credits: 3
- SOC 462-562 - Population Studies ** (COM) Credits: 3
- SOC 483 - Sociology of Gender Roles (COM) (G) Credits: 3
- SOC 490 - Seminar Credits: 1-3
- SOC 491 - Independent Study Credits: 1-3
- SOC 492 - Topics Credits: 1-3

General Electives: 31-37

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
Sociology Major - Human Services Specialization

Program Coordinator/Contact
Mary Emery, Department Head
Department of Sociology and Rural Studies
Scobery Hall 224
605-688-4132
E-mail: mary.emery@sdstate.edu
www.sdstate.edu/soc

Program Information
This specialization is designed for those interested in "working with people" in a variety of social service type agencies. Graduates find jobs working with the elderly, youth, parents, families at risk, victims of domestic violence, substance abusers, and the poor. Students in this program must take classes in social work and service learning. They must also complete an internship. Coursework in criminal justice and human development complements this specialization.

Academic Requirements
A minimum GPA of 2.2 and at least a C in all major courses is required.

Course Delivery Format
The program offers coursework on campus, on-line, and at attendance centers around the state.

Requirements for Sociology Major - Human Services Specialization: 120 Credits
Bachelor of Science in Arts and Sciences System General Education Requirements*: 30
- Goal #1 Written Communication: Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Specialization Requirements: 45
- SOC 100 - Introduction to Sociology *(COM) (G) Credits: 3
- SOC 270 - Introduction to Social Work (COM) Credits: 3
- SOC 271 - Social Work Skills and Methods I Credits: 3
- SOC 286 - Service Learning Credits: 1-3
- SOC 307 - Research Methods I Credits: 3
- SOC 308 - Research Methods II Credits: 3
- SOC 400 - Social Policy (COM) Credits: 3
- SOC 403 - Sociological Theory (COM) Credits: 3
- SOC 494 - Internship Credits: 12
- SOC/ANTH Elective Credits: 9

Electives: 30

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.
English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Sociology Major - Teaching Specialization

Program Coordinator/Contact
Mary Emery, Department Head
Department of Sociology and Rural Studies
Scobery Hall 224
605-688-4132
E-mail: mary.emery@sdstate.edu
www.sdstate.edu/soc

Program Information
Sociology majors often make strong teachers because of their understanding of how people behave and interact. Students in this specialization gain mastery of sociology by studying and applying contemporary sociological theory and research to social issues such as globalization, social inequality, diversity, family, religion, or population. Additionally, students complete pedagogy courses to prepare for employment in middle school or senior high level teaching.

Accreditation, Certification, and Licensure
Accreditation
National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure
With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Teaching and Testing test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Academic Requirements
A minimum GPA of 2.6 and at least a C in all major courses is required.

Course Delivery Format
The program offers coursework on campus, on-line, and at attendance centers around the state.

Requirements for Sociology Major - Teaching Specialization: 120 Credits
Bachelor of Science in Arts and Sciences System General Education Requirements*: 30
- Goal #1 Written Communication: Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
  With 6 credits of Biological Sciences
- Humanities Credits: 8

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits.
English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts specifications and Bachelor of Science specifications.

Major Requirements: 33
- SOC 100 - Introduction to Sociology *(COM) (G) Credits: 3
- SOC 307 - Research Methods I Credits: 3
- SOC 308 - Research Methods II Credits: 3
- SOC 403 - Sociological Theory *(COM) Credits: 3
- SOC/ANTH Elective Credits: 21

Electives: 0-17

Teaching Specialization Requirements
Professional Semester I
- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III
- Special Methods (varies by content area) Credits: 1-4
- Native American Course Appr. for Teacher Education Credits: 3
  - AIS/HIST 368 - History and Culture of the American Indian** Credits:3
  - or AIS/ANTH 421 - Indians of North America** Credits:3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
- SEED 410 - Social Foundations, Management and Law Credits: 2
- EDER 415 - Educational Assessment Credits: 2
- ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8

*Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits, enrolling in both SEED 488 and ELED 488

Additional Requirements
- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGR), G: Globalization Requirement.
AW) Advanced Writing Requirement.

Academic Programs 203

Spanish Major
Program Coordinator/Contact
Christine Garst-Santos, Spanish Program Coordinator
Department of Modern Languages and Global Studies
SWG 121
605-688-5101
www.sdstate.edu/ml

Program Information
The Spanish major at SDSU consists of language, culture, literature and professional courses to prepare students for careers in which they will use Spanish as a language for communication. The major offers flexibility and can easily be added to another major.

Student Learning Outcomes
Upon the completion of the Spanish major, students should be able to:
- Speak, read and write Spanish at the intermediate-high or advanced level
- Demonstrate knowledge and understanding of the cultures and communication cultures of the Spanish-speaking world
- Demonstrate knowledge of the Spanish civilizations and its cultural products, such as literature, art, government, etc.

Academic Requirements
Major Coursework: A minimum grade of "C" is required for a Spanish course to count towards the major or minor. Major courses used to fulfill the institutional requirements (IGRs) must be different from those taken to fulfill the General Education requirements (SGRs).

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 Academic Evaluation and Assessment Office. Please refer to Modern Language Credit under Academic Evaluation in the catalog for more detailed information.

Oral Proficiency Interview: An official Oral Proficiency Interview (OPI) certified by the American Council in the Teaching of Foreign Languages (ACTFL) is required of all students majoring in Spanish. A minimum ranking of Intermediate Mid is required for all Spanish Majors and Intermediate High for majors with a teaching specialization.

Course Delivery Format
Most courses in the Spanish major are offered face-to-face on campus. Some upper-division courses are offered online, normally during the summer term.

Requirements for Spanish Major: 120 Credits
Bachelor of Arts in Arts and Sciences

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts.
Requirement (IGRs). (SGRs) must be completed as part of a student's first 64 credits.

South Dakota State University has a 5 credit Institutional Graduation Curriculum Notes Required Total Credits: 120

General Electives: 44

Required Total Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

Major Requirements: 36
Required Courses: 12

- SPAN 201 - Intermediate Spanish I * **(COM) (G) Credits: 3
- SPAN 202 - Intermediate Spanish II * **(COM) (G) Credits: 3
- SPAN 310 - Practical Language Skills Credits: 3
- SPAN 330 - Reading and Writing for Communication (COM) Credits: 3

Upper Division Electives: 24

- Specific distribution according to emphasis
- Must include at least 16 additional upper-division electives, for a minimum of at least 20 upper-division electives in the major
- May include up to 4 credits of 200-level classes. The following is a suggested sequence for the non-specified 24 major credits.

Advanced Language/Linguistics Electives: 3-6*

- SPAN 308 - Spanish for the Health Professions Credits: 3
- SPAN 340 - Phonetics (COM) Credits: 3 Credits: 3
- SPAN 350 - Spanish for Business Communication (COM) Credits: 3
- SPAN 443 - Linguistics (COM) Credits: 3
- SPAN 444 - Introduction to Translation Credits: 3
- SPAN 492 - Topics (if linguistics) Credits: 3
  *1 or more courses are required for the Humanities Emphasis
  *2 or more courses are required for the Professional Emphasis

Literature and Culture Electives: 6-9*

- SPAN 355 - Introduction to Latin-American Literature I (COM) Credits: 3
- SPAN 353 - Introduction to Spanish Literature I (COM) Credits: 3
- SPAN 433 - Spanish Civilization and Culture (COM) (AW) Credits: 3
- SPAN 435 - Latin American Civilization and Culture (AW) Credits: 3
- SPAN 437 - Topics in Film Studies (COM) Credits: 3
- SPAN 476 - 19th and 20th Century Spain Credits: 3
- SPAN 484 - 19th and 20th Century Latin America Credits: 3
- SPAN 486 - Early Modern Spain Credits: 3
- SPAN 492 - Topics (if literature or culture) Credits: 3
  *3 or more courses are required for the Humanities Emphasis
  *2 or more courses are required for the Professional Emphasis

Basic and Advanced Electives: 12* In addition to the courses above:

- SPAN 211 - Intermediate Oral Practice I (COM) Credits: 2
- SPAN 212 - Intermediate Oral Practice II (COM) Credits: 2
- SPAN 296/396/496 - Field Experience Credits: 1-6
- SPAN 386 - Service Learning Credits: 3
- SPAN 415 - Extensive Reading in Spanish Credits: 3
- SPAN 491 - Independent Study Credits: 3
  *12 or more credits from this section OR approved courses not already used to satisfy major requirements

Goal #3 Social Sciences/Diversity: PSYC 101 and/or SOC 100

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Spanish Major - Teaching Specialization

Program Coordinator/Contact
Christine Garst-Santos, Spanish Program Coordinator
Department of Modern Languages and Global Studies
SWG 121
605-688-5101
www.sdstate.edu/mlf

Program Information
The Spanish major - teaching specialization at SDSU consists of language, culture, literature and professional courses to prepare students for teaching careers in primary, middle or secondary schools or for further graduate study.

Student Learning Outcomes

Upon the completion of the Spanish major, students should be able to:
- Speak, read and write Spanish at the intermediate-high or advanced level
- Demonstrate knowledge and understanding of the cultures and communication cultures of the Spanish-speaking world
- Demonstrate knowledge of the Spanish civilizations and its cultural products, such as literature, art, government, etc.

Academic Requirements

Major Coursework: A minimum grade of "C" is required for a Spanish course to count towards the major. Major courses used to fulfill the Institutional requirements (IGRs) must be different from those taken to fulfill the General Education requirements (SGRs).

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 Academic Evaluation and Assessment Office. Please refer to Modern Language Credit under Academic Evaluation in the catalog for more detailed information.

Oral Proficiency Interview: An official Oral Proficiency Interview (OPI) certified by the American Council in the Teaching of Foreign Languages (ACTFL) is required of all students majoring in Spanish. A minimum ranking of Intermediate Mid is required for all Spanish Majors and Intermediate High for majors with a teaching specialization.

Accreditation, Certification, and Licensure

Accreditation

National Council for Accreditation of Teacher Education Programs (NCATE)
South Dakota Department of Education

Certification and Licensure

With this major and the accompanying teacher education coursework required for teaching licensure, candidates are eligible to take the Praxis content tests, and apply for a teaching license in South Dakota. Students are required to take the PRAXIS II content test, as well as the PRAXIS II Principles of Learning and Teaching test. The minimum score for the Praxis II PLT must be obtained for teaching licensure and varies by state.

Course Delivery Format

Most courses in the Spanish major are offered face-to-face on campus. Some upper-division courses are offered online, normally during the summer term.

Requirements for Spanish Major - Teacher Education Specialization: 120 Credits
Bachelor of Arts in Arts and Sciences

System General Education Requirements*: 30

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101* Credits: 3
- Goal #3 Social Sciences/Diversity: PSYC 101 and/or SOC 100
Institutional Graduation Requirements**Credits: 5

- Goal #1 First Year Experience Credits: 2
- Goal #2 Culture Awareness and Social and Environmental Responsibility Credits: 3

College of Arts and Sciences Bachelor of Arts Requirements: 17-28

- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6
- Electives: 13

Bachelor of Arts

- Required Courses: 12

Upper Division Courses Credits: 24

- Linguistics: 3*
  - SPAN 340 - Phonetics (COM) Credits: 3 Credits: 3
  - SPAN 443 - Linguistics (COM) Credits: 3
  - SPAN 444 - Introduction to Translation Credits: 3
  - SPAN 492 - Topics - (if linguistics) Credits: 1 or more courses are required

Literature and Culture Electives: 12

- SPAN 353 - Introduction to Spanish Literature I (COM) Credits: 3
- SPAN 355 - Introduction to Latin-American Literature I (COM) Credits: 3
- SPAN 433 - Spanish Civilization and Culture (COM) (AW) Credits: 3
- SPAN 435 - Latin American Civilization and Culture (AW) Credits: 3

Teaching Specialization Requirements

Professional Semester I

- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II

- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Additional Requirements

- Students must also receive a "C" grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Required Total Credits: 120

Curriculum Notes

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

Speech Communication Major

Program Coordinator/Contact
Laurie Haleta, Department Head
Department of Communication Studies & Theatre
Pugsley Center 115, Box 2218

Program Information

A major in Speech Communication prepares students to understand the central role that communication plays in people's lives. Graduates of this program will receive the training, expertise and background that will promote professional success in a wide variety of career areas where communication is a critical requirement.
Student Learning Outcomes
Graduates in Speech Communication will be able to:

- Appropriately analyze and adapt oral and written messages that are effective, clear, and persuasive, given the audience and occasion.
- Demonstrate the communication skills necessary to engage in personal, professional, civic and social relationships.
- Critically evaluate verbal and nonverbal messages in differing social and cultural contexts in order to assess their effectiveness and ethical implications.
- Demonstrate comprehension of concepts relative to the theory and criticism of human communication.
- Demonstrate the ability to effectively gather information, research and analyze issues from a variety of perspectives.

Course Delivery Format
A wide range of course formats are available in this major including, lectures, laboratory, small group, seminar, interactive and collaborative partnerships.

Requirements for Speech Communication Major: 120 Credits
Bachelor of Science in Arts and Sciences

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Experience: SPCM 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8
SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 36
- SPCM 201 - Interpersonal Communication (COM) Credits: 3
- SPCM 215 - Public Speaking (COM) * Credits: 3
- SPCM 222 - Argumentation and Debate (COM) Credits: 3
- SPCM 305 - Communication Research (COM) (AW) Credits: 3
- SPCM 405 - Theories of Communication (COM) Credits: 3
- SPCM 410-510 - Organizational Communication (COM) Credits: 3
- SPCM 434 - Small Group Communication (COM) Credits: 3
- SPCM 465 - Capstone Course in Speech Communication Credits: 3
- SPCM 470 - Intercultural Communication (COM) (G) Credits: 3

Choose 9 credits from the following:
- SPCM 281 - Speech and Debate Activities (COM) Credits: 1-4
- SPCM 320 - Communication in Interviewing (COM) Credits: 3
- SPCM 340 - Oral Interpretation of Literature (COM) Credits: 3
- SPCM 415 - Communication and Gender (COM) Credits: 3
- SPCM 416-516 - Rhetorical Criticism (COM) Credits: 3
- SPCM 417 - Political Communication (COM) Credits: 3
- SPCM 440-540 - Health Communication (COM) Credits: 3
- SPCM 441-541 - Health Communication Research Methods Credits: 3
- SPCM 460 - Family Communication (COM) Credits: 3

Electives: 15-30

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(W) Advanced Writing Requirement.
(G) Globalization Requirement.

Program Information
This area of specialization is designed for the person who plans to become a communication educator. While the emphasis is primarily on secondary education, the area can serve as a specialization for teaching higher education as well.

Student Learning Outcomes
Graduates in Speech Education will be prepared to
- Teach classroom Speech;
- Direct Drama activities;
- Coach individual speech events, Debate and Oral Interpretation

Course Delivery Format
Courses utilize lecture, laboratory, small group, collaborative and integrative techniques.

Requirements for Speech Communication Major - Speech Education Specialization: 120 Credits
Bachelor of Science in Arts and Sciences

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: Credits: 5
- Goal #1 First Year Seminar: SPCM 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
- With 8 credits of Physical Sciences
- AIS/HIST 368 or AIS/ANTH 421 Recommended

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12

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Speech Communication Major - Speech Education Specialization
Program Coordinator/Contact
Laurie Haleta, Department Head
Department of Communication Studies & Theatre
Pugsley Center 115, Box 2218
E-mail: laurie.haleta@sdstate.edu
Major Requirement Credits: 36

- At least 8 credits of electives from SPCM and/or THEA
- SPCM 201 - Interpersonal Communication (COM) Credits: 3
- SPCM 215 - Public Speaking (COM) * Credits: 3
- SPCM 222 - Argumentation and Debate (COM) Credits: 3
- SPCM 281 - Speech and Debate Activities (COM) Credits: 1-4 (only 1 credit required for program)
- SPCM 305 - Communication Research (COM) (AW) Credits: 3
- SPCM 340 - Oral Interpretation of Literature (COM) Credits: 3
- SPCM 476 - 7-12 Speech Methods (COM) Credits: 3
- THEA 131 - Introduction to Acting * (COM) Credits: 3
- THEA 241-241L - Stagecraft and Lab (COM) Credits: 3
- THEA 351 - Directing (COM) Credits: 3
- THEA 355 - Children’s Theatre (COM) Credits: 3

Electives: 0-5

Teaching Specialization Requirements

Professional Semester I
- EDFN 338 - Foundations of American Education (COM) Credits: 2
- EPSY 302 - Educational Psychology (COM) Credits: 3

Professional Semester II
- SEED 450 - 7-12 Reading and Content Literacy (COM) Credits: 2
- SEED 314 - Supervised Clinical/Field Experience Credits: 1
- SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2

Complete prior to entry into Professional Semester III
- Special Methods (varies by content area) Credits: 1-4
- Native American Course Appr. for Teacher Education Credits: 3
  - AIS/HIST 368 - History and Culture of the American Indian** Credits:3
  - AIS/ANTH 421 - Indians of North America** Credits:3
- EDFN 365 - Computer-Based Technology and Learning (COM) Credits: 2
- EDFN 427-527 - Middle School: Philosophy and Application Credits: 2
- EDFN 475 - Human Relations (COM) Credits: 3

Professional Semester III
- SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
- SEED 410 - Social Foundations, Management and Law Credits: 2
- EDER 415 - Educational Assessment Credits: 2
- ELED 488 - K-8 Student Teaching (COM) or SEED 488 - 7-12 Student Teaching (COM) Credits: 8
  *Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits, enrolling in both SEED 488 and ELED 488

Additional Requirements
- Students must also receive a “C” grade or better in SPCM 101, ENGL 101, and MATH 102 or higher.
- There are GPA requirements for entry into and continuation within the teacher education program. For additional information please consult the Secondary Education Handbook.

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
* South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Sport, Recreation and Park Management Major

Program Coordinator/Contact
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Department of Health and Nutritional Sciences
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605-688-6163
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Program Information

Sport, Recreation and Park Management (SRPM) professionals are needed to meet recreation demands resulting from expanding populations, increased leisure time, greater mobility and changing social attitudes. The curriculum in SRPM designed to prepare students for professional positions in sport, recreation, parks and outdoor recreation programming and administration.

Students interested in parks and outdoor recreation, and employment with federal, state, county and municipal parks agencies and with private outdoor and tourism enterprises, can tailor their program of study using elective courses offered through the Plant Science department. Students interested in municipal and county recreation agencies, YMCA/WYCAS, Boys and Girls Clubs, college/professional organizations, fitness/facility management organizations, and therapeutic recreation in clinical as well as community settings, can focus their interests using additional recreation, management, entrepreneur, and leadership elective courses. This major is based on an interdisciplinary approach providing a broad, comprehensive background for leadership and administrative roles in sport, recreation and park industries.

Student Learning Outcomes

Upon completion of the Sport, Recreation, and Park Management major students will:

- Demonstrate the following entry-level knowledge: a) the nature and scope of the relevant sport, recreation, park and related professions and their associated industries; b) techniques and processes used by professionals and workers in these industries; and c) the foundation of the profession in history, science and philosophy.
- Demonstrate the ability to design, implement and evaluate services that facilitate targeted human experiences and that embrace personal and cultural dimensions of diversity.
- Demonstrate entry level knowledge about operations and strategic management/administration in sport, parks, recreation and/or related professions.
- Demonstrate, through a comprehensive practicum and/or field experience of not less than 400 hours the potential to succeed as professionals at supervisory or higher levels in sport, recreation, park or related organizations.
- Demonstrate personal character and qualities of professionalism that are necessary for individuals working in the sport, recreation and park sectors.
- Demonstrate the ability to use diverse, structured ways of thinking to solve problems related to different facets of professional practice, engage in advocacy, and stimulate innovation.

Academic Requirements

A minimum GPA of 2.0 is also required in all courses taught in the major. All students transferring into the program must have a 2.0 GPA to be accepted. Transfer students with less than a 2.0 GPA may petition for approval. If accepted, the transfer student will enter on probation for one semester. A student in the major must have a 2.4 cumulative GPA to be recommended for the required internship experience. A minimum final grade of "C" is required in all courses taught in the major.

Accreditation, Certification, and Licensure

Upon successful completion of the degree, students who are in the field
working under a certified professional may apply to become a Certified Park and Recreation Professional.

Course Delivery Format
The program offers coursework through classroom (face to face, hybrid and/or online), service learning and lab experiences (indoor and outdoor), sport, recreation and park site visits, practicum and/or field experience/s.

Requirements Sport, Recreation and Park Management Major: 120 Credits
Bachelor of Science in Education and Human Sciences

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: POLS 210 or HDFS 210 and ECON 201 Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: MATH 102 Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar: UC 109** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College Requirements: 2
- EHS 309 - Interdisciplinary Group Processes Credits: 2

Major Requirements: 49-50
- RECR 101 - Parks and Society Credits: 3
- or PE 180 - Foundations of HPERA (COM) Credits: 2
- SPCM 215 - Public Speaking (COM) * Credits: 3
- or SPCM 201 - Interpersonal Communication (COM) Credits: 3
- or SPCM 434 - Small Group Communication (COM) Credits: 3
- RECR 260 - Fundamentals of Recreation Leadership Credits: 3
- RECR 202-202L - Outdoor Recreation Resource Management and Lab Credits: 3
- RECR 410 - Current Issues in Recreation Credits: 3
- RECR 415-515 - Recreation and Sport Facility Management Credits: 3
- RECR 302 - Commercial Recreation and Tourism Credits: 3
- RECR 360 - Recreation and Outdoor Programming Credits: 3
- RECR 440 - Administration of Leisure Services (COM) Credits: 3
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- MGMT 310 - Business Finance (COM) Credits: 3
- MGMT 360 - Organization and Management (COM) Credits: 3
- MGMT 325 - Management Information Systems (COM) Credits: 3
- MGMT 460 - Human Resource Management (COM) Credits: 3

Electives: 33-34

Total Required Credits: 120

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, Graphic design, Painting, Printmaking, Sculpture. A 30-hour visual arts core supports the degree and creates a foundation of success.

Student Learning Outcomes
The study of studio art is both a body of knowledge and a series of activities. Upon completion of the Studio Art major, as defined by the National Association of Schools of Art and Design (NASAD), students demonstrate through advanced writing and senior exhibition the following outcomes:
- Developed visual sensitivity.
- Technical skills, perceptual development, and understanding of principles of visual organization to achieve basic artistic expression in one or more media.
- Ability to make workable connections between concept and media.
- Familiarity with the works and intentions of major artists and movements of the past and the present, both in the Western and non-Western worlds.
- Understand the nature of contemporary thinking on art, and have gained a discernment of quality in their own art and the work of others.
- Ability to work independently while learning and applying new knowledge, expressions and technologies.

Academic Requirements
Visual Arts 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 "C" or better is required in all ART, ARTD, ARTE and ARTH courses required for the major.

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

Requirements for Studio Arts Major: 120 Credits
Bachelor of Science or Bachelor of Arts

System General Education Requirements*: 30
- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**: 5
- Goal #1 First Year Seminar Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Requirements: 17-34
Bachelor of Arts
- Modern Languages Credits: 3-14 (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)
- Social Sciences Credits: 8
- Humanities Credits: 6
Bachelor of Science

- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.

Major Requirements: 46.5

- Art History Advanced Writing Course Credits: 3
  - ARTH 310 - History of United States Art and Architecture (AW)
  - ARTH 320 - Modern Art and Architecture Survey (AW) (G)
  - ARTH 490 - Seminar (AW)
- ART 110 - First Review Credits: 0.5
- ART 111 - Drawing I * ** (COM) Credits: 3
- ART 112 - Drawing II * ** (COM) Credits: 3
- ART 121 - Design I 2D * ** (COM) Credits: 3
- ART 122 - Design II Color (COM) Credits: 3
- ART 123 - Three Dimensional Design * ** (COM) Credits: 3
- ART 200 - Portfolio Review Jury on Student Progress Credits: 0.5
- ART 211 - Drawing III-Figurative * ** (COM) Credits: 3
- ART 400 - Senior Review Credits: 0.5
- ARTH 100 - Art Appreciation * ** (COM) Credits: 3
- ARTH 211 - History of World Art I * ** (COM) Credits: 3
- ARTH 212 - History of World Art II * ** (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
- ARTD 202 - Computer Graphics I Credits: 3

Electives: 22.5-30.5
Ele elective credits will be completed through the choice of one or more certificates or the general art emphasis.

- Animation Certificate
- Art History Certificate
- Ceramics Certificate
- Painting Certificate
- Printmaking Certificate
- Sculpture Certificate
- General Art emphasis:
  - ARTD/ART-Area of Specialization Credits: 9
  - Art Electives Credits: 15

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

Program Coordinator/Contact
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Department of Communication Studies & Theatre
Pugsley Center 115, Box 2218
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Course Delivery Format
A variety of methods are used in our curriculum, including student engagement and interactive learning, lecture, laboratory, small group, seminar and collaborative activities.

Requirements for Theatre Major: 120 Credits
Bachelor of Science in Arts and Sciences

System General Education Requirements*:
- Goal #1 Written Communication: Credits: 6
- Goal #2 Oral Communication: Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: (Non THEA) Credits: 6
- Goal #5 Mathematics: Credits: 3
- Goal #6 Natural Sciences: Credits: 6

Institutional Graduation Requirements**:
- Goal #1 First Year Seminar: SPCM 109 ** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

College of Arts & Sciences Bachelor of Science Requirements: 34
Bachelor of Science
- Natural Science Credits: 14
  With 6 credits of Biological Sciences
  With 8 credits of Physical Sciences
- Social Sciences Credits: 12
- Humanities (Non THEA) Credits: 8

SGRs, IGRs, and/or Major coursework may satisfy some or all of the above requirements. Consult program advisor for details. See the College of Arts and Sciences for additional information about Bachelor of Arts Specifications and Bachelor of Science Specifications.
Major Requirements: 45

- DANC 131 - Movement 1 Credits: 2
- DANC 135 - Dance Activities Credits: 1
- THEA 131 - Introduction to Acting * (COM) Credits: 3
- Three different tech/performance areas. Credits: 3
- THEA 135 - Theatre Activities-Acting * and THEA 145 - Theatre Activities-Technical
- THEA 240 - Stage Costuming (COM) Credits: 3
- THEA 241-241L - Stagecraft and Lab (COM) Credits: 3
- THEA 250 - Play Analysis 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) (AW) Credits: 3
- THEA 452 - Stage Management (COM) Credits: 3
- THEA 470 - Portfolio and Resume Building Credits: 3
- THEA 480 - Summer Theatre (COM) Credits: 3 or THEA 494 - Internship Credits: 3
- THEA Elective Credits: 9
  - THEA 100 - Introduction to Theatre * (COM) Credits: 3
  - THEA 243 - Make-Up (COM) Credits: 3
  - THEA 351 - Directing (COM) Credits: 3
  - THEA 375 - Theatre Arts Management Credits: 3
  - THEA 435 - History of American Musical Theater (COM) Credits: 3
  - THEA 441 - Scene Design (COM) Credits: 3
  - THEA 443 - Costume Design Credits: 3
  - THEA 445-445L - Lighting and Lab (COM) Credits: 3
  - THEA 455 - Advanced Acting (COM) Credits: 3
  - THEA 492 - Topics Credits 1-5
  - DANC - Any DANC course up to 3 credits

Electives: 26

Total Required Credits: 120

Curriculum Notes
* Maximum Activities Credit toward major — 8 hours (from THEA 135, THEA 145, THEA 195, and THEA 480)
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.

** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).

(G) Globalization Requirement.

(AW) Advanced Writing Requirement.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Wildlife and Fisheries Sciences Major

Program Coordinator/Contact
Michael L. Brown, Distinguished Professor, Interim Assistant Department Head
Department of Natural Resource Management
Northern Plains Biostress Laboratory 142D
605-688-6122
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www.sdstate.edu/nrm

Program Information
Wildlife and Fisheries Sciences major requirements are specifically directed at preparing undergraduates in the area of wildlife and fisheries conservation and management. This coursework primarily revolves around educational aspects addressing organisms, their habitat and their human users. Embedded in these courses are additional skills that students need 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.

Accreditation, Certification, and Licensure
Academic requirements for Wildlife and Fisheries Sciences are based on certification programs of the American Fisheries Society and The Wildlife Society.

Requirements for Wildlife and Fisheries Sciences Major: 120 Credits

Bachelor of Science in Biological Sciences

System General Education Requirements*: 30-34

- Goal #1 Written Communication: ENGL 101 and ENGL 201 Credits: 6
- Goal #2 Oral Communication: SPCM 101 Credits: 3
- Goal #3 Social Sciences/Diversity: Credits: 6
- Goal #4 Humanities and Arts/Diversity: Credits: 6
- Goal #5 Mathematics: Credits: 3-5
- Goal #6 Natural Sciences: BIOL 101-101L or BIOL 151-151L and BIOL 103-103L or BIOL 153-153L Credits: 6-8

Institutional Graduation Requirements**: 5

- Goal #1 First Year Seminar: NRM 109-109L ** Credits: 2
- Goal #2 Cultural Awareness and Social and Environmental Responsibility Credits: 3

Major Requirements: 54-61

- BIOL 371 - Genetics (COM) Credits: 3
- CEE 434-534 - Hydrology Credits: 3
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 4
- CHEM 326-326L - Organic Chemistry II and Lab (COM) Credits: 4
- CHEM 106-106L Credits: 4 and CHEM 108-108L Credits 5 or CHEM 112-112L Credits: 4 and CHEM 120-120L Credits: 4 or CHEM 112-112L Credits: 4 and CHEM 326-326L Credits: 4
- ENGL 379 - Technical Communication (COM) (AW) Credits: 3
- NRM/BIOL 311 - Principles of Ecology (COM) Credits: 3
- PHYS 101-101L - Survey of Physics and Lab * (COM) Credits: 4 or PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
- STAT 281 - Introduction to Statistics * (COM) Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 230 - Wildlife and Fisheries Techniques Credits: 3

Oral Communication Requirement: 3 Select one of the following courses.

- SPCM 201 - Interpersonal Communication (COM) Credits: 3
- SPCM 215 - Public Speaking (COM) * Credits: 3
- SPCM 222 - Argumentation and Debate (COM) Credits: 3
- SPCM 434 - Small Group Communication (COM) Credits: 3

Botany Requirement: 3-4 Select one of the following courses.

- BOT 201-201L - General Botany and Lab * (COM) Credits: 3
- BOT 301-301L - Plant Systematics (COM) Credits: 4
- BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
- BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
Minors

Accounting Minor

Program Coordinator/Contact
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
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http://www.sdstate.edu/econ

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 excellent preparation for graduate programs in accounting, business, and law.

Student Learning Outcomes
Graduates with a minor in Accounting will be able to:

• Compose financial statements
• Complete basic components of a master budget
• Evaluate an organization’s basic financial performance

Program Requirements
A minimum GPA of 2.0 is required for the courses in the minor.

Accreditation, Certification, and Licensure
The Board of Accountancy is the regulatory body charged with administering and enforcing the South Dakota Codified Laws and Administrative Rules of South Dakota pertaining to Certified Public Accountants. Information regarding continuing education in accounting and the CPA exam can be found at its website, http://accountancy.sd.gov.

Electives: 20-31

Total Required Credits: 120

Curriculum Notes
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits.
** South Dakota State University has a 5 credit Institutional Graduation Requirement (IGRs).
(G) Globalization Requirement.
(AW) Advanced Writing Requirement.
Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Advertising Minor

Program Coordinator/Contact
Mary Arnold, Department Head
Department of Journalism and Mass Communication
Yeager Hall 211
605-688-4171
E-mail: mary.arnold@sdstate.edu
www.sdstate.edu/mcom

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.
Advertising minors must have grades of "C" or better in the program's courses.

Equipment and Supplies
Students are also encouraged to purchase a laptop (Macintosh preferred) and software appropriate for the discipline.

Accreditation, Certification, and Licensure
The Department 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 Department offers coursework in classroom, studio, online, and field-based settings.

Requirements for Advertising Minor: 18 credits
- ADV 370 - Advertising Principles Credits: 3
- ADV 371-371L - Advertising Copy and Layout and Studio (AW) Credits: 3
- ADV 372-372L - Advertising Media Strategies and Lab Credits: 3
- ADV 476 - International and Ethnic Advertising (G) Credits: 3
Choose 6 credits from the following:
- ADV 243 - Public Relations Principles Credits: 3
- ADV 314 - Sales, Promotion and Marketing Credits: 3
- ADV 442-442L - Integrated Marketing Communication and Campaigns Studio Credits: 3
- ADV 472 - Media Research and Planning Credits: 3
- ADV 489 - Portfolio Production & Design Credits: 1-3

Aerospace Studies Minor
Program Coordinator/Contact
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AFROTC / Aerospace Studies
DePuy Military Hall, Box 2236
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E-mail: det780@us.af.mil

Program Information
Satisfactory completion of the four-year Air Force ROTC program, 16 credits, constitutes a minor in Aerospace Studies in the College of Arts and Sciences.

Academic Requirements
Students entering AFROTC must have a minimum 2.0 GPA, maintain 2.0 GPA through their sophomore year and then maintain a minimum 2.5 GPA their junior and senior years in AFROTC courses to earn this minor.

Students must be a sole US citizen, either by birth or by naturalization.

Course Delivery Format
The Aerospace Studies curriculum is divided into two courses of instruction. The General Military Course (GMC) is a one-credit academic course and laboratory taken each semester during the freshman and sophomore years. The Professional Officer Course (POC) is a three-credit academic course and laboratory taken each semester during the junior and senior years. Additional curriculum options are available to accommodate freshman students pursuing undergraduate degrees that normally require five years to complete and to accommodate undergraduate students who have three years remaining to complete their degrees.

The laboratory includes a mandatory physical fitness program in which all students must have a physical exam certified by competent medical authority. These physicals are available through SDSU Student Health for a nominal fee. All students pursuing a commission will also attend field training at a designated Air Force base during a summer, normally between their sophomore and junior years.

Commission
Upon graduation and completion of the AFROTC curriculum, each student is commissioned an active duty second lieutenant in the United States Air Force. The initial Air Force assignment options for second lieutenants include the following:
1. Enter the Air 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.
2. Apply for a delay in entering active duty for the purpose of pursuing an advanced degree.
3. Enroll in one of several Air Force-sponsored graduate study programs while serving with full pay as a commissioned officer.
4. Upon entering the Air Force, newly commissioned second lieutenants incur an active duty commitment of four years. After initial aviation training, those competing and selected for navigator and air battle management specialties incur a six year commitment; those selected for pilot training incur a ten year commitment.

Requirements for Aerospace Studies Minor: 16 Credits
- AIR 101-101L - The Foundations of the US Air Force and Lab Credits: 1
- AIR 102-102L - The Foundations of the US Air Force and Lab Credits: 1
- AIR 201-201L - The Evolution of USAF Air and Space Power and Lab Credits: 1
- AIR 202-202L - The Evolution of USAF Air and Space Power and Lab Credits: 1
- AIR 301-301L - Air Force Leadership Studies and Lab Credits: 3
- AIR 302-302L - Air Force Leadership Studies and Lab Credits: 3
- AIR 401-401L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3
- AIR 402-402L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3

Agricultural Business Minor
Program Coordinator/Contact
Eluned Jones, Department Head
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
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Program Information
The Agricultural Business minor builds on a foundation of economic theory as it applies to the agricultural sector. Students have broad latitude to tailor their coursework to their personal areas of interest. This minor will benefit students pursuing careers in production agriculture, agribusiness, rural banking, and other fields. Students interested in pursuing a graduate degree in economics, business, or related fields are well prepared for advanced studies.

Program Requirements
A minimum GPA of 2.0 is required for the courses in the minor.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Agricultural Business Minor: 21-22 Credits
- ECON 201 - Principles of Microeconomics * ** (COM) (G) Credits: 3
- ECON 202 - Principles of Macroeconomics * ** (COM) (G) Credits: 3
- AGEC 300-level or above Credits: 9
Two of the following:
- ACCT 210 - Principles of Accounting I (COM) Credits: 3
- AGEC 271-271L - Farm and Ranch Management & Lab Credits: 4
- AGEC 354 - Agricultural Marketing and Prices Credits: 3
- BADM 310 - Business Finance (COM) Credits: 3
- BADM 350 - Legal Environment of Business (COM) Credits: 3
- BADM 360 - Organization and Management (COM) Credits: 3
- BADM/ECON 370 - Marketing Credits: 3
American Indian Studies Minor

Requirements for American Indian Studies Minor: 20 Credits

Core Courses (18 Credits)

- AIS/LAKL 101 - Introductory Lakota I * ** Credits: 4
- AIS/LAKL 201 - Intermediate Lakota I (COM) Credits: 3
- AIS/LAKL 202 - Intermediate Lakota II (COM) Credits: 3
- AIS/LAKL 301 - Advanced Lakota I (COM) Credits: 3
- AIS/LAKL 302 - Advanced Lakota II (COM) Credits: 3
- AIS 421/ANTH 421-521 - Indians of North America ** Credits: 3
- AIS/ENGL 256 - Literature of the American West** Credits: 3
- AIS/ENGL 447 - American Indian Literature of Present (COM) Credits: 3
- AIS/ENGL 448 - American Indian Literature of Past (COM) Credits: 3
- AIS/ENGL 449 - American Indian Literature of Future (COM) Credits: 3
- AIS/REL 238 - Native American Religions * Credits: 3
- ANTH 210 - Cultural Anthropology * (COM) Credits: 3
- ANTH 350 - American Indian Literature of Present (COM) Credits: 3
- AIS/POLS 417 - American Indian Government and Politics (COM) Credits: 3
- ECON 440 - Economics of the American West Credits: 3
- ECON 441 - Economics of American Indian Business Credits: 3
- ECON 442 - Economics of American Indian Politics Credits: 3
- ECON 443 - Economics of American Indian Culture Credits: 3
- ECON 444 - Economics of American Indian History Credits: 3
- ECON 445 - Economics of American Indian Religion Credits: 3
- ECON 446 - Economics of American Indian Education Credits: 3
- ECON 447 - Economics of American Indian Economics Credits: 3
- ECON 448 - Economics of American Indian Law Credits: 3
- ECON 449 - Economics of American Indian Chemistry Credits: 3
- ECON 450 - Economics of American Indian Physics Credits: 3
- ECON 451 - Economics of American Indian Biology Credits: 3
- ECON 452 - Economics of American Indian Geology Credits: 3
- ECON 453 - Economics of American Indian Geography Credits: 3
- ECON 454 - Economics of American Indian Sociology Credits: 3
- ECON 455 - Economics of American Indian Anthropology Credits: 3
- ECON 456 - Economics of American Indian Political Science Credits: 3
- ECON 457 - Economics of American Indian History Credits: 3
- ECON 458 - Economics of American Indian Economics Credits: 3
- ECON 459 - Economics of American Indian Law Credits: 3
- ECON 460 - Economics of American Indian Chemistry Credits: 3
- ECON 461 - Economics of American Indian Physics Credits: 3
- ECON 462 - Economics of American Indian Biology Credits: 3
- ECON 463 - Economics of American Indian Geology Credits: 3
- ECON 464 - Economics of American Indian Geography Credits: 3
- ECON 465 - Economics of American Indian Sociology Credits: 3
- ECON 466 - Economics of American Indian Anthropology Credits: 3
- ECON 467 - Economics of American Indian Political Science Credits: 3
- ECON 468 - Economics of American Indian History Credits: 3
- ECON 469 - Economics of American Indian Economics Credits: 3
- ECON 470 - Economics of American Indian Law Credits: 3
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- ECON 472 - Economics of American Indian Physics Credits: 3
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- ECON 476 - Economics of American Indian Sociology Credits: 3
- ECON 477 - Economics of American Indian Anthropology Credits: 3
- ECON 478 - Economics of American Indian Political Science Credits: 3
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- ECON 480 - Economics of American Indian Economics Credits: 3
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- ECON 491 - Economics of American Indian Economics Credits: 3
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- ECON 513 - Economics of American Indian Economics Credits: 3
- ECON 514 - Economics of American Indian Law Credits: 3
- ECON 515 - Economics of American Indian Chemistry Credits: 3
- ECON 516 - Economics of American Indian Physics Credits: 3
- ECON 517 - Economics of American Indian Biology Credits: 3
- ECON 518 - Economics of American Indian Geology Credits: 3
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- ECON 521 - Economics of American Indian Anthropology Credits: 3
- ECON 522 - Economics of American Indian Political Science Credits: 3
- ECON 523 - Economics of American Indian History Credits: 3
- ECON 524 - Economics of American Indian Economics Credits: 3
- ECON 525 - Economics of American Indian Law Credits: 3
- ECON 526 - Economics of American Indian Chemistry Credits: 3
- ECON 527 - Economics of American Indian Physics Credits: 3
- ECON 528 - Economics of American Indian Biology Credits: 3
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- ECON 531 - Economics of American Indian Sociology Credits: 3
- ECON 532 - Economics of American Indian Anthropology Credits: 3
- ECON 533 - Economics of American Indian Political Science Credits: 3
- ECON 534 - Economics of American Indian History Credits: 3
- ECON 535 - Economics of American Indian Economics Credits: 3
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- ECON 555 - Economics of American Indian Political Science Credits: 3
- ECON 556 - Economics of American Indian History Credits: 3
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- ECON 558 - Economics of American Indian Law Credits: 3
- ECON 559 - Economics of American Indian Chemistry Credits: 3
- ECON 560 - Economics of American Indian Physics Credits: 3
- ECON 561 - Economics of American Indian Biology Credits: 3
- ECON 562 - Economics of American Indian Geology Credits: 3
- ECON 563 - Economics of American Indian Geography Credits: 3
- ECON 564 - Economics of American Indian Sociology Credits: 3
- ECON 565 - Economics of American Indian Anthropology Credits: 3
- ECON 566 - Economics of American Indian Political Science Credits: 3
- ECO
Animal Health Minor
Program Coordinator/Contact
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Program Information
The Animal Health Minor provides students with coursework in veterinary and biomedicinal sciences in order to enhance their preparation for several different animal health related career paths. The coursework will augment pre-veterinary students' preparation for enrollment in colleges of veterinary medicine, and will enable students to enhance their knowledge of valuable animal health concepts that they can put to use in careers involving animal care, animal production, and animal health product research, development, and marketing.

Student Learning Outcomes
Graduates with a minor in Animal Health will:
• Achieve general skills and knowledge in the normal anatomy and physiology of common domestic animals, including cattle, sheep, horses, pigs, dogs, and cats.
• Achieve general skills and knowledge in the spectrum of diseases that affect the health of domestic animals, together with prevention and control strategies used in minimizing the impact of animal disease.
• Gain specialized understanding and knowledge in animal health through the completion of three (3) elective courses that focus on infectious disease and/or basic biomedical sciences.

Academic Requirements
A minimum GPA of 2.0 is required for the courses in the minor.

Course Delivery Format
Coursework for the program is delivered on campus in classroom and laboratory-based settings.

Requirements for Animal Health Minor: 18 Credits
Minor Core Credits: 9
• VET 103 - Introduction to Veterinary Medicine Credits: 1
• VET 183 - Veterinary Medical Terminology Credits: 1
• VET 223-223L - Anatomy & Physiology of Domestic Animals & Lab Credits: 4
• VET 403-503 - Animal Diseases and Their Control Credits: 3

Elective Credits: 9
Select three courses from the following:
• BIOL 467-467L - Parasitology & Lab (COM) Credits: 3
• HSC 445 - Epidemiology Credits: 3
• MICR 433-533 - Medical Microbiology (COM) Credits: 3
• MICR 439 - Medical and Veterinary Immunology Credits: 3
• MICR 440L - Infectious Disease Lab Credits: 3
• VET 424-524 - Medical and Veterinary Virology Credits: 3
• VET 476-576 - Advanced Mammalian Physiology Credits: 4
• WL 425-425L - Wildlife Nutrition & Disease & Lab Credits: 3

Animal Science Minor
Program Coordinator/Contact
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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: 20-21 Credits
• AS 101-101L - Introduction to Animal Science and Lab Credits: 3
• AS 233-233L - Applied Animal Nutrition and Lab Credits: 4
• AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 4
Electives: 3-4
Select at least one course from the following list.
• AS 323 - Advanced Animal Nutrition Credits: 3
• AS 332 - Livestock Breeding and Genetics Credits: 4
• AS 433-433L - Livestock Reproduction and Lab Credits: 3
Electives: 6
Select at least two courses, including one of the required courses * from the following list.
• AS 241-241L - Introduction to Meat Science and Lab Credits: 3
• AS 365-365L - Horse Production and Lab Credits: 3
• AS 474-474L - Cow/Calf Management and Lab Credits: 3*
• AS 477-477L - Sheep and Wool Production and Lab Credits: 3*
• AS 478-478L - Swine Production and Lab Credits: 3*

Aviation Minor
Program Coordinator/Contact
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www.sdstate.edu/aviation

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 171 - Introductory Flight I 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 370 - Professional Pilot Theory I Credits: 3
• AVIA 372 - Professional Flight I Credits: 2

Biology Minor
Program Coordinator/Contact
Volker Brözel, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
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E-mail: biomicro@abs.sdstate.edu
www.sdstate.edu/biomicro

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.

**Academic Requirements**
A minimum GPA of 2.0 must be maintained in the major courses.

**Course Delivery Format**
Program coursework is on-campus, in classroom and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers. Limited coursework is available online.

**Requirements for Biology Minor: 18 Credits**
- BIOL 101-101L - Biology Survey I & Lab * (COM) Credits: 3
- BIOL 151-151L - General Biology I & Lab * (COM) Credits: 4
- Departmental Elective 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.

**Biomedical Engineering Minor**

**Program Coordinator/Contact**
Lewis Brown, Dean
College of Engineering
Crothers Engineering Hall 201
605-688-4161
E-mail: lewis.brown@sdstate.edu
www.sdstate.edu/engr

**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 for advanced degrees related to biomedical engineering or medicine. The institution has placed graduates in the top M.D. and biomedical engineering graduate schools in 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. Before graduation, the student 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. The College can provide assistance to students who desire an internship with a biomedical company or research institute.

**Student Learning Outcomes**
Students will be able to:
- demonstrate an ability to apply knowledge of mathematics, engineering and the life sciences by completing a major capstone design project in the field of biomedical engineering;
- demonstrate an ability to independently conduct literature research on a current biomedical engineering topic and its application/impact on society and his/her engineering major; and
- demonstrate an ability to communicate biomedical engineering related technical information in high quality written and oral presentation forms.

**Requirements for Biomedical Engineering Minor: 18 Credits**
- EE 454-554 - Biomedical Instrumentation and Electrical Safety Credits: 3
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- EE 464 - Senior Design I (COM) Credits: 2 *
- EE 465 - Senior Design II (COM) (AW) Credits: 2 *
- EE 491 - Independent Study Credits: 3**

**Notes:**
* or equivalent course from ABE, ME, or PHYS. The capstone design project must focus on biomedical engineering and be approved by the Coordinator.
** must be biomedical engineering project approved by the Coordinator.

**Biotechnology Minor**

**Program Coordinator/Contact**
Volker Brözel, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141
E-mail: biomicro@abs.sdstate.edu
www.sdstate.edu/biomicro

**Program Information**
This interdisciplinary minor 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 will help fill the 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.

**Course Delivery Format**
Program coursework is delivered on campus in lecture, discussion, and laboratory settings.

**Requirements for Biotechnology Minor: 18 Credits**
- ABS 205 - Biotechnology in Agriculture and Medicine Credits: 2
- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- MICR 436 - Molecular and Microbial Genetics Credits: 4
- CHEM 464 - Biochemistry I (COM) Credits: 3

**Elective Credits:**
Complete remaining credits from the following course list. Internship or Undergraduate Research credits may be substituted for electives if approved by the biotechnology program coordinator.
- AS 332 - Livestock Breeding and Genetics Credits: 4
- AS 433-433L - Livestock Reproduction and Lab Credits: 3
- BIOL 373 - Evolution (COM) Credits: 3
- BIOL 383 - Bioethics ** (COM) (G) Credits: 4
- BIOL 453-553 - Advanced Genetics Credits: 3
- BIOL 483-483L - Developmental Biology and Lab (COM) Credits: 4
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
- DS 301-301L - Dairy Microbiology and Lab Credits: 3
- DS 411-411L - Dairy Breeds and Breeding and Lab Credits: 3
- HO 312-312L - Plant Propagation and Lab Credits: 3
- HO 383-383L - Principles of Crop Improvement and Lab Credits: 2, 1
- MICR 332L - Microbial Physiology Lab Credits: 2
- MICR 424-524 - Medical and Veterinary Virology Credits: 3
- PS 383-383L - Principles of Crop Improvement and Lab Credits: 3
- PS 453-553 - Advanced Genetics Credits: 3
- VET 424-524 - Medical and Veterinary Virology Credits: 3
Botany Minor
Program Coordinator/Contact
Nels H. Troelstrup, Jr., Interim Department Head
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Northern Plains Biostress Laboratory 138
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www.sdstate.edu/nrm

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.

Academic Requirements
A minimum GPA of 2.0 is required for all courses in the minor.

Course Delivery Format
The program’s courses are offered on campus in lecture, laboratory, and field-based settings.

Requirements for Botany Minor: 18 Credits
Required Biology Course: 3-4
- BIOL 103-103L - Biology Survey II and Lab * (COM) Credits: 3
- BIOL 153-153L - General Biology II and Lab * (COM) Credits: 4
Selective Electives: 14-15
At least two botany courses must be upper-division, 300 level or above
- BOT 127 - Ethnobotany Credits: 3
- BOT 201-201L - General Botany and Lab * (COM) Credits: 3
- BOT 301-301L - Plant Systematics (COM) Credits: 4
- BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
- BOT 327-327L - Plant Physiology and Lab (COM) Credits: 4
- BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
- BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
- BOT 419-419L - Plant Ecology and Lab (COM) Credits: 4
- BOT 492-592 - Topics Credits: 1-5

No more than 3 credits of may come from the following upper-division Botany courses:
- BOT 491 - Independent Study Credits: 1-4
- BOT 494 - Internship Credits: 1-12
- BOT 496 - Field Experience Credits: 1-12
- BOT 498 - Undergraduate Research/Scholarship Credits: 1-4

Additional elective credits may come from the following range courses:
- RANG 210-210L - Range Plant Identification and Lab Credits: 2
- RANG 400 - Judging Teams (Sec 1.) Credits: 1-3

Chemistry Minor
Program Coordinator/Contact
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Department of Chemistry & Biochemistry
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Program Information
The Department of Chemistry and Biochemistry offers the chemistry minor for students who desire significant training in the chemical sciences without pursuing a degree in the discipline. The minor is particularly suitable for students in other majors whose career trajectories will require a thorough understanding of chemistry. Such careers may include secondary science teaching majors, biomedical engineers, biologists, dairy scientists, soil scientists, forensic psychologists, physicists, and many others.

Academic Requirements
All courses must be completed with a grade of "C" or higher. At least 50% of credits earned toward the Minor in Chemistry must be completed at South Dakota State University.

Course Delivery Format
Courses offered in the Chemistry minor curriculum are taught in a variety of formats to ensure competence in the chemical sciences: Didactic (lecture) methods ensure the development of foundational knowledge of chemistry; Practical (laboratory) methods ensure the development of laboratory skills and training.

Requirements for Chemistry Minor: 20 Credits
- CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 4
- or CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 4
- CHEM 115-115L - Atomic and Molecular Structure and Lab * Credits: 4
- and CHEM 127-127L - Structure and Function of Organic Molecules and Lab * Credits: 4
- Twelve or more credits of upper division chemistry (CHEM 3XX or CHEM 4XX) should be chosen from courses beyond general chemistry- in the subdisciplines of Analytical, Biochemistry, Inorganic, Organic, Physical and Environmental. This should include laboratory experiences in at least two different areas beyond general chemistry (i.e., at least 2 of the 12 credits of upper division chemistry courses must be from different subdisciplines).

Communication Studies and Theatre Minor
Program Coordinator/Contact
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Program Information
A minor in Communication Studies and Theatre allows students to choose from a focus in Speech Communication or a focus in Theatre.

Student Learning Outcomes
With a Communication Studies and Theatre minor with a Speech Communication focus, students will be able to:
- Appropriately analyze and adapt oral and written messages that are effective, clear, and persuasive, given the audience and occasion.
- Demonstrate the communication skills necessary to engage in personal, professional, civic and social relationships.
- Critically evaluate verbal and nonverbal messages in differing social and cultural contexts in order to assess their effectiveness and ethical implications.
- Demonstrate comprehension of concepts relative to the theory and criticism of human communication.
- Demonstrate the ability to effectively gather information, research and analyze issues from a variety of perspectives.

With a Communication Studies and Theatre minor with a Theatre focus, students will be able to:
- understand and/or participate in the basic production process in all areas of theatre.
- demonstrate familiarity with historical and cultural dimensions of theatre.
- possess an understanding and appreciation of the concept of collaboration required for successful theatrical productions.
- make informed assessments of quality in theatrical performances and activities communicate effectively relative to the student's specific area of particular interest and focus, if that is the case for the individual student.
- understand the expectations and demands of the field, whether in an educational setting or the profession.
Course Delivery Format
A wide range of course formats are available in this major including, lectures, laboratory, small group, seminar, interactive and collaborative partnerships.

Requirements for Communication Studies and Theatre Minor: 20 Credits
Students complete at least 20 SPCM and THEA credits.

Required courses in Speech Communication focus to include:
- SPCM 101 - Fundamentals of Speech * (COM) must be approved by the department head.
- Not more than 8 credits chosen from activity courses may be counted.
  - SPCM 281 - Speech and Debate Activities (COM)
  - SPCM 491-591 - Independent Study
  - THEA 135 - Theatre Activities-Acting
  - THEA 145 - Theatre Activities-Technical
  - THEA 491 - Independent Study

Required courses in Theatre focus to include:
- THEA 100 - Introduction to Theatre * (COM) Credits: 3
- THEA 131 - Introduction to Acting * (COM) Credits: 3
- THEA 241-241L - Stagecraft and Lab (COM) Credits: 3
- THEA 351 - Directing (COM) Credits: 3
- THEA 480 - Summer Theatre (COM) Credits: 5
- Select one course from the following:
  - THEA 243 - Make-Up (COM) Credits: 3
  - THEA 355 - Children's Theatre (COM) Credits: 3
  - THEA 375 - Theatre Arts Management Credits: 3
  - THEA 441 - Scene Design (COM) Credits: 3
  - THEA 445-445L - Lighting and Lab (COM) Credits: 3

Computer Science Minor
Program Coordinator/Contact
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Program Information
The Computer Science minor offers students a flexible program that is well suited to enhance any major curriculum and increase a graduate's marketability. CS related jobs are among the ten fastest growing careers that show a lot of promise and opportunity for growth.

Academic Requirements
Computer Science students must pass all minor courses with a grade of C or better.

Course Delivery Format
A majority of the courses are taught on campus in smart classrooms. The smart classrooms allow for a variety of methods for student engagement and faculty are able to record and post their lectures on-line.

Requirements for Computer Science Minor: 18 Credits
- CSC 150 - Computer Science I (COM) Credits: 3
- CSC 250 - Computer Science II (COM) Credits: 3
- CSC 300 - Data Structures (COM) Credits: 3
- Applied Electives Credits: 9
- Select courses numbered 300 or above from CSC or SE courses.

Construction Minor
Program Coordinator/Contact
Byron Garry, Academic Program Coordinator
Department of Construction and Operations Management
Solberg Hall 116
605-688-6417
E-mail: byron.garry@sdstate.edu
www.sdstate.edu/com

Program Information
Students in programs related to the construction industry including Architecture, Interior Design, Hospitality Management, Mechanical, 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.

Requirements for Construction Minor: 18 Credits
- CM 216 - Construction Materials Credits: 3
- CM 232-232L - Cost Estimating and Lab Credits: 3
- CM 332 - Building Construction Methods and Systems Credits: 3
- CM 410 - Construction Project Management and Supervision Credits: 3
- Electives: 3
  - CM 352 - Advanced Cost Estimating Credits: 3
  - CM 400 - Risk Management and Construction Safety Credits: 3
  - CM 430 - Building Environmental Certification Credits: 3
  - CM 455-455L - Residential Construction and Lab Credits: 3
  - CM 460 - Sustainable Building Systems Concepts and Analysis Credits: 3
  - CM 473 - Construction Law and Accounting (AW) Credits: 3
  - CM 485-485L - Site Development and Feasibility Analysis and Lab Credits: 3

Criminal Justice Minor
Program Coordinator/Contact
Mary Emery, Department Head
Department of Sociology and Rural Studies
Scobey Hall 224
605-688-4132
E-mail: mary.emery@sdstate.edu
www.sdstate.edu/soc

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 Department of 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.

Academic Requirements
Students must have a cumulative GPA of 2.2 to enter the program and a minimum GPA of 2.2 in the minor to complete. Students may select any major, but (*) courses may not be used for both a Criminal Justice Minor and Sociology Major or Minor. Students will need to earn a C grade or better in courses taken for the minor.

Course Delivery Format
The program offers coursework on campus, on-line, and at attendance centers around the state.
Requirements for Criminal Justice Minor: 18 Credits
- CJUS 201 - Introduction to Criminal Justice * (COM) Credits: 3
- SOC 351 - Criminology (COM) Credits: 3 *

Electives: 12
- CJUS 203 - Policing in a Free Society (COM) Credits: 3
- CJUS 330 - Civil Rights and Liberties Credits: 3
- CJUS 431 - Criminal Law (COM) Credits: 3
- CJUS 433 - Criminal Procedure (COM) Credits: 3
- CJUS 436 - Juvenile Justice (COM) Credits: 3
- CJUS 491-591 - Independent Study Credits: 1-3
- SOC 325 - Domestic and Intimate Violence Credits: 3 *
- SOC 354 - Victimology Credits: 3 *
- SOC 402 - Social Deviance (COM) Credit: 3
- SOC 455-555 - Juvenile Delinquency (COM) Credits: 3 *
- SOC 456-566 - Community Corrections (COM) Credits: 3 *
- SOC 460-560 - Advanced Criminology (COM) Credits: 3 *
- SOC 492 - Topics Credits: 1-3

Dance Minor
Program Coordinator/Contact
Melissa Hauschild-Mork, Coordinator
Department of Communication Studies & Theatre
115 Pugsley Continuing Education Center
605-688-0131
E-mail: Melissa.Mork@sdsstate.edu
www.sdsstate.edu/est/programs/dance-minor

Program Information
The dance minor at SDSU was created as a holistic and inclusive minor. Holistic in the nature that the minor embraces many genres of dance to include: social, multi-cultural, creative movement, dance for the musical theatre and jazz, tap, ballet and modern dance techniques. The minor has a strong theory, compositional and improvisational base. The minor is inclusive from the perspective that all students no matter their history or training will find opportunities for growth and transformation in the program.

Course Delivery Format
The dance curriculum is delivered in studio, laboratory, discussion, and lecture-based settings.

Requirements for Dance Minor: 18 Credits
Required Credits: 14
- DANC 130 - Dance Fundamentals Credits: 1
- DANC 131 - Movement 1 Credits: 2
- DANC 135 - Dance Activities Credits: 1 (x2 -take two semesters)
- DANC 240 - Multicultural Dance Activities Credits: 1
- DANC 241-241L - Creative Movement for Children and Lab Credits: 2
- DANC 420 - Techniques of Teaching Dance Credits: 2
- DANC 430 - Composition and Choreography Credits: 2
- DANC 431 - Dance for the Musical Theatre Credits: 2

Elective 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

Economics Minor
Program Coordinator/Contact
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
Email: jason.zimmerman@sdsstate.edu

Program Information
The Economics minor provides a rigorous exploration of modern economic theory. Students can select courses from a large number of department electives based on their interests. This minor will appeal to students pursuing careers in fields such as economics, finance, policy analysis, business, agricultural business, or for future graduate study in economics, business, or related fields.

Academic Requirements
A minimum GPA of 2.0 is required for the courses in the minor.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Economics Minor: 21-24 Credits
- ECON 201 - Principles of Microeconomics * ** (COM) Credits: 3
- ECON 202 - Principles of Macroeconomics * (COM) (G) Credits: 3
- ECON 301 - Intermediate Microeconomics (COM) Credits: 3
- ECON 302 - Intermediate Macroeconomics (COM) Credits: 3
- Two courses selected from courses prefixed: AGEC or ECON Credits: 6-7
- STAT 281 - Introduction to Statistics * (COM) Credits: 3
- Courses prefixed ACCT, AGEC, BADM, ECON, or ENTR Credits: 3-4

Engineering for Precision Agriculture Minor
Program Coordinator/Contact
Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
SAE 105, Box 2120
605-688-5666
E-mail: van.kelley@sdsstate.edu
www.sdsstate.edu/abe

Program Information
The minor in Engineering for Precision Agriculture is appropriate for students interested in preparing for careers with agricultural machinery manufacturers, agricultural service system developers, and service providers. The minor will develop in students the specific skills and understanding required to create new systems that utilize emerging technologies to enhance productivity and sustainability in agriculture.

Student Learning Outcomes
Students completing the minor must understand how sensors, controls, and machines are combined to form a system that matches inputs to site specific conditions. Specifically students will be able to:
- apply mathematics and engineering science to the analysis of systems for crop and livestock production,
- combine sensor technologies with agronomic decision processes to develop solutions for specific agricultural production systems,
- design systems to control the application of inputs to match spatial agronomic input plans,
- demonstrate the ability to work effectively in an area of precision agricultural systems.

Course Delivery Format
Competence in Engineering for Precision Agriculture requires both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, internship/research experiences and focused design projects.
**Entrepreneurial Studies Minor**

Program Coordinator/Contact
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
E-mail: jason.zimmerman@sdstate.edu
www.sdstate.edu/econ

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.

Academic Requirements
A minimum GPA of 2.0 is required for the courses in the minor.

Student Learning Outcomes
Entrepreneurial Studies graduates will be able to demonstrate:

- the fundamental knowledge, skills, and experience to think entrepreneurially
- leadership by adopting an innovative and creative thought processes
- research, analysis, and presentation skills
- the capacity to evaluate ethical matters within the context of the discipline.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

**Requirements for Entrepreneurial Studies Minor: 18 Credits**

- BADM 370 - Marketing (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ENTR 236 - Innovation & Creativity Credits: 3
- ENTR 237 - ENTR H: Entrepreneurship Development Credits: 3
- ENTR 338 - ENTR III: New Venture Creation Credits: 3

Electives: 3
Select three credits from the following:

- ACCT 430 - Income Tax Accounting (COM) Credits: 3
- BADM 334 - Small Business Management (COM) Credits: 3
- BADM 460 - Human Resource Management (COM) Credits: 3
- BADM 474 - Personal Selling (COM) Credits: 3

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**Equine Studies Minor**

Program Coordinator/Contact
Rebecca C. Bott, Assistant Professor and Extension Equine Specialist
Department of Animal Sciences
Animal Science Complex 103A
605-688-5412
E-mail: Rebecca.Bott@sdstate.edu

Program Information
The Equine Studies minor is designed for students from all majors who wish to supplement their academic major with studies in equine science, management, and industry trends.

Student Learning Outcomes
Upon completion of the Equine Studies minor, students will:

- develop the fundamental knowledge of the anatomy, physiology, nutrition, health and functional structure of a horse necessary to successfully own or manage horses for pleasure and/or business,
- demonstrate the ability to identify early signs of disease and lameness,
- determine and manage appropriate diets for various classes of horses,
- manage a herd of broodmares during the breeding season,
- exhibit business knowledge of an equine facility, and
- horsemanship skills

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**English Minor**

Program Coordinator/Contact
Jason McEntee, Department Head
Pugsley Hall 301, Box 2218
605-688-5191
E-mail: jason.mcentee@sdstate.edu

Program Information
The English minor allows students to develop skills in communication, research, critical thinking, and focused creativity. 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.

Academic Requirements
To count toward the minor, courses must be passed with a minimum grade of "C."

Course Delivery Format
The department offers coursework on campus, online, and at attendance centers around the state.

**Requirements for English Minor: 20 Credits**

- Three courses in British Literature Credits: 9
- Two courses in American Literature Credits: 6
- Elective Credits: 2-3

One of the following courses:

- ENGL 379 - Technical Communication (COM) (AW) Credits: 3
- ENGL 383 - Creative Writing Credits: 3
- LING 203 - English Grammar Credits: 3
- LING 420-520 - The New English Credits: 3
- LING 443-543 - Development of the English Language Credits: 3

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**Equine Studies Minor**

Program Coordinator/Contact
Rebecca C. Bott, Assistant Professor and Extension Equine Specialist
Department of Animal Sciences
Animal Science Complex 103A
605-688-5412
E-mail: Rebecca.Bott@sdstate.edu

Program Information
The Equine Studies minor is designed for students from all majors who wish to supplement their academic major with studies in equine science, management, and industry trends.

Student Learning Outcomes
Upon completion of the Equine Studies minor, students will:

- develop the fundamental knowledge of the anatomy, physiology, nutrition, health and functional structure of a horse necessary to successfully own or manage horses for pleasure and/or business,
- demonstrate the ability to identify early signs of disease and lameness,
- determine and manage appropriate diets for various classes of horses,
- manage a herd of broodmares during the breeding season,
- exhibit business knowledge of an equine facility, and
- horsemanship skills

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**Entrepreneurial Studies Minor**

Program Coordinator/Contact
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
E-mail: jason.zimmerman@sdstate.edu
www.sdstate.edu/econ

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.

Academic Requirements
A minimum GPA of 2.0 is required for the courses in the minor.

Student Learning Outcomes
Entrepreneurial Studies graduates will be able to demonstrate:

- the fundamental knowledge, skills, and experience to think entrepreneurially
- leadership by adopting an innovative and creative thought processes
- research, analysis, and presentation skills
- the capacity to evaluate ethical matters within the context of the discipline.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

**Requirements for Entrepreneurial Studies Minor: 18 Credits**

- BADM 370 - Marketing (COM) Credits: 3
- ACCT 211 - Principles of Accounting II (COM) Credits: 3
- ENTR 236 - Innovation & Creativity Credits: 3
- ENTR 237 - ENTR II: Entrepreneurship Development Credits: 3
- ENTR 338 - ENTR III: New Venture Creation Credits: 3

Electives: 3
Select three credits from the following:

- ACCT 430 - Income Tax Accounting (COM) Credits: 3
- BADM 334 - Small Business Management (COM) Credits: 3
- BADM 460 - Human Resource Management (COM) Credits: 3
- BADM 474 - Personal Selling (COM) Credits: 3

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**Equine Studies Minor**

Program Coordinator/Contact
Rebecca C. Bott, Assistant Professor and Extension Equine Specialist
Department of Animal Sciences
Animal Science Complex 103A
605-688-5412
E-mail: Rebecca.Bott@sdstate.edu

Program Information
The Equine Studies minor is designed for students from all majors who wish to supplement their academic major with studies in equine science, management, and industry trends.

Student Learning Outcomes
Upon completion of the Equine Studies minor, students will:

- develop the fundamental knowledge of the anatomy, physiology, nutrition, health and functional structure of a horse necessary to successfully own or manage horses for pleasure and/or business,
- demonstrate the ability to identify early signs of disease and lameness,
- determine and manage appropriate diets for various classes of horses,
- manage a herd of broodmares during the breeding season,
- exhibit business knowledge of an equine facility, and
- horsemanship skills
Course Delivery Format
Program faculty program 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: 18-20 Credits
- AS 104-104L - Introduction to Horse Management and Lab Credits: 2
- AS 105-105L - Western Horsemanship and Lab Credits: 1 or AS 106-106L - English Horsemanship and Lab Credits: 1
- AS 213 - Equine Health and Diseases Credits: 3
- AS 220 - Equine Nutrition Credits: 3
- AS 365-365L - Horse Production and Lab Credits: 3
- AS 494 - Internship Credits: 1
- AS 370 - Stable Management Credits: 2 or AS 420-420L - Equine Reproductive Mgmt & Lab Credits: 3 or AS 449 - Equine Issues and Leadership Credits: 3
- AGEC 271-271L - Farm and Ranch Management & Lab Credits: 4 or BADM 334 - Small Business Management (COM) Credits: 3 or BADM/ENTR 336 - Entrepreneurship I (COM) Credits: 3

Events and Facilities Administration Minor
Program Coordinator/Contact
Jane E. Hegland, Department Head
Department of Consumer Sciences
Wagner Hall 229
605-688-5196
E-mail: jane.hegland@sdstate.edu
www.sdstate.edu/cs

Program Information
A minor in Events and Facilities Administration will strengthen students' preparation to work in careers that involve event planning and facilities administration (political events, celebrations, education, promotions, commemorations, trade shows, conferences, exhibitions, and conventions). Students earning this minor will demonstrate leadership characteristics and make decisions based on integrating knowledge of financial, human resources, promotion, and event administration principles.

This minor will benefit students by providing them additional preparation in the field of Events and Facilities Administration. The proposed curriculum provides students with research-based best practices, knowledge, skills, and understanding for planning events and managing facilities where events take place. More specifically, this minor will provide students with a deeper understanding of what it takes to plan and promote successful events, with particular focus on events and facilities administration, facilities management and design, and marketing.

Course Delivery Format
The on-campus program involves lecture, discussion, group work, and applied learning experiences.

Requirements for Events and Facilities Administration Minor: 18 Credits
Required Credits: 12
- EFA/HMGT 355 - Events and Facilities Administration Credits: 3
- EFA/RECR 415 - Recreation & Sport Facility Mgmt Credits: 3 or EFA/HMGT 472 - Hospitality Facilities Mgmt & Design Credits: 3
- EFA 455 - Advanced Events & Facilities Administration Credits: 3
- EFA/HMGT 482 - Hospitality Management Credits: 3

Electives Credits: 6
Select from the following list of courses:
- AM 282 - Customer Service Credits: 2
- AM 361-361L - Aesthetics and Lab Credits: 3
- CA 230 - Consumer Behavior Credits: 3
- CA 430 - Consumer Decision Making Credits: 3
- EFA 494 - Internship Credits: 1-3
- RECR 260 - Fundamentals of Recreation Leadership Credits: 3
- RECR 342 - Recreational Sports Programs and Administration (COM) Credits: 3

Film Studies Minor
Program Coordinator/Contact
Cable Hardin, Program Coordinator and Associate Professor of Visual Arts
Department of Visual Arts
Grove Hall 103, Box 2802
605-688-4657
E-mail: cable.hardin@sdstate.edu
www.sdstate.edu/art

Program Information
As an interdisciplinary program across three departments (Visual Arts, English, and Mass Communication), the Film Studies minor promotes media literacy and critical appreciation/understanding of the media in the world today. Graduates of the program will be more knowledgeable of the audiovisual elements that help to drive an increasingly digital economy. They will not only be more capable of cultural critique in an abstract sense, but better able to understand and manipulate audiovisual imagery in business and other practical contexts.

Student Learning Outcomes
Film Studies students will:
- learn fundamentals of cinematic language.
- acquire a broader perspective on film and cinematic aesthetics and methods of storytelling, achieved through courses offering wide variety of approaches to filmmaking (international, documentary, experimental, narrative).
- explore the role of film and other media in contemporary American and world society.
- express themselves through filmmaking, achieved through applied courses in film, video, animation, writing, or a combination.
- acquire additional skills in effectively and persuasively presenting their ideas in oral, audiovisual, and written presentations.
- learn to balance theoretical and practical approaches to understanding or manipulating audiovisual imagery as encountered in multiple contexts, both inside the university and in the workplace.

Course Delivery Format
Faculty deliver program coursework on the campus in Brookings, South Dakota. The courses are both theoretical and practical in nature. The three required courses will lay the foundation for acquiring the vocabulary and theoretical and historical background necessary for understanding film as an art form and as a powerful influence on society. The three additional elective credits will allow students to pursue specialized interests in animation and film production or in film history and aesthetics.

Requirements for Film Studies Minor: 18 Credits
- ARTH 120 - Film as Art * Credits: 3 or MCOM 160 - Introduction to Film *** Credits: 3
- ENGL 268 - Literature * (COM) Credits: 3
- MCOM 366 - Film Narrative Credits: 3

Electives Credits: 9
Select from the following list:
- ART 492 - Topics Credits: 3
- ARTD 203 - Animation Foundations I Credits: 3
- ARTD 303 - Animation Foundations II Credits: 3
- ARTD 304 - Motion Graphics Credits: 3
- ARTD 403 - Intermediate Animation Credits: 3
- ENGL 268 - Literature * (COM) (Next Generation Storytelling or Literature and Film on Vietnam) Credits: 3
- ENGL 380 - Futuristic Communications Credits: 3
- ENGL 483 - Advanced Creative Writing (COM) (Screenplay) Credits: 3
- FREN 492 - Topics (If film-oriented course) Credits: 3
- GER 492 - Topics (If film-oriented course) Credits: 3
- MCOM 225-225L - Introduction to Digital Production and Lab Credits: 3
- MCOM 331-331L - Video Production and Lab (COM) Credits: 3
- SPAN 492 - Topics (If film-oriented course) Credits: 3
Food Safety Minor
Program Coordinator/Contact
Matthew Vukovich, PhD
605-688-4668
E-mail: matt.vukovich@sdstate.edu

Program Information
A minor in food safety is for students interested in the principles underlying keeping food safe and will be especially helpful for those students interested in working in this aspect of the food industry. Topics covered focus upon microbiology and safety of food as it is manufactured and distributed.

Student Learning Outcomes
Students who successfully complete the requirements for the Food Safety minor will:
- demonstrate practical skills in the development of HACCP plans for food production and processing institutions
- identify current issues in food safety
- demonstrate a functional knowledge of foods
- identify food pathogens
- demonstrate an understanding of the use of statistics in the study and understanding of food safety issues
- demonstrate skills in the science of risk communication

Requirements for Food Safety Minor: 18 Credits
Required Credits: 10
- MICR 311-311L - Food Microbiology and Lab Credits: 4
- NFS 251 - Food Safety and Technology Credits: 3
- AS 350 - Meat Product Safety and HACCP Credits: 3
  or DS 301-301L - Dairy Microbiology and Lab Credits: 3

Elective Credits: 8
- AS 241-241L - Introduction to Meat Science and Lab Credits: 3
- AS 345-345L - Value-Added Meat Products and Lab Credits: 3
- AST 443-443L - Food Processing and Engineering Fundamentals and Lab Credits: 3
- DS 321-321L - Dairy Product Processing I and Lab Credits: 5
- HMGT 251 - Foodservice Sanitation Credits: 1
- HSC 445 - Epidemiology Credits: 3
- NFS 351-351L - Principles of Food Processing and Lab Credits: 3
- NFS 451-451L/551-551L - New Food Product Development and Lab Credits: 4
- NFS 495 - Practicum Credits: 2
- STAT 281 - Introduction to Statistics *(COM)* Credits: 3

French Studies Minor
Program Coordinator/Contact
Marie-Pierre Baggett, French Program Coordinator
Department of Modern Languages and Global Studies
SWG 121, Box 2203
605-688-5101
E-mail: Marie-Pierre.Baggett@sdstate.edu
www.sdstate.edu/mfl

Program Information
The French Studies minor at SDSU consists of language, culture, literature and professional courses to prepare students for careers in which they will use French as a language for communication. The minor offers flexibility and can easily be added to any major.

Student Learning Outcomes
Upon the completion of the French Studies minor students should be able to:
- Speak, read and write French at the intermediate-high or advanced level
- Demonstrate knowledge and understanding of the cultures and communication cultures of the Francophone world
- Demonstrate knowledge of the French civilizations and its cultural products, such as literature, art, government, etc.

Academic Requirements
There are no application requirements to enroll in the French Studies minor. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. Additionally, all the courses for the major must be passed with a grade of "C" or better.

Course Delivery Format
Most courses in the French Studies minor are offered face-to-face on campus. Some upper-division courses are offered as part of the French cooperative program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

Requirements for French Studies Minor: 22 Credits
- FREN 102 - Introductory French II *(COM) (G)* Credits: 4
- FREN 201 - Intermediate French I ***(COM) (G)* Credits: 4
- FREN 202 - Intermediate French II ***(COM) (G)* Credits: 4
- French elective Credits: 4
- Upper division French elective Credits: 6

Academic Programs 221
**Geography Minor**

Program Coordinator/Contact  
George White, Department Head  
Department of Geography  
109 Wecota Hall  
605-688-4511  
E-mail: george.white@sdstate.edu

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.

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

Course Delivery Format  
Geography is not only a classroom subject but one that also includes laboratory research, fieldwork, and travel, as well as limited online coursework.

Requirements for Geography Minor: 20 Credits
- Upper-division courses or substitutions approved by the Department Credits: 6
- GEOG 131-131L - Physical Geography: Weather and Climate & Lab * (COM) Credits: 4
- GEOG 132-132L - Physical Geography: Natural Landscapes & Lab * (COM) Credits: 4
- GEOG 200 - Introduction to Human Geog. ** (COM) (G) Credits: 3
- GEOG 210 - World Regional Geog. *** (COM) (G) Credits: 3

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**German Minor**

Program Coordinator/Contact  
Eckhard Rolz, German Program Coordinator  
Department of Modern Languages and Global Studies  
SWG 121  
605-688-5101

Program Information  
The German minor at SDSU consists of language, culture, literature and professional courses to prepare students for careers in which they will use German as a language for communication. The minor offers flexibility and can easily be added to another major.

Student Learning Outcomes  
Upon the completion of the German minor, students should be able to:
- Speak, read and write German
- Demonstrate knowledge and understanding of the cultures and communication cultures of the German-speaking world
- Demonstrate knowledge of the German civilizations and its cultural products, such as literature, art, government, etc.

Application Requirements  
There are no application requirements to enroll in the German minor. However, students with previous knowledge of the language must take the placement test and register for an appropriate course. Additionally, all the courses for the minor must be passed with a grade of "C" or better.

Course Delivery Format  
Most courses in the German program are offered face-to-face on campus. Some upper-division courses are offered as part of the German cooperative program with NSU and USD and they use different types of distance delivery, including simultaneous television (DDN) and online delivery.

Requirements for German Minor: 20 Credits
- GER 300-400 level Electives Credits: 6
- GER 101 - Introductory German I * (COM) (G) Credits: 4
- GER 102 - Introductory German II * (COM) (G) Credits: 4
- GER 201 - Intermediate German I ** (COM) (G) Credits: 3
- GER 202 - Intermediate German II ** (COM) (G) Credits: 3

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**Gerontology Minor**

Program Coordinator/Contact  
Renee Oscarson, Associate Professor  
Department of Counseling and Human Development  
Wagner Hall 403  
605-688-5954  
E-mail: renee.oscarson@sdstate.edu

Program Information  
The minor in gerontology prepares graduates to work directly with or on behalf of older adults by drawing on coursework from multiple disciplines and collaborating with practitioners in aging-related professions. It may accompany any major, but is especially recommended for students in health science majors and/or students with an interest in human service and medical professions.

Student Learning Outcomes  
Students will be able to:
- Interpret and apply gerontological theories
- Demonstrate effective intergenerational communication skills
- Evaluate and assess environmental demands and individual needs of older adult populations

Academic Requirements  
A grade of "C" or better is required in all courses in the minor. To count for the minor, all Seminar, Topics, or Independent Study coursework must be approved by the Gerontology Coordinator. The topics and credits vary by semester.

Course Delivery Format  
Program coursework is completed on campus and online.

Requirements for Gerontology Minor: 18 Credits  
Level One: 11  
Select 11 credits from the following Level One Aging courses.  
- BIOL 439-539 - Biology of Aging credits: 3  
- CA 442 - Family Resource Management Lab Credits: 3  
- GERO 201 - Introduction to Gerontology Credits: 3  
- GERO 491-591 - Independent Study Credits: 1-3  
- GERO 492-592 - Topics Credits: 1-3  
- HDFS 346 - Human Development III: Adulthood Credits: 3  
- PSYC 324 - Psychology of Aging Credits: 3  
- SOC 490 - Seminar Credits: 1-3

Levels Two and Three: 7  
Select 7 credits from Level Two and Three approved courses with the program coordinator.  
- A portion of Level Two courses is aging-related.  
- Level Three courses cover the study of biological, psychological, or social aspects of humans.

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**Global Studies Minor**

Program Coordinator/Contact  
Charlie Yi Zhang, Program Coordinator  
Molly Enz, Program Co-Coordinator  
Department of Modern Languages and Global Studies  
SWG 121 Campus, Box 2275  
605-688-5101

Program Information  
A minor in global studies is intended to prepare students for entry into various fields from business to government service. The Global Studies major integrates content and theory from a number of disciplines leading to an understanding of the interrelated processes of globalization in an increasingly interdependent world. The major provides a wide variety of courses allowing students to tailor the program to their interests and future career plans while maintaining the interdisciplinary requirements to reflect the major's intended purpose: intercultural competence and authentic global citizenship.

Student Learning Outcomes  
Global Studies students will:
1. express a broad understanding of global society and the societies of diverse foreign countries and cultures through the social sciences, natural sciences, and humanities
Health Communication Minor

Program Coordinator/Contact
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Program Information
The Health Communication minor emphasizes knowledge and skills in areas such as patient provider communication, telemedicine, and persuasive health messaging. Students gain familiarity with contemporary health issues and perspectives outside of the communication discipline. The minor provides students with a firm foundation to pursue a career in a variety of health-related fields, building on the central role of communication in the delivery, management, and promotion of health care.

Student Learning Outcomes:
Health Communication students will:
• Articulate the role of communication in the promotion and delivery of health care on individual and community levels.
• Develop communication skills necessary for appropriately and effectively conveying health information across a variety of contexts.
• Understand the impact of community, cultural, psychological, and other forces on health behaviors and decision-making.
• Work closely with a community client to develop, implement, and evaluate a Health Communication project designed to improve community health.

Course Delivery Format
Faculty deliver program coursework on the main campus in Brookings, South Dakota. This minor requires coursework covering the breadth of Health Communication theories and contexts as well as methods for conducting Health Communication research in the academy and community.

Requirements for Health Communication Minor: 18 Credits
• HLTH 120 - Community Health/HSC 120 - Community Health Credits: 3
• SPCM 440 - Health Communication (COM) Credits: 3
• SPCM 441 - Health Communication Research Methods Credits: 3

Electives: 9
Choose three courses from the list. One must be SPCM and one must be HLTH/HSC.
• HLTH 200 - Complementary and Alternative Health Care/HSC 200 - Complementary and Alternative Health Care Credits: 3
• HSC 260 - Women's Health Issues/WMST 260 - Women's Health Issues Credits: 3
• HLTH 302 - Wellness and the Family/HSC 302 - Wellness and the Family Credits: 3
• HLTH 420 - Methods of Health Instruction (COM)/HSC 420 - Methods of Health Instruction Credits: 3
• HLTH 443 - Public Health Science ** (G)/HSC 443 - Public Health Science ** (G) Credits: 3
• PSYC 417 - Health Psychology ** (COM) Credits: 3
• SPCM 405 - Theories of Communication (COM) Credits: 3
• SPCM 410 - Organizational Communication (COM) Credits: 3
• SPCM 470 - Intercultural Communication (COM) (G) Credits: 3

Health Education Minor

Program Coordinator/Contact
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Program Information
A Health Education minor is an interdisciplinary minor offered to any student at South Dakota State University; it may be of particular interest to those pursuing a teaching degree. The minor can be obtained by completing a required core and set of elective courses offered across several disciplines. This minor is strongly suggested for those individuals pursuing the Physical Education Teacher Education major. Having a Health Education minor can lead to teaching health in public schools in the region.

Additional Academic Requirements
A minimum final grade of "C" is required in each course taken in the minor. All students interested in obtaining this minor must obtain written approval from the Coordinator.

Certification and Licensure
For Minnesota certification in Health, additional coursework will be required. Please check with the Coordinator for these details and to help plan for this certification.

Course Delivery Format
Instruction for the health education minor occurs through face to face and online course delivery methods.

Requirements for Health Education Minor: 21 Credits
Required Courses: 18
• HDFA 210 - Lifespan Development * (COM) Credits: 3
• HDFA 250 - Development of Human Sexuality Credits: 3
• HSC 420-520 - Methods of Health Instruction Credits: 2
• NFS 221 - Survey of Nutrition Credits: 3
• HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
• HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
• HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
• EPSY 302 - Educational Psychology (COM) Credits: 3
• PSYC 327 - Child Psychology ** (COM) Credits: 3
• HDFS 210 - Lifespan Development * (COM) Credits: 3
• HDFS 250 - Development of Human Sexuality Credits: 3
• HSC 420 - Methods of Health Instruction Credits: 2
• NFS 221 - Survey of Nutrition Credits: 3
• PSYC 327 - Child Psychology ** (COM) Credits: 3

Electives: 3-5
• CA 289 - Consumers in the Market Credits: 3
• HDFS 141 - Individual and the Family * Credits: 3
• HDFS 241 - Family Relations Credits: 3
• HLTH 445 - Epidemiology Credits: 3
• HSC 302 - Wellness and the Family Credits: 2
• NURS 201 - Medical Terminology Credits: 1
• PE 354-354L - Prevention and Care of Athletic Injuries and Lab(COM) Credits: 2
• PHA 201 - Medications & Wellness Credits: 2
• PSYC 417 - Health Psychology ** (COM) Credits: 3
• SOC 250 - Courtship and Marriage * (COM) Credits: 3

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Health Science Minor
Program Coordinator/Contact
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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 24 semester hours across disciplines with a required core of course offerings. The purpose of the Health Science minor is to provide an opportunity for students to learn more about health and health care and to become competent in health knowledge, application of public health principles and healthful environments while pursuing other majors in the University.

Student Learning Outcomes
The outcomes for graduates of the Health Science minor are:
1. Apply public health principles, to selected disciplines.
2. Implement public health science methods and strategies through work with populations that incorporates principles from the fields of sociology, psychology, and human growth and development.
3. Apply basic human health concepts from selected sciences including biology, physiology, environmental, and mental health.
4. Demonstrate an understanding of how environment and ecology affect aggregates and communities by advocating for the needs of people served by public health systems.

Course Delivery Format
Program coursework is delivered in classrooms, laboratories, online, and in field-based learning experiences.

Requirements for Health Science Minor: 24 Credits

Required Core: 12
- HDFS 210 - Lifespan Development * Credits: 3
- HSC 212 - Contemporary Health Problems Credits: 2
- HSC 445 - Epidemiology Credits: 3
- NURS 201 - Medical Terminology Credits: 1
- HSC 443 - Public Health Science (G) Credits: 3 or NURS 310-310L - Introduction to Public Health and Population-based Nursing Credits: 4 and NURS 480-480L - Advanced Population based Nursing Practice (G) Credits: 4

Biological Science Requirements: 6
- Select from courses prefixed BIOL or MICR.

Electives: 6
Any changes/additions to elective credits must receive prior approval from the Associate Dean of Undergraduate Nursing.
- HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2 or HLTH 251 - First Aid and CPR (COM) Credits: 1 or HSC/HLTH 364-364L - Emergency Medical Technician and Lab Credits: 4
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 241 - Family Relations Credits: 3
- HDFS 250 - Development of Human Sexuality Credits: 3
- HDFS 337 - Human Development II: Adolescence Credits: 3
- HDFS 347 - Human Development III: Adulthood Credits: 3
- HSC 120 - Community Health Credits: 2
- HSC 200 - Complementary and Alternative Health Care Credits: 3
- HSC 230 - Stress Management for Life Credits: 3
- HSC 260 - Women's Health Issues Credits: 3
- HSC 302 - Wellness and the Family Credits: 2
- HSC 420-520 - Methods of Health Instruction Credits: 2
- HSC 433-533 - Occupational Health Credits: 3
- HSC 452 - Interprofessional Issues in Health Care Credits: 2
- PSYC 414 - Drugs and Behavior (COM) Credits: 3
- SOC 250 - Courtship and Marriage * (COM) Credits: 3
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

History Minor
Program Coordinator/Contact
William Prigge, Department Head
Department of History, Political Science, Philosophy, and Religion
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www.sdstate.edu/hist

Program Information
Students will find that a History Minor can enhance a major program and provide intellectual and technical skills needed for today's workplace. It is also flexible enough so that students can follow their own particular interests. The courses offered prepare students for careers in various professional occupations, and provide a necessary background for graduate work or other specialized training.

Student Learning Outcomes
History graduates will be able to effectively communicate, research, analyze, interpret, and apply information in various professional contexts.

Course Delivery Format
The program provides courses online and face to face on campus and at various off-campus attendance centers.

Requirements for History Minor: 18 Credits
- HIST 111 - World Civilizations I * ** (COM) Credits: 3 or HIST 121 - Western Civilization I * ** (COM) Credits: 3
- HIST 112 - World Civilizations II * ** (COM) (G) Credits: 3 or HIST 122 - Western Civilization II * ** (COM) (G) Credits: 3
- HIST 151 - United States History I * ** (COM) Credits: 3
- HIST 152 - United States History II * ** (COM) Credits: 3
- 300-400 level History Elective Credits: 6

Horticulture Minor
Program Coordinator/Contact
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Northern Plains Biostress Laboratory 254A
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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, turf, 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.

Academic Requirements
The minor requires a 2.0 GPA or better in the program's courses.

Course Delivery Format
Students learn through hands-on and face-to-face learning in lecture, laboratory, and field-based experiences.

Requirements for Horticulture Minor: 18 Credits
Core Requirements: 6
- HO 111-111L - Introduction to Horticulture and Lab Credits: 3
- HO 250-250L - Woody Plants: Trees and Lab Credits: 3 or HO 311-311L - Herbaceous Plants and Lab Credits: 3

Electives: 12
Select from the following courses.
- HO 200-200L - Weed Management for Horticulture and Lab Credits: 2

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Human Development and Family Studies Minor

Program Coordinator/Contact
Jay Trenhaile, Department Head
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Program Information
The minor in Human Development and Family Studies offers students a collection of courses examining the fundamentals of human development through courses exploring family dynamics and relationships. Students pursuing Human Development and Family Studies may choose from a variety of HDFS courses based on their major, interest, and focus. In doing so, they gain knowledge and experience in the science of human growth and development, human interaction, and family relationships. Graduates work in careers that promote healthy development and positive family functioning across the lifespan, such as: a Social Services Case Worker, Provider at Residential Treatment Center, Youth Organization Worker, Program Director for Youth, Family or Senior Citizen Center.

Student Learning Outcomes
HDFS students will share a common base of knowledge, skills, and experiences:

- Knowledge and understanding of
  - Developmental stages and processes across the lifespan
  - Family dynamic processes
  - The multi-directional influences of social contexts and the development of individuals, couples, and families
  - The interpersonal skills required for an effective helping relationship

- Skill and ability to
  - Interpret and evaluate current information regarding human and family development
  - Use human development and family theories to understand and explain individual growth and family interaction
  - Plan and evaluate intervention strategies designed to enhance the development of individuals, couples, and families

- Experiences in
  - The ranges of settings that human development and family studies professionals inhabit
  - Supervised work in a professional setting

Program Requirements
All the minor courses must be approved by the department head no later than the beginning of the junior year. Students must earn at least a C in all courses for the minor.

Requirements for Human Development and Family Studies Minor: 18 Credits
Any HDFS courses may be used to complete the minor. Suggested courses include (but are not limited to):

- HDFS 141 - Individual and the Family * Credits: 3
- HDFS 210 - Lifespan Development *(COM) Credits: 3
- HDFS 227 - Human Development and Personality I: Childhood Credits: 3
- HDFS 241 - Family Relations Credits: 3
- HDFS 250 - Development of Human Sexuality Credits: 3
- HDFS 337 - Human Development II: Adolescence Credits: 3
- HDFS 347 - Human Development III: Adulthood Credits: 3
- HDFS 410-510 - Parenting Credits: 3

Informatics Minor

Program Coordinator/Contact
George Hamer, Assistant Department Head
Department of Electrical Engineering and Computer Science
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Program Information
The minor provides students with a strong background in general informatics combined with advanced application coursework in their specific major. Earning the minor will prepare graduates for data warehousing and quantitative data interpretation through mathematical/statistical model and algorithm development in a variety of business, non-profit, and governmental sectors.

Student Learning Outcomes
Graduates with an Informatics Minor will be able to demonstrate a knowledge of:

- basic informatics and programming skills;
- the social and ethical aspects of informatics; and
- applied informatics specific to the student's major.

Course Delivery Format
Program courses are delivered on campus, in classroom and laboratory settings.

Requirements for Informatics Minor: 18 Credits

Required Credits: 9

- INFO 101 - Introduction to Informatics * Credits: 3
- INFO 102 - Social and Ethical Aspects of Informatics * Credits: 3
- MATH 202 - Applied Informatics * Credits: 3

Elective Credits: 9
Select from the following list of courses.

- CSC 447-547 - Artificial Intelligence (COM) Credits: 3
- CSC 484 - Database Management Systems (COM) Credits: 3
- CSC 492-592 - Topics Credits: 1-3 (Data Mining)
- ECON 428 - Mathematical Economics Credits: 3
- GEOG 472 - Introduction to GIS Credits: 3
- GEOG 473-573 - GIS: Data Creation and Integration Credits: 3
- GEOG 484-484L - Remote Sensing and Lab Credits: 3
- NRM 457-557 - Ecological Modeling Credits: 3
- SOC 462-562 - Population Studies ** *(COM) Credits: 3
- STAT 460-560 - Time Series Analysis Credits: 3

Academic Programs 225
**Interior Design Minor**

Program Coordinator/Contact
Angela Boersma, Lecturer
Department of Consumer Sciences
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605-688-5196
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Program Information
Interior Design is a challenging and rewarding minor, expanding students' skill sets to think strategically and creatively in multiple professional contexts. The program complements majors in many other disciplines, from entrepreneurial studies to the arts. The minor prepares students with a curriculum that promotes an awareness and knowledge of the contributions of interior design to the health, safety, and well being of people in the built environment. Eighteen credit hours are required for a minor in Interior Design. Students should discuss an interest in the minor with an academic advisor early during their course of study.

Academic Requirements
Interior Design students must earn at least a C in studio courses to advance to subsequent studios.

Course Delivery Format
The curriculum is interactive, haptic and performance based, offering problem solving experiences in all major areas of design practice (i.e. health care, retail, corporate, residential, etc.).

Requirements for Interior Design Minor: 18 Credits
- Interior Design Electives Credits: 10
- ID 150-150L - Introduction to Interior Design I and Lab Credits: 4
- ID 151-151L - Introduction to Interior Design II and Lab Credits: 4

**Journalism Minor**

Program Coordinator/Contact
Mary Arnold, Department Head
Department of Journalism and Mass Communication
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605-688-4171
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www.sdstate.edu/mcom

Program Information
A minor in journalism prepares students with essential skills — including writing, critical thinking and technology — and is useful to students in a wide variety of careers.

Academic Requirements
Journalism minors must have grades of "C" or better in the program's courses.

Equipment and Supplies
Students are also encouraged to purchase a laptop (Macintosh preferred) and software appropriate for the discipline.

Accreditation, Certification, and Licensure
The Department 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 department offers coursework in classroom, studio, online, and field-based settings.

Requirements for Journalism Minor: 16 Credits
- MCOM 210-210L - Basic Newswriting & Studio (COM) Credits: 3
- MCOM Courses Credits: 13

**Leadership and Management of Nonprofit Organizations Minor**

Program Coordinator/Contact
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Department of Consumer Sciences
Wagner Hall 229
605-688-5196
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www.sdstate.edu/cs

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 an additional 300-hour internship with a nonprofit organization.

Requirements for Leadership and Management of Nonprofit Organizations Minor: 18 Credits
- Leadership and Management of Nonprofit Organizations Core Requirements: 9
  - LMNO 201 - Introduction to Leadership and Management of Nonprofit Organizations Credits: 3
  - LEAD 410 - Leadership: Senior Seminar Credits: 1
  - LMNO 435 - Organizational Leadership and Team Development Credits: 3
  - LEAD 496 - Field Experience: Leadership in Action Credits: 2
- Electives: 9
  - Consult LMNO program coordinator and your academic advisor to create the plan of study for the minor.
  - Students will take 9 credits from courses relevant to the program.

**Leadership Minor**

Program Coordinator/Contact
Jane E. Hegland, Department Head
Department of Consumer Sciences
Wagner Hall 229
605-688-5196
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Program Information
The undergraduate leadership minor is an interdisciplinary and multidimensional program that allows students to explore and experience multiple frameworks of leadership. The minor prepares students for real-life leadership experiences, both on-campus and in larger global communities. Leadership development will relate to student aspirations as they transition from the on-campus extracurricular services to professions, communities, and public and private organizations. By completing the minor, students will acquire skills and abilities to serve as competent leaders as they transition to life after graduation.

Course Delivery Format
The on-campus program involves lecture, discussion, group work, and applied learning experiences.

Requirements for Leadership Minor: 18 Credits
- Leadership Core Requirements: 12
  - LEAD 210 - Foundations of Leadership ** Credits: 3
  - LEAD 310 - Leadership in Context Credits: 3
  - LEAD 410 - Leadership: Senior Seminar Credits: 1
  - LEAD 435 - Organizational Leadership and Team Development Credits: 3
• LEAD 496 - Field Experience: Leadership in Action Credits: 2
• Electives: 6
• Consult with the LEAD program coordinator and your academic advisor to create the plan of study.
• Students will take 6 credits from courses relevant to the program.

Management Minor
Program Coordinator/Contact
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Department of Economics
Scobey Hall 142
605-688-4845
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www.sdstate.edu/econ/emi/mgmt-science

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.

Academic Requirements
A minimum GPA of 2.0 is required for the courses in the minor.

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Management Minor: 18 Credits
Management Core: 12
• MGMT/BADM 310 - Business Finance Credits: 3
• MGMT/BADM 325 - Management Information Systems Credits: 3
• MGMT/BADM 360 - Organization & Management Credits: 3
• MGMT/BADM 460 - Human Resource Management Credits: 3
• Electives: 6
Select 6 credits from at least 2 different topic areas

Analytics
• BADM 424 - Operations Research (COM) Credits: 3
• CS 430 - Consumer Decision Making Credits: 3
• ECON 431-531 - Managerial Economics Credits: 3
• ECON 453-553 - Risk Management-Personal and Business Credits: 3
• MNET/OM 462 - Quality Management Credits: 3

Cost Accounting
• ACCT 320 - Cost Accounting (COM) Credits: 3
• HMGT 465 - Hospitality Managerial Accounting Credits: 3
• MNET 460-560 - Manufacturing Cost Analysis Credits: 3

Organizational Behavior
• MGMT 464 - Organizational Behavior (COM) Credits: 3
• LMNO 435 - Organizational Leadership and Team Development Credits: 3

Business Law
• AGEC 352 - Agricultural Law Credits: 3
• AVIA 302 - Aviation Law Credits: 2
• BADM 350 - Legal Environment of Business (COM) Credits: 3
• CM 473 - Construction Law and Accounting (AW) Credits: 3
• HMGT 361 - Hospitality Industry Law Credits: 3

Applications
• ABS 475-475L - Integrated Natural Resource Management and Lab (AW) Credits: 3
• BADM 482 - Business Policy and Strategy (COM) Credits: 3

Marketing Minor
Program Contacts/Coordinators
Jason Zimmerman, Assistant Department Head
Department of Economics
Scobey Hall 142
605-688-4845
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www.sdstate.edu/econ

Mary Arnold, Department Head
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www.sdstate.edu/mcom

Program Information
The Marketing minor represents a multi-department collaborative effort to provide students with supplementary training in both the qualitative and quantitative aspects of marketing. The minor will benefit students pursuing careers in marketing, business, sales, journalism, hospitality management, and advertising, among other fields.

Academic Requirements
A minimum GPA of 2.0 is required in the minor.

Student Learning Outcomes
Graduates will:
• understand the importance of a consumer orientation
• establish, develop, and maintain effective business relationships
• demonstrate a knowledge of technological and global factors affecting marketing practices

Course Delivery Format
The program offers courses on campus, with limited online coursework, usually during the summer.

Requirements for Marketing Minor: 18 Credits
Required Credits: 9
• ADV 370 - Advertising Principles Credits: 3
• ECON/BADM 370 - Marketing Credits: 3
• ECON/BADM 476-576 - Marketing Research (COM) Credits: 3 or MCOM/ADV 472 - Media Research and Planning Credits: 3

Elective Credits: 9
Select from the following courses.
• ADV 314 - Sales, Promotion and Marketing Credits: 3
• ADV 476 - International and Ethnic Advertising (G) Credits: 3
• ADV/MCOM 243 - Public Relations Principles Credits: 3
• AM 462 - Retail Management Credits: 3
• BADM 334 - Small Business Management (COM) Credits: 3
• BADM 474 - Personal Selling (COM) Credits: 3
• CA 230 - Consumer Behavior Credits: 3
• HMGT 482 - Hospitality Marketing Credits: 3
• MCOM 474-574 - Media Administration and Management (COM) Credits: 3
Mathematics Minor
Program Coordinator/Contact
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Harding Hall 228
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mathstat.sdstate.edu

Program Information
The Mathematics minor provides an outstanding educational experience to students from any major who are interested in the wide range of excellent career or graduate school choices available in the mathematical sciences. The flexible, specialized paths are available lead to many exciting and challenging career options.

Academic Requirements
- STAT 281 may not be used for the Mathematics Minor.
- A grade of "C" or better is required in each course.

Course Delivery Format
Program courses are delivered on campus, in classroom and laboratory settings, online, and at off campus attendance centers.

Requirements for Mathematics Minor: 18 Credits
- MATH 125 - Calculus II * (COM) Credits: 4
- MATH 225 - Calculus III * (COM) Credits: 4
- MATH 253 - Logic, Sets, and Proof Credits: 3
- or MATH 361 - Modern Geometry (COM) Credits: 3
- or MATH 411-511 - Theory of Numbers (COM) Credits: 3
- or MATH 450 - History of Mathematics (COM) Credits: 3

Elective Credits: 7
- Mathematics courses at the 200 level or above
- or Statistics course at the 300 level credits or above

Microbiology Minor
Program Coordinator/Contact
Volker Brözel, Department Head
Department of Biology and Microbiology
Alfred Dairy Science Hall 228
605-688-6141
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www.sdstate.edu/biomicro

Program Information
The Microbiology minor provides an outstanding educational experience to students from any major who are interested in the wide range of excellent career or graduate school choices available in the mathematical sciences. The flexible, specialized paths are available lead to many exciting and challenging career options.

Academic Requirements
- A minimum GPA of 2.0 must be maintained in the major courses.

Course Delivery Format
Program coursework is on-campus, in classrooms and laboratories, as well as field-based settings. Additional coursework is available at off-campus attendance centers.

Requirements for Microbiology Minor: 18 Credits
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4

Elective Credits: 14
- Select additional courses prefixed MICR
- Two courses must be at the 300 level or above.
- No more than 3 credits can come from MICR 494, 497, and 498.
- DS 301-301L - Dairy Microbiology and Lab may also be included

Military Science Minor
Program Coordinator/Contact
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DePuy Military Hall 200
605-688-6151
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www.sdstate.edu/mls

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 301-301L - Adaptive Team Leadership and Lab (COM) Credits: 4
- MSL 302-302L - Leadership in Changing Environment and Lab (COM) Credits: 4
- MSL 401-401L - Developing Adaptive Leaders and Lab(COM) Credits: 4
- MSL 402-402L - Leadership in a Complex World and Lab(COM) Credits: 4
- MSL 494 - Leader Development and Assessment Course (COM) Credits: 4

Music Minor
Program Coordinator/Contact
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Department of Music
Lincoln Music Hall 205
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www.sdstate.edu/mus

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.

Academic Requirements
MUS 185 required for each semester enrolled for applied lessons. In addition, minors must participate in Major Ensembles each semester in which they are enrolled in Applied Music lessons. Participation in small ensembles is strongly encouraged.

Course Delivery Format
The department offers coursework in classroom, studio, and performance settings. The program allows for internship experiences and independent studies.

Requirements for Music Minor: 18 Credits
Core Requirements: 15
- MUAP/MUEN Ensemble and Applied Music (applied music not to exceed the 200-level) (see note below) Credits: 6
- MUS/MUAP/MUEN Electives Credits: 3
- MUS 110 - Basic Music Theory I (COM) Credits: 4
- MUS 110L - Basic Music Theory I Lab (COM) Credits: 0
- MUS 130 - Music Literature and History I * (G) Credits: 2
- Select one of the following courses: 3
- MUS 100 - Music Appreciation * (COM) Credits: 3
- MUS 131 - Music Literature and History II * Credits: 3
- MUS 201 - History of Country Music * Credits: 3
Nuclear Engineering Minor
Program Coordinator/Contact
Robert McTaggart, Coordinator
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www.sdstate.edu/phys

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 graduate
programs for advanced degrees related to nuclear engineering, health physics,
medical physics, or physics.

Student Learning Outcomes
Completion of the Minor in Nuclear Engineering will enable students to:
• Apply advanced mathematics, science, and/or engineering science to
  nuclear and/or radiological systems.
• Measure nuclear and radiological processes.
• Understand the biological effects of radiation and standard radiation
  safety practices.
• Demonstrate competency in contemporary issues regarding nuclear
  power.
• Demonstrate the ability to work effectively in an area of nuclear science.

Program Requirements
Students planning a nuclear engineering minor must declare the minor and
receive departmental approval for how they intend to fulfill the
internship/research experience requirement of the degree. Contact the program
 coordinator if you are planning to graduate with this minor.

Course Delivery Format
Instruction is mostly didactic (classroom) along with a field experience
accomplished through the required internship/research experience. Students
who are majoring in a field that requires a capstone/research design
experience can often use that experience to fulfill the experiential requirement
of the Minor. Contact the program coordinator for details.

Requirements for Nuclear Engineering Minor: 18 Credits
Nuclear Engineering Core: 9
• PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
• NE 435 - Introduction to Nuclear Engineering Credits: 3
• NE 337 - Foundations of Health Physics Credits: 3
Internship/Research Requirement: 2-3
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.
• NE 494 - Internship Credits: 1-3
• NE 498 - Undergraduate Research/Scholarship Credits: 1-3
Electives: 6-7
Select six or more credits from the following list of courses.
• CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
• EE 430-430L - Electromechanical Systems and Lab Credits: 4
• EE 434-434L - Power Systems and Lab Credits: 4
• ME 341-341L - Metallurgy and Lab Credits: 3
• ME 410 - Principles of HVAC Engineering Credits: 3

Nutrition Minor
Program Coordinator/Contact
Matthew Vukovich, Department Head
Department of Health and Nutritional Sciences
Intramural Building 116
605-688-6580
E-mail: matt.vukovich@sdstate.edu

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.

Academic Requirements
Students planning a minor must receive departmental approval. Some courses
in the curriculum have prerequisites; higher level mathematics or chemistry
courses may be accepted, with department approval.

Course Delivery Format
Program coursework is presented in lecture, laboratory, and field-based
learning experiences.

Requirements for Nutrition Minor: 20 Credits
• NFS 111 - Food, People and the Environment ** (G) Credits: 3
• NFS 141-141L - Foods Principles and Lab Credits: 4
• NFS 251 - Food Safety and Technology Credits: 3
• NFS 315 - Human Nutrition Credits: 3
• NFS 323 - Nutrition Across the Life Cycle Credits: 3
• NFS 422-522 - Advanced Human Nutrition Credits: 4

Peace and Conflict Studies Minor
Program Coordinator/Contact
Paul Baggett, Ph.D.
Department of English
Pugsley Hall 301, Box 2218
605-688-4057
E-mail: paul.baggett@sdstate.edu
www.sdstate.edu/engl

Program Information
The Peace and Conflict Studies minor provides robust learning experiences in
and beyond the classroom designed to increase students' willingness to be
civically engaged and socially responsible contributors to a more caring and
humane society and world, fostering informed citizenship and enhancing
SDSU's ability to graduate students who are committed to lifelong learning
and service. The minor presents historical and contemporary conflicts through
an interdisciplinary lens because the causes of conflicts can usually be
attributed to multiple and interwoven cultural, economic, political and
historical factors. The program includes in various subjects as English, Speech
Communication, Political Science, History, Global Studies, and Philosophy
and Religion, but it is open to students of all majors. The minor will be
invaluable in ensuring that graduates have come to understand the overriding
importance of what SDSU refers to as "the fellowship of many."

Academic Programs 229
Student Learning Outcomes

Students will:

- learn non-violent approaches to conflict resolution on the personal, local, state, national, and global levels.
- to balance theoretical, descriptive, and normative approaches to conflict resolution with practical skills and experiential learning via the minor's service learning component.
- to test and clarify theoretical and scholarly conceptions of the causes of conflict through field experiences and writing assignments which require them to imagine workable conflict resolutions to real world problems.
- acquire additional research methods skills through library and internet searches and qualitative and ethnographic methods.
- acquire additional skills in planning and managing projects and in working collaboratively with peers and with working professionals.
- acquire additional skills in effectively and persuasively presenting their ideas in oral and written presentations.

Course Delivery Format

Coursework for the Minor in Peace and Conflict Studies is delivered through face to face instruction.

Minor Requirements: 18 Credits

- ENGL 125 - Introduction to Peace and Conflict Studies * ** Credits: 3
- ENGL 470 - Capstone in Peace and Conflict Studies Credits: 3
- SPCM 470 - Intercultural Communication (COM) (G) Credits: 3

Electives: 9

Select at least three courses from the following list.

- ENGL 380 - Futuristic Communications Credits: 3
- GLST 201 - Global Studies I * ** (G) Credits: 3
- GLST 480 - Ethics of Globalization ** Credits: 3
- HIST 460 - American Military History (COM) Credits: 3
- HIST 469 - American Foreign Relations (COM) Credits: 3
- PHIL 215 - Introduction to Social-Political Philosophy * Credits: 3
- POLS 253 - Current World Problems * ** (G) Credits: 3
- POLS 350 - International Relations (COM) Credits: 3
- POLS 454 - International Law and Organization (COM) Credits: 3

Pest Management Minor

Program Coordinator/Contact

David Wright, Department Head
Brent Tumipseed, Undergraduate Teaching Coordinator
Department of Plant Science
Agricultural Hall 219
605-688-5123 (Department Head, SAG 244)
605-688-4450 (Teaching Office, SNP 247)
E-mail: david.wright@sdstate.edu
E-mail: brent.tumipseed@sdstate.edu
www.sdstate.edu/ps

Program Information

The Pest Management minor provides students with knowledge of the general principles of managing insect, disease and weed pests in a variety of situations, 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.

Academic Requirements

The program requires a 2.5 GPA or higher and a grade of C or higher in all coursework for the minor. Additionally, some noted courses may only be used to meet requirements in one section below, and other courses require collaboration with pest management faculty.

Course Delivery Format

The program provides curriculum in lecture, laboratory, and field-based learning environments.

Requirements for Pest Management Minor: 18 Credits

- PS 223-223L - Principles of Plant Pathology and Lab Credits: 3
- PS 305-305L - Insect Biology and Lab (COM) Credits: 3
- or PS 307-307L - Insect Pest Management and Lab Credits: 3
- PS 343-343L - Weed Science and Lab Credits: 3

Electives: 8

Select at least eight credits from the following list of courses.

- PS 305-305L - Insect Biology and Lab (COM) Credits: 3
- or PS 307-307L - Insect Pest Management and Lab Credits: 3
- PS 333-333L - Diseases of Field Crops and Lab Credits: 3
- PS 415-415L/515-515L - Mycology and Lab (COM) Credits: 3
- PS 431-531 - Insect Ecology and Biological Control Credits: 3
- PS 450-450L/550-550L - Field Study of Plant Disease Diagnosis and Lab Credits: 2
- PS 491 - Independent Study Credits: 1-5
- PS 492 - Topics Credits: 1-3

Philosophy Minor

Program Coordinator/Contact

William Prigge, Department Head
Department of History, Political Science, Philosophy, and Religion
West Hall Room 109
605-688-6042
E-mail: william.prigge@sdstate.edu
www.sdstate.edu/hist

Program Information

Philosophy deals with the fundamental questions of life, including the nature of knowledge, the basis of morality and politics, and the rational analysis of religious beliefs. A philosophical perspective emphasizes clear thinking about what is truly important to live well.

Student may earn a minor in Philosophy with a B.A. or a B.S. degree in another academic discipline. Students may also pursue an Interdisciplinary Studies Major with an emphasis on philosophy. The curriculum provides excellent preparation for graduate work in law, ethics, religion, philosophy and other fields in which reasoning and argumentation skills or ability to work at a high level of abstraction are important.

Student Learning Outcomes

Graduates will be able to demonstrate effective

- Critical Thinking
- Problem Solving
- Analytical Reasoning
- Written Communication
- Understanding of the major figures in philosophy

Course Delivery Format

The program provides courses online and face to face on campus and at various off-campus attendance centers.

Requirements for Philosophy Minor: 15 Credits

- PHIL 100 - Introduction to Philosophy * (COM) Credits: 3
- 300-400 Level Philosophy Elective Credits: 6
- Additional Philosophy Elective Credits: 6

Physics Minor

Program Coordinator/Contact

Joel Rauber, Department Head
Department of Physics
Daktronics Engineering Hall 255
605-688-5428
E-mail: joel.rauber@sdstate.edu
www.sdstate.edu/phys

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.

**Program Outcomes**
Graduates will be productively employed and will compare favorably in their theoretical and technical knowledge with students completing similar programs nationally. Physics students will have learned to apply technical knowledge; to design an experiment and analyze and interpret the data; to communicate effectively in a team environment; and to use appropriate scientific tools in solving problems. They will have a basic understanding of contemporary issues and professional/ethical responsibilities in a local and global context. Physics graduates will have enhanced learning skills that prepare them to be lifelong learners.

**Course Delivery Format**
Physics students learn through hands-on and face to face learning in lecture, laboratory, and field based experiences.

**Requirements for Physics Minor: 17 Credits**
- PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
- PHYS 211-211L - University Physics I and Lab * (COM) Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab * (COM) Credits: 4
- PHYS 213-213L - University Physics II and Lab * (COM) Credits: 4
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
- Physics Elective Credits: 3
- 300 level or higher Physics Elective Credits: 3

**Political Science Minor**

**Program Coordinator/Contact**
William Prigge, Department Head
Department of History, Political Science, Philosophy, and Religion
West Hall Room 109
605-688-6042
E-mail: william.prigge@sdstate.edu
www.sdstate.edu/hist

**Program Information**
The study of Political Science examines politics, governments, and political processes. The Political Science program prepares graduates for work in government agencies, party headquarters, political consulting firms, advocacy organizations, business, or non-profit agencies. The flexibility of the program also positions students for law school and other professional or graduate degree programs. Students may focus their minor by selecting courses that concentrate on American or comparative/international politics.

**Curriculum Objectives**
Political science courses are designed to achieve the following objectives:

- convey the values and traditions of our democratic governmental institutions and processes and encourage students to assert their talents in preserving and nurturing those values and traditions through participation in the body politic;
- promote global awareness and understanding;
- engender critical thinking and a high proficiency in communication skills;
- serve the other social sciences as a cognate field;
- provide the student majoring in political science with foundation and advanced courses in the many sub-disciplines of political science which, in turn, will contribute to the student's intellectual growth and occupational pursuits.

**Course Delivery Format**
The program provides courses online and face to face on campus and at various off-campus attendance centers.

**Requirements for Political Science Minor: 18 Credits**
- POLS 100 - American Government * (COM) Credits: 3
- 300-400 Level Political Science Elective Credits: 9
- Additional Political Science Elective Credits: 6

**Precision Agriculture Minor**

**Program Coordinator/Contact**
Van Kelley, Department Head
Department of Agricultural and Biosystems Engineering
SAE 105, Box 2120
605-688-5666
E-mail: van.kelley@sdstate.edu
www.sdstate.edu/abe

**Program Information**
The minor in Precision Agriculture is designed for students pursuing careers with agricultural equipment manufacturers, agricultural equipment dealerships, agronomic service providers, production agriculture, and companies working with the management and analysis of agricultural data. The minor will provide students with skill sets needed to provide troubleshooting and support of sophisticated agricultural equipment systems and the decision making skills needed to analyze large amounts of data to determine the precise inputs needed for maximum crop production through data analysis.

**Student Learning Outcomes**

- Students will be able to interpret data from farming and land use decisions and apply spatial statistics to make site specific management recommendations.
- Students will understand the relationship of soil characteristics and soil classification to land use interpretations.
- Students will be able to graphically represent the factors that influence crop productivity in a way that facilitates analysis and management of agricultural operations.
- Students will understand the principles of operation of global positioning systems, agricultural receivers, displays, guidance systems, yield monitors, and the sources of error and correction options to improve accuracy.
- Students will demonstrate the use of automatic controls for variable rate application and troubleshoot the communication networks for precision agriculture equipment.
- Students will understand the operating principles of the electronic equipment used in precision agriculture and be able to diagnose, troubleshoot, and repair common equipment malfunctions.
- Students will demonstrate ability to analyze large amounts of data to maximize both field production and environmental sustainability.

**Course Delivery Format**
Instruction will occur through a combination of traditional classroom methods, laboratory exercises using current agricultural production technologies and agricultural mapping software.

**Requirements for Precision Agriculture Minor: 18-19 Credits**
- AST 203-203L - Introduction to Precision Agriculture and Lab Credits: 2
- AST 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3
- AST 426-426L - Emerging Technologies in Agriculture and Lab Credits: 3
- PS 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3
- PS 326 - Precision Ag Data Mapping Credits: 2
- PS 440-440L - Crop Management with Precision Farming and Lab Credits: 3
- Electives: 2-3
  - AST 313-313L - Farm Machinery Systems Management and Lab, Credits: 3
  - AST 412-412L - Fluid Power Technology and Lab Credits: 3
  - PS 424 - Wheat Production Credits: 2

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**Academic Programs 231**
Professional Writing Minor

Program Coordinator/Contact
Jason McEntee, Department Head
Department of English
Pugsley Hall 301, Box 2218
605-688-5191
E-mail: jason.mcintee@sdstate.edu
www.sdstate.edu/engl

Program Information
Professional Writing minor will prepare students from all disciplines to write persuasively, clearly, and effectively in professional settings, thereby contributing to the economic growth of the State and region. English majors who have professional writing backgrounds find careers as editors, publishers, copywriters, website designers, writers and free-lance writers, and grant writers in business, government, academia, and the non-profit sector. Non-English majors may also elect to complete the proposed minor in Professional Writing. Combining the Professional Writing minor with majors in areas such as Biology, Chemistry or Plant Science will provide more intense writing skill development for students. This combination will make them more marketable for positions in their specific discipline which require higher level writing skills.

Student Learning Outcomes
Students will
• learn research methods (library and Internet searches, qualitative and ethnographic methods).
• learn the components of audience, rhetorical, contextual, and ethical analysis.
• plan and manage projects.
• collaborate with peers and clients on projects.
• effectively and persuasively present their ideas in oral and written presentations.
• utilize appropriate technology in completing projects and presenting them to an audience (software, hardware, multimedia).
• demonstrate an understanding of document and web-site design.
• edit and design documents for various audiences and purposes.

Academic Requirements
To count toward the minor, courses must be passed with a minimum grade of "C."

Course Delivery Format
The interdisciplinary nature ensures that students will develop expertise in writing, grammar, linguistics, editing, digital media, computer graphics, visual rhetoric, and desk-top publishing in standard and smart classrooms, computer labs, and field-based settings. Students will also be strongly encouraged to undertake an internship to gain expertise in "real world" professional writing. The internship should focus on professional writing and be in addition to an internship required by programs to develop specific job-related skills.

Requirements for Professional Writing Minor: 18 Credits

Minor Core Requirements: 12
• ENGL 492 - Topics (Topics in Visual Rhetoric) Credits: 3
• LING 203 - English Grammar Credits: 3
• MCOM 220-220L - Introduction to Digital Media and Lab Credits: 3
• ENGL 379 - Technical Communication (COM) (AW) Credits: 3

Electives: 6
• ARTD 201 - Graphic Design I Credits: 3
• ARTD 202 - Computer Graphics I Credits: 3
• ARTD 301 - Graphic Design II Credits: 3
• ARTD 302 - Computer Graphics II Credits: 3
• ARTD 351 - Visual Communication I Credits: 3
• ARTD 352 - Design Media I Credits: 3
• ENGL 380 - Futuristic Communications Credits: 3

• ENGL 383 - Creative Writing Credits: 3
• ENGL 492-592 - Topics Credits: 3
• Topics in Professional Writing: Writing for Professionals in the Sciences and Humanities
• Topics in Creative Writing: Fiction; Poetry; Creative Nonfiction; and Screenwriting
• ENGL 494 - Internship Credits: 1-12
• LING 420-520 - The New English Credits: 3
• MCOM 210-210L - Basic News Writing and Studio (COM) Credits: 3
• MCOM 225-225L - Introduction to Digital Production and Lab Credits: 3
• MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3
• MCOM 316 - Magazine Writing and Editing (AW) Credits: 3
• MCOM 317 - News Gathering Credits: 3
• MCOM 359-359L - Advanced Digital Production and Lab Credits: 3
• MCOM 485 - Science Writing Credits: 3

Psychology Minor

Program Coordinator/Contact
Brad Woldt, Department Head
Department of Psychology
Scobey Hall 336
605-688-4322
E-mail: bradley.woldt@sdstate.edu
www.sdstate.edu/psych

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
Psychology courses are delivered at multiple locations (Brookings Main Campus and the University Center in Sioux Falls), and in multiple formats including face-to-face lecture, discussion, and laboratory courses, as well as online courses.

Requirements for Psychology Minor: 18 Credits

• PSYC 101 - General Psychology ** (COM) Credits: 3
• PSYC 210 - Introduction to Biopsychology Credits: 3
(prerequisite PSYC 101 with a C or better)
• 300-400 level Psychology courses Credits: 12

Range Science Minor

Program Coordinator/Contact
Alexander (Sandy) Smart, Professor
Department of Natural Resource Management
Animal Science Building, Room 219
605-688-4017
E-mail: alexander.smart@sdstate.edu
www.sdstate.edu/nrm

Program Information
Range Science 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 Range Science to enhance their baccalaureate education and increase their career possibilities.

Accreditation, Certification, and Licensure
The Range Science program is accredited by the Society for Range Management.

Course Delivery Format
The Range Science program is on campus and engages students in
experiential learning in lecture, laboratory, and field based settings.

Requirements for Range Science Minor: 18 Credits

Minor Core Requirements: 12
- RANG 105-105L - Introduction to Range Management and Lab * Credits: 3
- RANG 415-415L - Range Improvements and Grazing Management and Lab Credits: 4
- RANG Courses Credits: 5

Electives: 6
Additional credits selected from the following list and outside of the students major field of study.
- RANG Courses Credits: 6
- AS 233-233L - Applied Animal Nutrition and Lab Credits: 4
- AS 474-474L - Cow/Calf Management and Lab Credits: 3
- AS 477-477L - Sheep and Wool Production and Lab Credits: 3
- BIOL 311-311L - Principles of Ecology and Lab (COM) Credits: 3, 1
- BIOL 440-440L - Restoration Ecology (COM) Credits: 4
- BOT 301-301L - Plant Systematics (COM) Credits: 4
- GEOG 365 - Land Use and Planning ** Credits: 3
- NRM 110 - Environmental Conservation ** Credits: 3
- PS 213-213L - Soils and Lab ** Credits: 2, 1
- PS 313 - Forage Crop and Pasture Management Credits: 3
- WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
- WL 411-411L - Principles of Wildlife Management and Lab Credits: 3

Recreation Administration Minor

Program Coordinator/Contact
Paul Fokken, Coordinator
Department of Health and Nutritional Science
605-688-6163
E-mail: paul.fokken@sdstate.edu

Program Information
A Recreation Administration minor is an interdisciplinary minor offered to any student and is strongly suggested for individuals pursuing studies in related areas of physical education or health. This minor may also be of particular interest to those pursuing summer/seasonal opportunities with municipal park and recreation agencies, state and national park agencies, Boys and Girls Clubs, and YMCA or YWCA's. Contact the Recreation Administration Coordinator for details and to plan for this minor.

Course Delivery Format
The program coursework is delivered through lecture, laboratory, and field-based learning experiences.

Requirements for Recreation Administration Minor: 17-18 Credits
- RECR 101 - Parks and Society Credits: 3
- RECR 202-202L - Outdoor Recreation Resource Management and Lab Credits: 3
- RECR 302 - Commercial Recreation and Tourism Credits: 3
- RECR 342 - Recreational Sports Programs and Administration (COM) Credits: 3
- RECR 362 - Recreation Across the Lifespan Credits: 3
- RECR 410 - Current Issues in Recreation Credits: 3
- RECR 415 - Recreation and Sport Facility Management Credits: 3

Rehabilitation Services Minor

Program Contact/Coordinator
Alan Davis, Professor
Department of Counseling and Human Development
605-688-4715
E-mail: alan.davis@sdstate.edu
www.sdstate.edu/chd

Program Information
A minor in rehabilitation services fits well with majors such as Human Development, Psychology, Sociology, etc. Rehabilitation counselors provide services that assist people with physical or psychiatric disabilities to become or remain self-sufficient, productive citizens. They help people with disabilities accept themselves and lead satisfying and productive lives.

Their knowledge of specific disabilities as well as related knowledge and skills, distinguish rehabilitation counselors. Rehabilitation counselors address the environmental and social obstacles facing people with disabilities; facilitate connections between people with disabilities and their families, communities, and employers; and utilize knowledge from several fields, including psychology, medicine, psychiatry, sociology, education, and law.

Student Learning Outcomes
Each student will develop an employment portfolio that includes a project from each class. The projects will include evidence of the competencies and dispositions relevant to the work position being sought.

Students will demonstrate the ability to:
- monitor and facilitate client progress toward goals and objectives;
- maintain records and case files;
- recognize and understand community referral sources;
- develop job placement sites;
- recall and apply ethical guidelines

Course Delivery Format
The courses for the minor in rehabilitation services are prepared Internet delivery only.

Requirements for Rehabilitation Services Minor: 18 Credits

Required: 15
- CHRD 301 - Introduction to Rehabilitation Credits: 3
- CHRD 351 - Medical and Vocational Case Management 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

Electives: 3
- CHRD 452 - Addictions Rehabilitation Credits: 3
- CHRD 453 - Family Therapy Credits: 3

Religion Minor

Program Coordinator/Contact
William Prigge, Department Head
Department of History, Political Science, Philosophy, and Religion
West Hall Room 109
605-688-6042
E-mail: william.prigge@sdstate.edu
www.sdstate.edu/hist

Program Information
The Religion minor introduces students to the various historical and contemporary expressions of diverse religious traditions as a dimension of the human experience. Religion scholars seek to understand how believers understand their own traditions, as well as examining contributing historical, psychological, and social factors of religious systems and
movements.

Students pursuing religion minors may go on to church-related careers through graduate degrees in theology or religious studies. These students may also select the pre-ministerial interest area. However, the minor pairs well with a variety of majors that support students career choices requiring global perspectives, critical thinking, and strong communication skills. Students also select an Interdisciplinary Studies Major with an emphasis on religion.

**Student Learning Outcomes**

Graduates will demonstrate skills in:
- Critical thinking, analytical reasoning, problem solving, and written communication
- Religious literacy
  - articulating the nature and role of symbols to express societal values and the interpretive issues involved in Religion
  - comparing and contrasting the historical developments, practices, and beliefs of diverse religious traditions

**Course Delivery Format**

The program provides courses online and face to face on campus and at various off-campus attendance centers.

**Requirements for Religion Minor: 15 Credits**

- REL 213 - Introduction to Religion* Credits: 3
- Additional Religion Credits: 12

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**Sociology Minor**

**Program Coordinator/Contact**

Mary Emery, Department Head
Department of Sociology and Rural Studies
Scobey Hall 224
605-688-4132
E-mail: mary.emery@sdstate.edu
www.sdstate.edu/soc

**Program Information**

Students whose career goals involve extensive contact with the public, including majors in business, communications, 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.

**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 or Minor and a Criminal Justice Minor.

**Course Delivery Format**

The program offers coursework on campus, online, and at various off-campus attendance centers.

**Requirements for Sociology Minor: 18 Credits**

- SOC 100 - Introduction to Sociology *(COM) (G) Credits: 3
- 300 level or above SOC or ANTH Elective Credits: 6
- Additional SOC or ANTH Elective Credits: 9

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**Software Engineering Minor**

**Program Coordinator/Contact**

George Hamer, Assistant Department Head
Department of Electrical Engineering and Computer Science
Daktronics Engineering Hall 214
605-688-4526
E-mail: stdu.eecs@sdstate.edu
www.sdstate.edu/eecs

**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 in computer science, electrical engineering or mechanical engineering. The minor includes foundational courses in Software Engineering, practical hands-on team design experience, and advanced coursework.

**Student Learning Outcomes**

Graduates will be able to:
- Identify, formulate, and solve engineering problems that can be resolved by developing software systems.
- Use the techniques, skills, and modern software tools for the software engineering practice.
- Function on a design team and complete a major software engineering design project based on the knowledge and skills acquired in earlier coursework and incorporating appropriate engineering standards and multiple realistic constraints.

**Course Delivery Format**

Standard contemporary classroom and laboratory technologies are used, as well as hands-on, project based learning.

**Requirements for Software Engineering Minor: 18 Credits**

- SE 305 - Foundation of Software Engineering Credits: 3
- SE 330 - Human Factors and User Interface Credits: 3
- SE 340 - Software Architecture Credits: 3
- SE 464 - Senior Design I Credits: 2
- SE 465 - Senior Design II Credits: 2

E Electives: 6
Choose 6 credits from the following.
- SE 320 - Software Requirements and Formal Specifications Credits: 3
- SE 306 - Software Project Management and Testing Credits: 3
- SE 420 - Software Project Management Credits: 3
- SE 440 - Embedded Systems Credits: 3
- EE 347-347L - Microcontroller Systems Design and Lab Credits: 3
- CSC 317 - Computer Organization and Architecture (COM) Credits: 3

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**Soil Science Minor**

**Program Contact**

David Wright, Department Head
Brent Turnipseed, Undergraduate Teaching Coordinator
Department of Plant Science
Agricultural Hall 219
605-688-5123
E-mail: david.wright@sdstate.edu
E-mail: brent.turnipseed@sdstate.edu

**Program Information**

The soil science minor is open to students of all majors and provides a strong background in basic soil sciences, covering such topics as soil biology, chemistry, conservation, contaminants, and land management. Students completing this minor may seek employment in areas of agricultural production, marketing, management, and conservation, i.e., areas in which decision-making requires a basic understanding of soils.

**Academic Requirements**

Students must have a 2.5 GPA or higher and a grade of C or higher in the program's coursework.

**Accreditation, Certification, and Licensure**

Students seeking Soil Science Certification should contact their advisor and refer to https://www.soils.org/certifications/epss-cpsc.

**Course Delivery Format**

The program coursework is available on campus, in classrooms and laboratories, as well as field-based settings.

**Requirements for Soil Science Minor: 18 Credits**

- PS 213-213L - Soils and Lab ** Credits: 2, 1
- PS 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3
Spanish Minor
Program Coordinator/Contact
Christine Garst-Santos, Spanish Program Coordinator
Department of Modern Languages and Global Studies
SWG 121
605-688-5101
www.sdstate.edu/ml

The Spanish minor at SDSU consists of language, culture, and literature courses to prepare students for careers in which they will use Spanish as a language for communication. The minor offers flexibility and can easily be added to any major.

Student Learning Outcomes
Upon the completion of the Spanish minor, students should be able to:

• Speak, read and write Spanish at the intermediate-high or advanced level
• Demonstrate knowledge and understanding of the cultures and communication cultures of the Spanish-speaking world
• Demonstrate knowledge of the Spanish civilizations and its cultural products, such as literature, art, government, etc.

Academic Requirements
Minor Coursework: A minimum grade of "C" is required for a Spanish course to count towards the minor.

Placement: Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Academic Evaluation and Assessment Office. Please refer to Modern Language Credit under Academic Evaluation in the catalog for more detailed information.

Course Delivery Format
Most courses in the Spanish minor are offered face-to-face on campus. Some upper-division courses are offered online, normally during the summer term.

Requirements for Spanish Minor: 20 Credits

• Spanish Electives (may include 211-212) Credits: 8
• SPAN 201 - Intermediate Spanish I * **(COM) (G) Credits: 3
• SPAN 202 - Intermediate Spanish II * ** (COM) (G) Credits: 3
• SPAN 310 - Practical Language Skills Credits: 3
• SPAN 330 - Reading and Writing for Communication (COM) Credits: 3

Statistics Minor
Program Coordinator/Contact
Kurt Cogswell, Department Head
Department of Mathematics and Statistics
Harding Hall 228
605-688-6196
E-mail: kurt.cogswell@sdstate.edu
mathstat.sdstate.edu

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.

Academic Requirements
A grade of "C" or better is required in each course used for the major.

Course Delivery Format
Program courses are delivered on campus, in classroom and laboratory settings, online, and at off campus attendance centers.

Requirements for Statistics Minor: 18 Credits

• STAT 381 - Introduction to Probability and Statistics (COM) Credits: 3
• STAT 410-510 - SAS Programming I Credits: 3
• STAT 482-582 - Probability and Statistics II Credits: 3
• Select Three Courses from the Following:
  • STAT 412 - SAS Programming II Credits: 3
  • STAT 445-545 - Nonparametric Statistics Credits: 3
  • STAT 451-551 - Predictive Analytics I Credits: 3
  • STAT 460-560 - Time Series Analysis Credits: 3
  • MATH 441-541 - Applied Probability Theory Credits: 3
  • MATH 475-575 - Operations Research (COM) Credits: 3

Studio Arts Minor
Program Coordinator/Contact
Michael (Tim) Steele, Department Head
Department of Visual Arts
Grove Hall 101, Box 2802
605-688-4103
E-mail: sdus.artdept@sdstate.edu
http://www.sdstate.edu/art

Program Information
The minor in studio art may be taken by all SDSU students regardless of major and may be selected by specific majors such as: architecture, interior design, landscape design, and others to support their major concentration and assist in their preparation for employment and/or graduate study.

Student Learning Outcomes
Upon completion of the minor, students are able to demonstrate the following outcomes through studio projects and classroom experiences:

• Understanding of basic design principles, concepts, media and formats in selected art and design disciplines.
• Ability to apply basic principles of design and color, and competencies in drawing to work in selected art and design disciplines.
• The ability to conceive, design and create works in at least one studio art or design field.
• Working knowledge of basic aesthetic issues, process and media and their relationship to the conceptualization, development and completion of a work of art or design.
• Understanding of the basic similarities, differences, and relationship among various art and design areas.

Academic Requirements
Visual Arts 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 ART, ARTD, ARTE and ARTH courses required for the minor.

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

Requirements for Studio Arts Minor: 18 Credits

• Select courses with the following prefixes: Art (ART), Graphic Design (ARTD), and Art Education (ARTE)
• Required Art History coursework (ARTH) Credits: 3
**Sustainable Energy Systems Minor**

Program Coordinator/Contact  
Michael Twedt, Lecturer  
Department of Mechanical Engineering  
CEH 216 Box 2219  
605-688-5426  
E-mail: michael.twedt@sdstate.edu  
www.sdstate.edu/me

**Program Information**  
The Sustainable Energy Systems Minor is appropriate for students interested in gaining a background in sustainability, energy efficiency, and renewable energy technologies. The minor helps to prepare graduates with training that distinguishes them from their peers and supports immediate entry into careers in energy resource development, energy production, and efficient end-use technologies.

**Student Learning Outcomes**  
Students completing the minor must understand how energy is produced, the fundamentals of energy conversion and efficiency, and demonstrate technical expertise in some area of sustainable energy systems. Upon completion of the minor, the student will be able to:

- Apply mathematics and engineering science to the analysis of energy conversion systems.
- Understand and apply the concept of sustainability to the design of energy conversion systems.
- Demonstrate competency in analysis and design of a particular type of energy converting device or system.
- Demonstrate the ability to work effectively in an area of sustainable energy systems.

**Course Delivery Format**  
Competence in Sustainable Energy Systems requires both study and practice. Instruction occurs through a combination of traditional classroom methods, laboratory exercises using contemporary engineering technologies, internship/research experiences and focused design projects.

**Requirements for Sustainable Energy Systems Minor: 18 Credits**

- ME 311 - Thermodynamics I Credits: 3  
  or ME 314 - Thermodynamics Credits: 3 or PHYS 341 - Thermodynamics (COM) Credits: 2
- ME 478 - Mechanical Systems Design I Credits: 2
- ME 479-479L - Mechanical Systems Design II and Lab (COM) (AW) Credits: 2
- ME 492-592 - Topics Credits: 1-5 Topics Course: Renewable Energy Systems Credits: 3

Select one course (3 credits minimum):  
The internship or Undergraduate Research/Scholarship experience must be a sustainable energy systems application approved by the Coordinator of the Minor.

- ABE 494 - Internship Credits: 1-6  
- EE 494 - Internship Credits: 1-3  
- ME 494 - Internship Credits: 1-3  
- PHYS 494 - Internship Credits: 1-4  
- ABE 498 - Undergraduate Research/Scholarship Credits: 1-3  
- EE 498 - Undergraduate Research/Scholarship Credits: 1-3  
- ME 498 - Undergraduate Scholarship/Research Credits: 1-3  
- PHYS 498 - Undergraduate Research/Scholarship Credits: 1-12

Electives: 6

- ABE 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4  
- EE 430-430L - Electromechanical Systems and Lab Credits: 4  
- EE 434-434L - Power Systems and Lab Credits: 4  
- EE 436-436L - Photovoltaic Systems Engineering and Lab Credits: 3, 1  
- ME 410 - Principles of HVAC Engineering Credits: 3  
- ME 412 - Internal Combustion Engines Credits: 3  
- ME 413 - Turbomachinery Credits: 3

- ME 414-514 - 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 439-439L - HVAC System Design and Lab Credits: 3  
- NE 435 - Introduction to Nuclear Engineering Credits: 3  
- PHYS 331 - Introduction to Modern Physics (COM) Credits: 3

**Notes**  
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.

**Women's Studies Minor**

Program Coordinator/Contact  
Elizabeth Tolman, Program Coordinator  
College of Arts and Sciences  
Pugsley 115  
605-688-6664  
E-mail: elizabeth.tolman@sdstate.edu

**Program Information**  
Women's Studies in an interdisciplinary minor program enabling the student to select courses dealing directly or indirectly with women and their changing roles in history, the family, the labor force, politics, literature and other venues. The minor is particularly useful for students expecting to work with women in social work, counseling, nursing, business, or education. Contact the Women's Studies Program Coordinator to develop a plan of study.

**Program Goals**

- to develop students' understanding of gender as a social construct informed by race, ethnicity, class, sexuality and nationality;  
- to strengthen students' knowledge of women's experiences and contributions to a pluralistic nation and international world; and  
- to empower students as change-agents for a more just and equitable society.

**Academic Requirements**  
Eighteen hours with a "C" or better in each course are required for the minor. Various departments periodically offer courses related to the roles of women in society and may be used as electives with approval by the Program Coordinator.

**Student Engagement Opportunities**  
The program seeks to provide enriching opportunities in classroom, campus, and community spaces, bringing exciting speakers to campus, especially during Women's History Month in March, co-sponsoring films, creative readings, science panels, and facilitating opportunities for activism. The program also sponsors the Campus Women's Coalition, the Women of Distinction Awards, and the Women's Studies Conference.

**Course Delivery Format**  
Program courses are taught on campus, online, and in field based settings.

**Requirements for Women's Studies Minor: 18 Credits**

- WMST 101 - Introduction to Women's Studies ** Credits: 3  
- WMST/ENGL 248 - Women in Literature Credits: 3*  
- WMST 491 - Independent Study Credits: 1-4

Select one course from the following list.

- HIST 349 - Women in American History Credits: 3  
- HIST 350 - Women in World History Credits: 3  
- POLS 305 - Women and Politics Credits: 3  
- PSYC 367 - Psychological Gender Issues Credits: 3  
- SOC 483 - Sociology of Gender Roles (COM) (G) Credits: 3  
- WMST 305 - Women and Politics Credits: 3  
- WMST 349 - Women in American History Credits: 3  
- WMST 350 - Women in World History Credits: 3
Pre-Professional Programs

(Pre-) Chiropractic
Program Coordinator/Contact
Greg Heiberger, Coordinator and Advisor
Department of Biology and Microbiology
Dairy-Microbiology 225C, Box 2104A
E-mail: greg.heiberger@sdstate.edu

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 as a basic understanding of communications, 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.

Suggested Coursework
Biology
- BIOL 151-151L - General Biology I and Lab * (COM) Credits: 4
- BIOL 153-153L - General Biology II and Lab * (COM) Credits: 4
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 290 - Seminar Credits: 1
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4

Chemistry and Biochemistry
- CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3,1
- CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3,1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3,1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3,1
- CHEM 464 - Biochemistry I (COM) Credits: 3
- CHEM 466 - Laboratory Methods- Biochemistry Credits: 1

Physics
- PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab * (COM) Credits: 4

Psychology
- PSYC 101 - General Psychology ** (COM) Credits: 3

Electives
Select at least one of the following courses.
- PE 350 - Exercise Physiology (COM) Credits: 2-3
- PE 454-454L - Biomechanics and Lab Credits: 3
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

(Pre-) Dental
Program Coordinator/Contact
Scott Pedersen, Advisor
Department of Biology and Microbiology
Dairy-Microbiology 225C Box 2104A
605-688-5529
E-mail: scott.pedersen@sdstate.edu

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 Coursework
Biology
- BIOL 151-151L - General Biology I and Lab * (COM) Credits: 4
- BIOL 153-153L - General Biology II and Lab * (COM) Credits: 4
- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- BIOL 204-204L - Genetics and Cellular Biology and Lab (COM) Credits: 3,1
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 290 - Seminar Credits: 1
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4

Chemistry
- CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
Mathematics
- MATH 121-121L - Survey of Calculus and Lab* (COM) Credits: 5
- MATH 122-122L - Calculus I* (COM) Credits: 5
- MATH 123L - Calculus I Lab (COM) Credits: 1
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

Physics
- PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab * (COM) Credits: 4

(Pre-) Law
Program Coordinator/Contact
Department of History, Political Science, Philosophy, and Religion
PO Box 0510 West Hall
605-688-4311
E-mail: diane.molengaata@sdsstate.edu

Pre-Professional Interest Area Information
The formal academic training for law includes, with few exceptions, a bachelor's degree and three years of study in law school to earn a Juris Doctorate. Law schools welcome and encourage a variety of educational backgrounds among their students. Breadth and intellectual maturity are more important than study of particular subject matter. However, law schools do recommend that the pre-law curriculum be carefully selected.

No specific subjects are prescribed for law school admission, and thus any undergraduate major available at SDSU can prepare a student to study the law. The pre-law student should be involved in an undergraduate program that is intellectually challenging and requires rigorous academic discipline. Individuals who have chosen a field of study work with their major advisor as well as the pre-law advisor to select courses and create a plan of study.

Suggested Coursework
An attorney must be a well-rounded individual. Reading and writing abilities are fundamental, and thus undergraduate courses that develop these skills should be stressed. A reasonable exposure to such subject areas as English composition, economics, history, literature, philosophy, political science, and sociology are typically considered foundational for the full appreciation of the law. Electives such as drama and theatre arts, debate, creative writing, and speech will sharpen those skills needed by a member of the legal profession. Additionally, courses in business, finance, and accounting are generally considered an asset to attorneys' professional practice, and many law schools expect the student to have completed at least one accounting course. Furthermore, knowledge of the physical and biological sciences will often help in the cases the lawyer pleads. In particular, certain areas of the law are open only to those with an educational training in the sciences and engineering fields.

Law School Admissions Test
All law schools require the Law School Admissions Test, and most pre-law students take it in June between the junior and senior year or during the undergraduate senior year. It is a nationwide, half-day test of general aptitude for undertaking law studies and for writing ability. Students are encouraged to contact the pre-law advisor for more information on the LSAT and law schools of interest early in their academic career.

(Pre-) Medicine
Program Coordinator/Contact
Greg Heiberger, Coordinator and Advisor
Department of Biology and Microbiology
Dairy-Microbiology 225C, Box 2104A
605-688-4294
E-mail: greg.heiberger@sdsstate.edu

Advisors
Dr. Don Auger, Dr. Michael Hildreth, Dr. Scott Pedersen, Mr. Greg Heiberger.

Pre-Professional Interest Area Information
The pre-medical 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 specific information on the application process as well as information on specific medical schools.

Suggested Coursework
Biology
- BIOL 151-151L - General Biology I and Lab * (COM) Credits: 4
- BIOL 153-153L - General Biology II and Lab * (COM) Credits: 4
- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- BIOL 204-204L - Genetics and Cellular Biology and Lab (COM) Credits: 3, 1
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4
- MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4

Chemistry
- CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3, 1

Mathematics
- MATH 121-121L - Survey of Calculus and Lab* (COM) Credits: 5
- MATH 123-123L Calculus I and Lab Credits, 4, 1
- STAT 281 - Introduction to Statistics * (COM) Credits: 3

Physics
- PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab * (COM) Credits: 4

(Pre-) Ministerial
Program Coordinator/Contact
Department of History, Political Science, Philosophy, and Religion
PO Box 0510 West Hall
605-688-4311
E-mail: greg.petersen@sdsstate.edu

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 Major 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 Coursework
- REL 213 - Introduction to Religion * Credits: 3
- REL 224 - Old Testament * (COM) Credits: 3
- REL 237 - Religion in American Culture * Credits: 3
- REL 238 - Native American Religions * Credits: 3
- REL 250 - World Religions * (COM) (G) Credits: 3
- REL 331 - Women and Religion Credits: 3
- REL 454-554 - Environmental Ethics ** Credits: 3
- REL 353 - Geography of Religion Credits: 3
- REL 360 - Moral and Ethical Perspectives on Death and Dying Credits: 3
- REL 470 - Philosophy of Religion ** (COM) Credits: 3
- REL 402 - History of Western Religious Thought II Credits: 3
- REL 401-501 - History of Western Religious Thought I Credits: 3
- PHIL 100 - Introduction to Philosophy * (COM) Credits: 3
- PHIL 200 - Introduction to Logic * (COM) Credits: 3
- PHIL 215 - Introduction to Social-Political Philosophy * Credits: 3
- PHIL 220 - Introduction to Ethics * (COM) Credits: 3
- PHIL 313 - Great Philosophers Credits: 2-3
- PHIL 320 - Professional Ethics Credits: 3
- PHIL 383 - Bioethics ** (G) Credits: 4
- PHIL 480 - Ethics of Globalization** Credits: 3
- SPCM 215 - Public Speaking (COM) * Credits: 3
- SPCM 201 - Interpersonal Communication (COM) Credits: 3

(Pre-) Mortuary
Program Coordinator/Contact
Greg Heiberger, Coordinator and Advisor
Department of Biology and Microbiology
Alfred Dairy Science Hall 225C, Box 2104A
605-688-4294
E-mail: greg.heiberger@sdstate.edu

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 (AAS) or bachelor of science (BS) degree at one of 50 accredited schools which offer programs in mortuary science. One or possibly two years of study may be taken at SDSU. Certification includes passing required board exams and an apprenticeship in an approved funeral home. Leaders of the funeral service field are rapidly recognizing the need for education of the total person. Because the funeral director's work is diverse, he/she must draw upon knowledge of the social and economic fields as well as the scientific and artistic areas which the technical needs of the profession require.

Suggested Coursework
**Freshman Year**
- Social Sciences Elective Credits: 3
- BIOL 151-151L - General Biology I and Lab * (COM) Credits: 4
- CHEM 106-106L - Chemistry Survey and Lab * (COM) Credits: 3,1
- ENGL 101 - Composition I * Credits: 3
- MATH 102 - College Algebra * (COM) Credits: 3
- PSYC 101 - General Psychology * ** (COM) Credits: 3
- REL 360 - Moral and Ethical Perspectives on Death and Dying Credits: 3
- SOC 100 - Introduction to Sociology * (COM) (G) Credits: 3
- SPCM 101 - Fundamentals of Speech * (COM) Credits: 3

**Sophomore Year**
- Social Science Elective Credits: 3
- Electives Credits: 9 Suggested:
  - REL 213 - Introduction to Religion *
  - ENGL 201 - Composition II *
  - ACCT 210 - Principles of Accounting I (COM) Credits: 3

(Pre-) Occupational Therapy
Program Coordinator/Contact
Carla Anderson, Advisor
College of Education and Human Sciences
Wagner Hall 243
605-688-6145
E-mail: carla.anderson@sdstate.edu
www.sdstate.edu/hns/undergrad-program/pre-ot

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 department 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.

Suggested Coursework
Commonly Required Courses
- NURS 201 - Medical Terminology Credits: 1
- STAT 281 - Introduction to Statistics * (COM) Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior ** (COM) Credits: 3

Required Courses
- PHIL 220 - Introduction to Ethics * (COM) Credits: 3
- or PHIL 383 - Bioethics ** (G) Credits: 4
- PSYC 101 - General Psychology ** (COM) Credits: 3
- HDFF 210 - Lifespan Development * (COM) Credits: 3
- SOC 100 - Introduction to Sociology * (COM) (G) Credits: 3
- or SOC 150 - Social Problems * (COM) (G) Credits: 3
- BIOL 221-221L - Human Anatomy and Lab (COM) Credits: 4
- BIOL 325-325L - Physiology and Lab (COM) Credits: 4

Recommended Courses
- PHTH 142 - Introduction to Physical Therapy and Occupational Therapy Credits: 1
- BIOL 151-151L - General Biology I and Lab * (COM) Credits: 4
- BIOL 153-153L - General Biology II and Lab * (COM) Credits: 4
- CHEM 112-112L - General Chemistry I and Lab *(COM) Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab *(COM) Credits: 3, 1

(Pre-) Optometry
Program Coordinator/Contact
Greg Heiberger, Coordinator and Advisor
Department of Biology and Microbiology
Dairy-Microbiology 225C, Box 2104A
605-688-4294
E-mail: greg.heiberger@sdstate.edu

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 courses. 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), http://www.opted.org.

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 Coursework**

**Biology**
- BIOL 151-151L - General Biology I and Lab *(COM)* Credits: 4
- BIOL 153-153L - General Biology II and Lab *(COM)* Credits: 4
- BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
- BIOL 204-204L - Genetics and Cellular Biology and Lab *(COM)* Credits: 3, 1
- BIOL 221-221L - Human Anatomy and Lab *(COM)* Credits: 4
- BIOL 290 - Seminar Credits: 1
- BIOL 325-325L - Physiology and Lab *(COM)* Credits: 4
- MICR 231-231L - General Microbiology and Lab *(COM)* Credits: 4

**Chemistry**
- CHEM 112-112L - General Chemistry I and Lab *(COM)* Credits: 3, 1
- CHEM 114-114L - General Chemistry II and Lab *(COM)* Credits: 3, 1
- CHEM 326-326L - Organic Chemistry I and Lab *(COM)* Credits: 3, 1
- CHEM 328-328L - Organic Chemistry II and Lab *(COM)* Credits: 3, 1
- CHEM 464 - Biochemistry I *(COM)* Credits: 3
- CHEM 465 - Biochemistry II *(COM)* Credits: 3

**Mathematics: Calculus and Statistics**
- MATH 123 - Calculus I *(COM)* Credits: 4
- STAT 281 - Introduction to Statistics *(COM)* Credits: 3

**Nursing**
- NURS 201 - Medical Terminology Credits: 1

**Physics**
- PHYS 111-111L - Introduction to Physics I and Lab *(COM)* Credits: 4
- PHYS 113-113L - Introduction to Physics II and Lab *(COM)* Credits: 4

**Psychology**
- PSYC 101 - General Psychology * *(COM)* Credits: 3
- PSYC 451 - Psychology of Abnormal Behavior ** *(COM)* Credits: 3

**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 Coursework

### Biology
- **BIOL 151-151L - General Biology I and Lab** (COM) Credits: 4
- **BIOL 153-153L - General Biology II and Lab** (COM) Credits: 4
- **BIOL 202-202L - Genetics and Organismal Biology and Lab** Credits: 4
- **BIOL 221-221L - Human Anatomy and Lab** (COM) Credits: 4
- **BIOL 290 - Seminar** Credits: 1
- **BIOL 325-325L - Physiology and Lab** (COM) Credits: 4

### Chemistry
- **CHEM 112-112L - General Chemistry I and Lab** (COM) Credits: 3,1
- **CHEM 114-114L - General Chemistry II and Lab** (COM) Credits: 3,1
- **CHEM 326-326L - Organic Chemistry I and Lab** (COM) Credits: 3,1
- **CHEM 328-328L - Organic Chemistry II and Lab** (COM) Credits: 3,1
- **CHEM 464 - Biochemistry I** (COM) Credits: 3
- **CHEM 466 - Laboratory Methods- Biochemistry** Credits: 1

### Microbiology
- **MICR 231-231L - General Microbiology and Lab** (COM) Credits: 4
- **MICR 439 - Medical and Veterinary Immunology** Credits: 3

### Psychology
- **PSYC 101 - General Psychology** (COM) Credits: 3
- **PSYC 451 - Psychology of Abnormal Behavior** (COM) Credits: 3

### Statistics
- **STAT 281 - Introduction to Statistics** (COM) Credits: 3

### Additional Coursework
- **HDFS 210 - Lifespan Development** (COM) Credits: 3
- **NURS 201 - Medical Terminology** Credits: 1
- **NURS 323 - Introduction to Pathophysiology** Credits: 3
- **PHA 321 - Pharmacology** Credits: 3

### (Pre-) Veterinary Medicine

**Program Contact/Coordinator**

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605-688-5171  
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**Pre-Professional Interest Area Information**

The SDSU Pre-Veterinary Medicine program combines academic preparation, professional veterinary advising, and opportunities for gaining experience in animal health laboratories. 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 is not an academic degree. 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 general 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. Opportunities for 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.

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 Coursework

**Biology**
- **BIOL 151-151L - General Biology I and Lab** (COM) Credits: 4
- **BIOL 153-153L - General Biology II and Lab** (COM) Credits: 4
- **AS 332 - Livestock Breeding and Genetics** Credits: 4
- **VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab** Credits: 4

**Chemistry**
- **CHEM 112-112L - General Chemistry I and Lab** (COM) Credits: 3,1
- **CHEM 114-114L - General Chemistry II and Lab** (COM) Credits: 3,1
- **CHEM 326-326L - Organic Chemistry I and Lab** (COM) Credits: 3,1
- **CHEM 328-328L - Organic Chemistry II and Lab** (COM) Credits: 3,1
- **CHEM 464 - Biochemistry I** (COM) Credits: 3

**Mathematics**
- **MATH 102 - College Algebra** (COM) Credits: 3
- **STAT 281 - Introduction to Statistics** (COM) Credits: 3

**Physics**
- **PHYS 111-111L - Introduction to Physics I and Lab** (COM) Credits: 4
- **PHYS 113-113L - Introduction to Physics II and Lab** (COM) Credits: 4

**Humanities and Social Sciences**
- **Written Communication and Oral Communication**: Credits: 9
- **Social Sciences**: Credits: 6 (including courses from two of the following disciplines: Anthropology, Economics, Geography, History, Psychology, or Sociology)
- **Arts and Humanities**: Credits: 6 (including courses from two of the following disciplines: Art, Drama, Literature, Music History, Music Theory, or Philosophy (NOTE: music performance or foreign language credits are generally not accepted for CVM admission))
Curriculum Entries

Course Descriptions

BIOL 101 Biology Survey (COM) 3
Study of the nature, diversity, and classification of life; ecology; cells and cell cycles, Mendelian and modern Genetics. Intended for those not majoring in Biology. Duplicate credit for 101 and 151 not allowed.

Course Numbering

Undergraduate Courses

001-099 Pre-college, remedial skills, special improvement (non-degree credit)
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) Also open to senior students for graduate credit under the following conditions: Within 15 credits of completing Bachelor's degree; Have an overall grade point average of 2.5 or higher, or a Junior-Senior grade point average of 3.0 or higher; Enroll for no more than 18 credits (9 credits during Summer Term); The course or courses are not required for the Bachelor's degree.
700-799 Graduate level (graduate students only)
800-899 Doctoral and post-doctoral level (doctoral and post-doctoral students only)

Experimental Courses

A course at the 100-500 levels ending in 99 is experimental and may be offered no more than twice within two academic years before it must be submitted as a New Course Request.

Colleges, Departments and Program Abbreviations

A&S, Arts and Sciences
ABE, Agricultural and Biosystems Engineering
ABS, Agriculture and Biological Sciences
ACCT, Accounting
ADV, Advertising
AGEC, Agricultural and Resource Economics
AGED, Agricultural Education
AHED, Adult Higher Education
AIR, Aerospace Studies
AIS, American Indian Studies
AM, Apparel Merchandising
ANAT, Anatomy
ANTH, Anthropology
ARAB, Arabic
ARCH, Architecture
ART, Art
ARTD, Art Design
ARTE, Art Education
ARTH, Art History
AS, Animal Science
AST, Agricultural Systems Technology
AT, Athletic Training
AVIA, Aviation
BADM, Business Administration
BIOL, Biology
BIOS, Biological Sciences
BIOT, Biotechnology
BOT, Botany
CA, Consumer Affairs
CD, Community Development
CEE, Civil and Environmental Engineering
CEX, Center of Excellence
CHEM, Chemistry
CHIN, Chinese
CHD, Counseling and Human Development
CHRD, Counseling and Human Resource Development
CJUS, Criminal Justice
CM, Construction Management
COM, Construction and Operations Management
CS, Consumer Science
CSC, Computer Science
EDER, Education Evaluation and Research
EDFN, Educational Foundations
EE, Electrical Engineering
EES, Ecology and Environmental Science
EET, Electronics Engineering Technology
EFA, Events and Facilities Administration
EHS, Education and Human Sciences
ELED, Elementary Education
EM, Engineering Mechanics
ENGL, English
ENT, Entomology
ENTR, Entrepreneurial Studies
ENVM, Environmental Management
EPSY, Educational Psychology
ET, Electronics Technology
ETM, Engineering Technology and Management
EUS, European Studies
EXCH, Exchange Programs
EXPL, Experiential Learning
FCS, Family and Consumer Sciences
FCSCE, Family and Consumer Sciences Education
FREN, French
GE, General Engineering
GEOG, Geography
GER, German
GERO, Gerontology
GIS, Geographic Information Sciences
GLST, Global Studies
GS, General Studies
HDFS, Human Development and Family Studies
HIST, History
HLTH, Health
HMGT, Hospitality Management
HNS, Health and Nutritional Sciences
HO, Horticulture
HON, Honors
HPPR, History, Political Science, Philosophy and Religion
HSC, Health Science
ID, Interior Design
IDL, Interdisciplinary Studies
JMC, Journalism and Mass Communication
LA, Landscape Design
ME, Mechanical Engineering
MICR, Microbiology
MFL, Modern Foreign Languages
MLED, Middle Level Education
MGGS, Modern Language and Global Studies
ML, Medical and Laboratory Science
MGMT, Management
MNET, Manufacturing Engineering
MRCH, Merchandising
MSL, Military Science Leadership
MUAP, Music Applied
MUC, Music Ensemble
MUS, Music
NE, Nuclear Engineering
NFS, Nutrition and Food Science
NRM, Natural Resources Management
NURS, Nursing
OM, Operations Management
PE, Physical Education
PHA, Pharmacy
PHIL, Philosophy
PHTh, Physical Therapy
PHYS, Physics
PLAN, Planning
POLS, Political Science
PS, Plant Science
PSYC, Psychology
PUBH, Public Health
RANG, Range Science
RECR, Recreation
REL, Religion
RSOC, Sociology and Rural Studies
RUS, Russian
SE, Software Engineering
SEED, Secondary Education
SOC, Sociology
SPAN, Spanish
SPCM, Speech Communication
STAT, Statistics
THEA, Theatre
TLL, Teaching, Learning, and Leadership

244 Course Information
## Miscellaneous Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>DANC</td>
<td>Dance</td>
</tr>
<tr>
<td>DS</td>
<td>Daily Science</td>
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<tr>
<td>ECE</td>
<td>Early Childhood Education</td>
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<tr>
<td>EDM</td>
<td>Educational Administration</td>
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<tr>
<td>EDAD</td>
<td>Educational Administration</td>
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<td>LAKL</td>
<td>Lakota</td>
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<tr>
<td>LEAD</td>
<td>Leadership</td>
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<td>LING</td>
<td>Linguistics</td>
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<tr>
<td>LMNO</td>
<td>Leadership and Management of Nonprofit Organizations</td>
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<td>MATH</td>
<td>Mathematics</td>
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<td>MCOM</td>
<td>Mass Communication</td>
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<td>CST</td>
<td>Communication Studies and Theatre</td>
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<td>CTE</td>
<td>Career and Technical Education</td>
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<td>DANCS</td>
<td>Dance Studies</td>
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<td>DSM</td>
<td>Daily Science Minor</td>
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<td>Early Childhood Education</td>
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<td>ESM</td>
<td>Environmental Science and Management</td>
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<td>FSH</td>
<td>Family Studies</td>
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<td>HUM</td>
<td>Humanities</td>
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<td>INT</td>
<td>International Studies</td>
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<td>MCOM</td>
<td>Mass Communication</td>
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<tr>
<td>NA</td>
<td>North America</td>
</tr>
<tr>
<td>OC</td>
<td>Organizationally Conducted</td>
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<tr>
<td>SCH</td>
<td>School</td>
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<td>SDC</td>
<td>South Dakota</td>
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<tr>
<td>STL</td>
<td>St. Louis</td>
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<tr>
<td>TESOL</td>
<td>Teaching English to Speakers of Other Languages</td>
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<td>U.S.</td>
<td>United States</td>
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<tr>
<td>UC</td>
<td>University College</td>
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<tr>
<td>VET</td>
<td>Veterinary Science</td>
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<tr>
<td>WEL</td>
<td>Wellness</td>
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<tr>
<td>WLS</td>
<td>Wildlife and Fisheries Sciences</td>
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<tr>
<td>WMST</td>
<td>Women's Studies</td>
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</tbody>
</table>

## Course Types & Instructional Methods

### Clinical Experience
Students participate in client and client related services that are an integral part of an educational program. Clinical instruction occurs in or outside an institutional setting and involves work with clients who receive professional services from students serving under direct or indirect supervision by a faculty member and/or an approved member of the agency staff. Instructional Method: G.

### Clinical Laboratory
The course takes place in a clinical laboratory setting. This includes practice labs, hospitals, or other agencies. Students apply methods and principles of a clinical discipline. Course size varies depending upon accreditation standards, clinical space limitations, level of offering, availability of client experiences, the nature of the clients, and equipment limitations. Faculty members control the assignments and maintain direct and close supervision of the students. Instructional Method: C.

### Competency-Based/Self-Paced Study
Students proceed through a course of study at their own rate, or as directed often assisted by computer or other technology. Mastery is based on achieving competencies and benchmarks, rather than attaining a schedule of assignments. An instructor monitors student progress. May be supplemented by individual or group tutorial sessions. Includes self-paced Internet courses. Instructional Method: B.

### Design/Research
Courses focusing on design research and do not entail a dissertation or thesis. The plan of study is negotiated by the faculty member and the students. Contact between the two may be extensive and intensive. May be used as a research/design requirement for a degree. Research/Research Problems are included in this course type. Instructional Method: J.

### Discussion/Recitation
A course, or a section of a larger course, designed for group discussion or student recitation. Instructional Method: D.

### Ensemble
Large group musical performance courses, meaning group of more than 10 performers. Includes: orchestra, bands, and choruses. Instructional Method: H.

### Graduate Thesis
A formal treatise presenting the results of study submitted in partial fulfillment of the requirements of an advanced degree. The process requires intensive interaction between the candidate and the thesis director. Masters degrees, Specialist degrees, and Doctorates are included in this course type. Instructional Method: T.

### Independent Study
Students complete individualized plans of study. The faculty member and students negotiate the details of the study plans. Meeting depending upon the requirements of the topic. This course type is not for completion of a thesis or dissertation or for meeting the research requirement for a degree. Directed Studies, Special Projects, Mentored, and Special Problems are examples of this course type. Instructional Method: I.

### Internship/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. Includes field work/experience, supervision courses, student teaching, and cooperative education. Instructional Method: S.

### Laboratory
Courses meeting in a defined physical setting (i.e. laboratory) for the purpose of the application of methods and principles of a discipline. Instructional Method: L.

### Lecture
Faculty members give oral presentations of facts, principles, context, or interpretation. Instruction takes place in a traditional classroom setting. Instructional Method: R.

### Modified Physical Education Activity
A course type limited to accommodate students with physical disabilities where numbers are very limited. Instructional Method: O.

### Physical Education Activity
A course devoted to participation in or the performance of some form of physical activity. Knowledge associated with the proper performance of the activity is presented. Instructional Method: P.

### Private Instruction
The courses involve individual instruction. One-to-one demonstration, performance critique, music, fine arts or performing arts, or flight instruction are examples. Instructional Method: M.
Seminar
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, or research. Seminars may be conducted over electronic media such as Internet and are at the upper division or graduate levels. Instructional Method: E.

Special Topics
A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors.

Studio Course/Small Group Instruction/Small Ensemble
Course involves the demonstration and application of design and theory in a defined physical setting (i.e., studio). The Studio Course is characterized by significant one-on-one student/instructor interaction. Students explore and experiment under the guidance of an instructor. Instructional Method: A.

Thesis/Research Sustaining
This is a zero credit hour course type used to track students who are not currently working with faculty on thesis or research activities. Universities may require students to register under this course type to remain active degree candidates. Instructional Method: E.

Other Important Definitions

Advanced Writing
A BOR Requirement, courses chosen by departments to meet this requirement are tagged with (AW).

Common Course Numbering
The South Dakota Regental institutions utilize common course numbering, meaning that a course designated as a common course (COM) is automatically transferable between institutions. Any courses on the following pages without the COM designation are considered to be unique to SDSU.

Crosslisted Courses
A crosslisted 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 meet at the same time in the same place, with the same instructor(s). A crosslisted 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. In some instances, the course may be offered for credit at different levels (i.e., courses may be offered for upper/lower division credit or for undergraduate/graduate credit). The dual-numbered course may also be crosslisted.

Globalization
A BOR Requirement, courses chosen by departments to meet this requirement are tagged with (G).

x9x Common Course Descriptions

The following middle digit 9 course numbering scheme is used in the South Dakota public university system. These courses may have multiple sections. A section's title may or may not reflect the material covered in that section. See the academic department for section information, e.g., description, prerequisites such as instructor or department consent, GPA required, junior or senior standing, etc.

x90 Seminar
x91 Independent Study
x92 Topics
x93 Workshop
x94 Internship
x95 Practicum
x96 Field Experience
x97 Cooperative Education
498 Undergraduate Research/Scholarship

x90 Seminar
A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as Internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students. Instructional method: E.

x91 Independent Study
Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student/teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic. Instructional method: I.

x92 Topics
Includes Current Topics, Advanced Topics and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually 10 or fewer students with significant one-on-one student/teacher interaction. Students explore and experiment under the guidance of an instructor. Instructional Method: A.

x93 Workshop
Special, intense sessions in specific topic areas. Approximately 45 hours of work is required for each hour of credit. 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. Instructional method: W.

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. Instructional method: S.

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. Instructional method: S.

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 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
Course Information 247
ABS 444-444L/544-544L - Unit Operations of Biological Materials Processing and Lab Credits: 4
Transport processes of heat and mass are applied to the following unit operations: evaporation, drying, gas-liquid separation processes (humidification cooling towers), vapor-liquid separation processes (distillation), soil-liquid separation processes (leaching), membrane separations (ultrafiltration, reverse osmosis), mechanical separation processes, extraction. Prerequisites: Senior standing or consent. Corequisites: ABE 444L-544L/544L.

ABE 463-463L - Instrumentation for Agricultural and Biological Systems and Lab Credits: 3
Measurement systems for strain, flow, pressure, displacement, and temperature as related to measurements for physical and biological systems are introduced with error analysis. The dynamic characteristics of the measured measurement system explored and the interaction of the dynamic characteristics of the measurement 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-463L.

ABE 464-464L - Monitoring and Controlling Agriculture and Biological Systems and Lab Credits: 2
Data acquisition, processing, and analysis for agriculture and biological applications using a computer-based system. Application of electronic instrumentation, LabVIEW software programming. Introduction to CAN bus technology, proportional-integral-derivative (PID) controllers, and programmable logic controllers. Prerequisites: ABE 463. Corequisites: ABE 464L-464L.

ABE 490 - Seminar Credits: 1
ABE 491 - Independent Study Credits: 1-3
ABE 492-592 - Topics Credits: 1-4
ABE 494 - Internship Credits: 1-6
ABE 496 - Field Experience Credits: 1-6
ABE 497 - Cooperative Education Credits: 1-6
ABE 498 - Undergraduate Research/Scholarship Credits: 1-3
ABE 543 - Fundamentals of Bioprocessing Credits: 3
ABE 551 - Fundamentals of Conversion Credits: 3
ABE 553 - Bioprocess Engineering for Renewable Resources Credits: 3
ABE 555-555L - Principles of Biological Separation Processing and Lab Credits: 3
ABE 590 - Sustainability Seminar Credits: 1
ABE 592 - Topics Credits: 1-3
ABE 632 - Environmental and Ecological Risk Assessment Credits: 3
ABE 662 - Life Cycle Assessment Credits: 3
ABE 732 - Advanced Hydrology in Agriculture Credits: 3
ABE 733 - Ground Water Engineering in Agriculture Credits: 3
ABE 734-734L - Advanced Irrigation Engineering and Lab Credits: 3
ABE 748 - Bioseparations Credits: 3
ABE 752 - Theoretical Micro-Climatology Credits: 2
ABE 754-754L - Advanced Unit Operations of Food/Biomaterials Processing and Lab Credits: 3
ABE 763-763L - Instrumentation Credits: 3
ABE 765 - Advanced Biomass thermochemical Conversion Credits: 3
ABE 771 - Graduate Seminar Credits: 1
ABE 773-773L - Programming Agricultural System Credits: 3
ABE 791 - Independent Study Credits: 1-3
ABE 792 - Topics Credits: 1-3
ABE 792L - Topics Lab Credits: 0
ABE 798 - Thesis Credits: 1-7
ABE 898D - Dissertation PhD Credits: 1-12

ABS (Agriculture and Biological Sciences)

ABS 109 - 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. Notes: ** Course meets IGR #1.

ABS 203 - Global Food Systems ** (G) Credits: 3
Introduction to global food systems and agricultural diversity. Food production techniques, economics, society/cultural values, and agricultural constraints in several countries will be studied. The course is team taught with faculty from Economics, Animal and Range Sciences, and Plant Science. Notes: * Course meets SGR #3 or ** IGR #2.

ABS 205 - Biotechnology in Agriculture and Medicine Credits: 2
This course will provide a means for students in various majors to gain an understanding of the rapidly emerging, multidisciplinary research and applications in biotechnology, and to learn of potential career directions and training opportunities in biotechnology-related fields. Course materials and lectures will change each year to keep up with the changing technology. Guest lecturers will provide the best expertise available. Internet assistance is necessary to provide resource materials and new publications. Course will be open to all students.

ABS 210 - Introduction to Biorenewable Products and Processing Credits: 3
A survey of biorenewable resources, technologies, and industries. Topics include sources and production of biomass; processing of biomass into fuels and other products; environmental impact; and economic analysis. Cross-Listed: AST 210.

ABS 310 - Leadership for Families and the Food System Credits: 3
Principles of leadership within the unique contexts of agriculture, biological sciences, family, and consumer sciences. Topics covered include definitions and approaches to the study of leadership, leadership styles, gender and ethnic diversity, leadership in groups, ethical issues, mission statements, and emerging leadership issues.

ABS 475-475L - Integrated Natural Resource Management and Lab (AW) Credits: 3
A capstone course that requires students to integrate previously-learned natural resource techniques and information into the strategic planning process. Students will be divided into small groups for plan development. Various majors are involved to allow for integrated course material. Lab to accompany ABS 475. Prerequisites: Senior Standing and PS 390 or senior standing and written consent. Corequisites: ABS 475L-475L.

ABS 482-582 - International Experience (G) Credits: 2-4
Students will work one on one or in small groups with professors that have knowledge of the global region and culture that will be visited. Students will participate in a travel/study abroad experience to another nation(s) to experience and evaluate diverse food/agricultural systems. Notes: For the Bachelor's degree, a maximum of 8 credits is allowed for an international travel/study experience (ABS 482). ABS 203 is recommended.

ABS 492 - Topics Credits: 1-4
ABS 705 - Research Methodology Credits: 1-10
ABS 792 - Topics Credits: 1-6

ACCT (Accounting)

ACCT 210 - Principles of Accounting I (COM) Credits: 3
A study of fundamental accounting principles and procedures such as journalizing, posting, preparation of financial statements, and other selected topics. Accounting is emphasized as a service activity designed to provide the information about economic entities that is necessary for making sound decisions.

ACCT 211 - Principles of Accounting II (COM) Credits: 3
A continuation of ACCT 210 with emphasis on partnership and corporate structures, management decision-making, cost control, and other selected topics. Prerequisites: ACCT 210.

ACCT 310 - Intermediate Accounting I (COM) Credits: 3
Involves the intensive study of financial accounting standards, both in theory and practice, as they relate to the preparation and analysis of financial statements. Accounting problems and their impact on the financial statements are addressed in regard to current assets, fixed assets, intangible assets, liabilities, and other selected topics. Prerequisites: ACCT 211.

ACCT 311 - Intermediate Accounting II (COM) Credits: 3
Provides an intensive study of accounting standards, both in theory and practice, as they relate to the preparation and analysis of financial statements.
Accounting problems and their impact on the financial statements are addressed in regard to liabilities, investments, stockholders' equity, leases, pensions, tax allocation and other selected topics. Prerequisites: ACCT 310 or instructor consent.

**ACCT 320 - Cost Accounting (COM) Credits: 3**
The study of principles and techniques for accumulating, reporting, and analyzing cost information for decision-making and external reporting. The use of cost accounting systems for planning and controlling cost responsibility centers is emphasized. Consideration is given to the appropriate use of various cost accounting methods such as activity-based costing, target costing, and just in time management techniques in service and manufacturing industries. Prerequisites: ACCT 211.

**ACCT 340 - 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 Credits: 3**
ACCT 491 - Independent Study Credits: 1-4
ACCT 492-592 - Topics Credits: 1-4
ACCT 494 - Internship Credits: 1-12

**ADV (Advertising)**

**ADV 243 - Public Relations Principles 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.

**ADV 314 - Sales, Promotion and Marketing Credits: 3**
Promotion, sales, advertising, circulation, practices and theories of marketing in advertising and graphic arts.

**ADV 343 - Strategies - Public Relations Credits: 3**
Problem-solving strategies and principles of message design for developing public relations campaigns. Students will explore ways to create strategy-driven public relations plans that enable organizations to reach specific audiences with both traditional and new media. Prerequisites: ADV 243.

**ADV 370 - Advertising Principles Credits: 3**
Study of advertising as an institution. Discussion of historical foundations, economics, social consequences, structure, planning, execution and evaluation phases of the advertising process. Discussion of advertising as it relates to other types of marketing communication.

**ADV 371-371L - Advertising Copy and Layout & Studio (AW) 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. Corequisites: ADV 371L-371.

**ADV 372-372L - Advertising Media Strategies and Lab Credits: 3**

**ADV 411-411L - Media Analytics and Studio Credits: 3**
Students will gain an understanding of industry trends, terminology, planning, and measurement models related to traditional, social and emerging media environments. The studio provides hands-on application of media analytic principles. Corequisites: ADV 411L-411.

**ADV 442-442L - Integrated Marketing Communication and Campaigns Studio Credits: 3**
The capstone course of the advertising sequence. Use case study method and develop complete integrated communication plan for client. Make formal advertising campaign presentation. Hands-on application of integrated marketing communication campaigns. Corequisites: ADV 442L-442.

**ADV 472 - Media Research and Planning Credits: 3**
This course develops the ability to conduct and analyze advertising and media research, and to prepare and execute a comprehensive consumer or audience plan.

**ADV 476 - International and Ethnic Advertising (G) Credits: 3**
This course develops an understanding of international and ethnic advertising and marketing. Students gain experience in marketing decisions that reflect an understanding of intercultural and international markets and explore the social and ethical issues in such marketing.

**ADV 489 - Portfolio Production & Design Credits: 1-3**
Planning, creation, and production of portfolios for a variety of purposes.

**ADV 492 - Topics Credits: 1-5**

**ADV 676 - International and Ethnic Advertising Credits: 3**

**AGEC (Agricultural and Resource Economics)**

**AGEC 271-271L - Farm and Ranch Management and Lab Credits: 4**
Farm or ranch business from the viewpoint of sustainable profit and efficiency. Application of business and economic principles to a portfolio of enterprises, scale of production, size of business, capital investments, and efficiency. Business planning, including records and data management and financial analysis for current and future operations. Prerequisites: One course from MATH except 021, 095, 101, 100T. Corequisites: AGEC 271L-271.

**AGEC 292 - Topics Credits: 1-4**

**AGEC 320 - Ethics in agribusiness Credits: 3**
Introduction to ethical theories and frameworks used to discuss general ethical questions such as death, theft, and lying, followed by more specific agribusiness issues. Includes marketing claims, unhealthy foods, the development of genetically-modified organisms, controversy over hiring undocumented workers, and the consolidation of agriculture into industrial production facilities.

**AGEC 350 - 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.

**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. Prerequisites: BADM 350, junior standing.

**AGEC 354 - Agricultural Marketing and Prices Credits: 3**
Principal factors which affect supply, demand, and price determination within the food system. Evaluation of alternative marketing strategies, including the use of different price discovery mechanisms such as futures and options. Structure and organization of markets and food marketing channels. Prerequisites: ECON 201 or ECON 202.

**AGEC 356 - Equine Law Credits: 3**
Topics include forms of equine business organization, employer requirements, taxes, debt collection, contracts, liability of horsemen, animal abuse and neglect, laws governing horse transport, estate planning, and insurance considerations.

**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.

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.

AGEC 371 - Agricultural Business Management Credits: 3
This course applies core economic and business principles to the management of agribusiness firms. Students will develop a fundamental understanding of the key ideas and concepts needed to successfully manage businesses that specialize in adding value to farm products through services and/or provide inputs to production agriculture. Key concepts include strategic planning, organizational structure, leadership, market analysis, marketing and pricing strategies, and control processes.

AGEC 372 - Introduction to Resource and Environmental Economics Credits: 3
Introduction to environmental economics. The course surveys environmental issues such as pollution and carbon emissions. Cost-benefit analysis of the cleanup of environmental problems is introduced as are net present value metrics. Cross-Listed: ECON 372.

AGEC 421-521 - Farming and Food Systems Economics Credits: 3
Use of economic concepts in analyzing farming and food system alternatives. Using multidisciplinary approach, the course examines the critical linkages in the food system and engages in problem solving at each step of the process. Prerequisites: Senior standing, AGEC 271 or ECON 201.

AGEC 430-530 - Advanced Agricultural Marketing and Prices Credits: 3
Economic theory and quantitative techniques used in analysis of agricultural market problems, construction of economic models, statistical estimates of supply and demand, and price forecasting. Prerequisites: AGEC 354 and STAT 281 or consent.

AGEC 454 - Economics of Grain and Livestock Marketing Credits: 3
Market structure issues related to grain and livestock markets in the US. Fundamental factors affecting agricultural markets. Impacts of national and international economic factors on the performance of US and world grain and livestock markets. Marketing management alternatives for producers, processors, and downstream supply chain participants. Prerequisites: AGEC 354.

AGEC 471-571 - Advanced Farm & Ranch Management Credits: 3
Leasing arrangements, capital investment, computerized accounting and budgeting. Linear programming as a tool for planning and organizing the farm business. Prerequisites: Senior standing, AGEC 271, ECON 301, or consent.

AGEC 473-473L - Rural Real Estate Appraisal and Lab Credits: 3
Principles and practices of rural real estate appraisal. Principles of soils valuation and their application for farmland appraisal. Cost, market data and income approaches to farmland and building appraisal. Tax, loan and other specialized rural appraisal procedures. Half-day field trips to area farms are required. Prerequisites: AGEC 271 or PS 213. Corequisites: AGEC 473L or 473L. Cross-Listed: PS 473-473L.

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.
AGED 488 - 7-12 Student Teaching in AGED Credits: 6
An experiential application of teaching pedagogy and content in agricultural education under the supervision of a certified teacher in an approved program. Prerequisites: Senior standing and successful completion of all PS I, PSII and all other pedagogy courses. An application for the experience must be completed and approved.

AGED 491 - Independent Study Credits: 1-3
AGED 494 - Internship Credits: 1-12
AGED 690 - Seminar Credits: 1-2
AGED 788 - Research Problems in Agricultural Education Credits: 1-2

AHED (Adult Higher Education)

AHED 490 - Seminar for Residential Assistants Credits: 1-3
To develop and provide the necessary skills for Resident Assistants to handle a variety of diverse responsibilities. RAs assist residents in developing and maintaining an active, cooperative, and student-conducive atmosphere in the residence halls. Resident Assistants also serve as campus resource links between students and other University services.

AHED 691 - Independent Study Credits: 1-3
AHED 693 - Workshop Credits: 1-3
AHED 711 - Assessment and Program Design Credits: 3
AHED 720 - Principles of Post Secondary Education Credits: 3
AHED 755 - Principles of College Teaching Credits: 3
AHED 772 - Administration and Leadership in Student Affairs Credits: 3
AHED 788 - Research Problems in Adult Education Credits: 1-2
AHED 790 - Seminar Credits: 1-3
AHED 794 - Internship Credits: 1-6

AIR (Aerospace Studies)

AIR 101-101L - The Foundations of the US Air Force and Lab Credits: 1
Professional appearance, customs and courtesies, officer/civilian values, basic communication, officer opportunities/benefits, and Air Force installations. Corequisites: AIR 101L-101.

AIR 102-102L - The Foundations of the US Air Force and Lab Credits: 1

AIR 201-201L - The Evolution of USAF Air and Space Power and Lab Credits: 1
Air Power from balloons and dirigibles through 1947; Air Force mission, concepts, doctrine and use of air power. Corequisites: AIR 201L-201.

AIR 202-202L - The Evolution of USAF Air and Space Power and Lab Credits: 1

AIR 301-301L - Air Force Leadership Studies and Lab Credits: 3
Individual motivational and behavioral processes; leadership and group dynamics provide a foundation for development of professional skills as an Air Force officer-includes speaking and writing as they apply to the Air Force. Air Force quality concepts and techniques. Corequisites: AIR 301L-301.

AIR 302-302L - Air Force Leadership Studies and Lab Credits: 3
Basic management processes of planning organizing, decision-making, controlling and use of analytical aids. The manager's world of power, politics, strategy, tactics and value conflicts discussed within the context of the military organization. Corequisites: AIR 302L-302.

AIR 401-401L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3

AIR 402-402L - National Security Affairs/Preparation for Active Duty and Lab Credits: 3
AIS 400 - Education and Native Peoples Credits: 3
This course will examine issues pertaining to the development of an appropriate educational system for Native Peoples, including Native control of education, Native-based learning theories, the role of culture, values and identity, teaching and learning styles, pedagogy and curriculum planning.

AIS 421 - Indians of North America ** Credits: 3
Provides prospective teachers and those interested in Indian people with a basic knowledge of Indian heritage and culture. Emphasis on the Dakota Indians. Prerequisites: Junior, senior, or graduate student status or Instructor's written permission. Cross-Listed: ANTH 421-521. Notes: This course fulfills teacher education certification requirement for S.D. Indian Studies. ** Course meets IGR #2.

AIS 445 - American Indian Literature Credits: 3
Concentration of myths and legends of major language groups, particularly the Sioux. Cross-Listed: ENGL 445.

AIS 447 - American Indian Literature of Present Credits: 3
Twentieth-century autobiography, fiction, and poetry by Native American authors. Cross-Listed: ENGL 447.

AIS 462 - Formation of Federal Indian Policy Credits: 3
This course will examine the development of U.S. policies on American Indian/Alaska Native peoples. Topics will include the legal and theological underpinnings of federal Indian policy, constitutional arguments for Congressional control of Indian affairs, treaty-making, allotment, termination, the Reorganization Act, and self-determination. The course will conclude with an examination of current federal policies on such issues as Indian gaming and child welfare.

AIS 467 - Geography of the American Indian Credits: 3
Study of the geography of the American Indians under three primary topics: loss of Indian lands; development of the Indian reservation system; historical and contemporary land issues. Prerequisites: HIST 368 or ANTH 421 or GEOG 219.

AIS 490 - Seminar (AW) Credits: 3
AIS 491 - Independent Study Credits: 1-3
AIS 492 - Topics Credits: 1-3
AIS 496 - Field Experience Credits: 1-12

AM (Apparel Merchandising)

AM 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.

AM 231-231L - Ready-To-Wear Analysis and Lab Credits: 3

AM 242-242L - Textiles I and Lab Credits: 3
An investigation of fiber, yarn, fabrication, finishes and their interrelationship to specific end use and consumer satisfaction. Prerequisites: Sophomore standing. Corequisites: AM 242L-242.

AM 253 - Socio-Psychological Aspects of Dress Credits: 3
Examination of clothing behavior from sociological, psychological and cultural perspectives. Cross-Listed: WMST 253.

AM 274-274L - Fashion Promotion and Lab Credits: 3
Principles in the promotion of merchandise to varied consumer groups by all segments of the fashion industry. Study of the techniques used for fashion promotion. Experience in planning, execution, installation and evaluation of advertisements, displays, and special events. Corequisites: AM 274L-274.

AM 282 - Customer Service Credits: 2
Examination of customer service as a tool for business to develop positive interactions with current and potential customers. Discussion of customer service as an integral tool in customer relationship management. Cross-Listed: CS 282.

AM 292 - Topics Credits: 1-3
AM 315-315L - Apparel Design and Lab Credits: 3
Course develops aesthetic judgment and design literacy of students. Fashion design for various levels of the industry including protective and functional clothing markets are studied. Prerequisites: AM 172. Corequisites: AM 315L-315.

AM 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.

AM 361-361L - Aesthetics and Lab Credits: 3
The study of aesthetics as it adds pleasure to our surroundings. Investigation of event design, store design, and product design that offer a multidimensional and unified brand experience. Applications of the elements and principles of design to a wide range of disciplines. Laboratory course to accompany AM 361. Corequisites: AM 361L-361.

AM 372-372L - Trending and Buying and Lab Credits: 3

AM 381 - Professional Behavior at Work Credits: 3
Social skills and professional conduct in a global workplace. Emphasis will be on interpersonal communication and cross-cultural interactions appropriate in the work environment. Cross-Listed: CS 381.

AM 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.

AM 472-472L - Merchandising and Lab Credits: 3

AM 473-473L - Global Sourcing and Lab (AW) Credits: 3
Examine the process of globalization within the fiber, textile, apparel and retail (FTAR) complex. Analyze size, scope and components. Consider the role politics and social responsibilities have within global trading regions and the FTAR complex. Develop computer skills in sourcing. Prerequisites: AM 372-372L. Corequisites: AM 473L-473.

AM 477 - Current Issues in the Workplace Credits: 1
Discussion of professional practices and current issues in the workplace.

AM 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.

AM 490 - Seminar Credits: 3
Prerequisites: AM 495.

AM 491 - Independent Study Credits: 1-3
AM 492 - Topics Credits: 1-3
AM 495 - Practicum Credits: 3
Prerequisites: CS 377 and AM 477.
ANAT (Anatomy)

ANAT 142 – Anatomy 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) 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 220 - Physical Anthropology * (COM) Credits: 3
Focuses upon the interactive process between human biology and human culture, drawing relationships among such concepts as human evolution, human heredity, human biological diversity, and biological micro-adaptations. Notes: * Course meets SGR #3.

ANTH 421-521 - Indians of North America ** (COM) Credits: 3
Provides prospective teachers and those interested in Indian people with a basic knowledge of Indian heritage and culture. Emphasis on the Dakota Indians. Prerequisites: Junior, senior, or graduate student status or Instructor's written permission. Cross-Listed: AIS 421. Notes: This course fulfills teacher education certification requirement for S.D. Indian Studies. ** Course meets SGR #3.

ARCH 152 - Design Practice II Credits: 2
Continues introducing 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 153 - Building History I *(G) Credits: 3
Studying architecture through the frame of history emphasizing buildings as artifacts of the technological processes of construction. Buildings from across diverse societies and geographies are put into historical context in categories of carving, stacking, framing, skinning, and casting space. Notes: * Course meets SGR #4.

ARCH 242 - Building History II Credits: 2
Studying architecture through the frame of history emphasizing building as a professional and disciplinary practice. The course focuses on historical study of the genesis of the profession across time and cultures in Renaissance and Baroque Italy (1350-1650).

ARCH 251 - Design Practice III Credits: 4
Continuation of first year Design Practice studios. Students continue to learn drawing and modeling techniques and refine craft. Students begin to examine components in building design and construction systems for structures. Prerequisites: ARCH 152.

ARCH 252 - Design Practice IV Credits: 4
Students look in-depth at building components and assemblies. Work will focus on component design and construction types. Students will begin to analyze building materials and related assembled. Prerequisites: ARCH 251.

ARCH 321 - Drawing, Modeling, & Notation Credits: 2
Introduction to electronic building information modeling and notational drawing in raster and vector technologies. Prerequisites: ARCH 351.

ARCH 331 - Building Shop I Credits: 2
An introduction to craftsmanship, assembly, and fabrication through hands-on demonstrations and projects. Prerequisites: ARCH 252, MNET 231-231L or written consent.

ARCH 332 - Building Shop II Credits: 2
Continuation of ARCH 331 workshop studies in craftsmanship, assembly, and fabrication through hands-on demonstrations and projects. Prerequisites: MNET 231-231L or written consent.

ARCH 341 - Building History III (AW) Credits: 2
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 are put into historical context as cultural, socio-political, and corporate artifacts of the profession. Prerequisites: ARCH 241 and ARCH 242.

ARCH 351 - Collaboration Studio Credits: 5
Students design a simple but comprehensive in-fill building project emphasizing construction and spatial sequence while introducing foundational issues of place-making and city form in architectural production. Prerequisites: ARCH 252.

ARCH 352 - Architecture Studio I Credits: 5
Building design studio focusing on institutional program projects in masonry construction situated in a landscape or rural site. Prerequisites: ARCH 351.

ARCH 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 441 - Site, Environment, Urbanism & Public Space Credits: 2
Lecture and field work in urban design principles, environmental responsibilities, architect's role in the sustenance of public space in the implementation of design technologies. Prerequisites: ARCH 341.
ART (Art)

ART 100 - Portfolio Review Jury on Student Progress Credits: 0.5
The faculty jury will assess how the student meets the standard of progress in the department, awarding a satisfactory (S) or unsatisfactory (U), which is not calculated into a student's GPA. The student must register in the course after completing 15 hours of coursework in the Visual Arts Core (ART 111, ART 112, ART 121, ART 122, ART 123 and ART 100). This course for sophomore-level majors must be completed before advancing to the Junior level of coursework in the student's major. The course will be offered every semester. Prerequisites: ART 110.

ART 201 - 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. Notes: ** Course meets IGR #2.

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 instructor's consent. Notes: ** Course meets IGR #2.

ART 231 - Painting II (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. Notes: ** Course meets IGR #2.

ART 231 - Painting III (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. Notes: ** Course meets IGR #2.

ART 231 - Painting IV (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 232 - Painting-Intermediate Level Credits: 3
Continuation of Painting II. Emphasis on composition and expression. Prerequisites: ART 331.

ART 233 - Advanced Figurative Drawing 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 222 and ART 211. Notes: Course can be repeated for additional credit.

ART 235 - 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. Notes: ** Course meets IGR #2.

ART 237 - 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. Notes: ** Course meets IGR #2.

ART 237 - Sculpture II (COM) Credits: 3
Continues Sculpture I as students explore individual concepts through various techniques and materials. Prerequisites: ART 241.

ART 238 - Sculpture III (COM) Credits: 3
Continues Sculpture II as students further explore individual concepts through various techniques and materials. Prerequisites: ART 341.

ART 239 - 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 240 - Ceramics-Intermediate Level 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 251 (minimum grade of "C") or instructor consent.

ART 120 - Topics Credits: 3
ART 120 - Portfolio Review Jury on Student Progress Credits: 0.5
The faculty jury will assess how the student meets the standard of progress in the department, awarding a satisfactory (S) or unsatisfactory (U), which is not calculated into a student's GPA. The student must register in the course after completing 15 hours of coursework in the Visual Arts Core (ART 111, ART 112, ART 121, ART 122, ART 123 and ART 100). This course for sophomore-level majors must be completed before advancing to the Junior level of coursework in the student's major. The course will be offered every semester. Prerequisites: ART 110.

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. Notes: ** Course meets IGR #2.
ART 381 - Printmaking II (COM) Credits: 3
Continues Printmaking I as students further individualized their application of printing processes and media. Prerequisites: ART 381 or instructor consent.

ART 382 - Printmaking-Intermediate Level Credits: 3
Continuation of Printmaking II. Creative use of advanced printmaking techniques and processes in relief, intaglio, and serigraphy. Prerequisites: ART 381.

ART 400 - Senior Review Credits: 0.5
A course for seniors in the department. Students must register, attend, and complete the Senior Review in order to graduate with a degree in Visual Arts or Graphic Design. The faculty will assess how the student's portfolio or exhibition meets the standards of the department major; and they will award either a satisfactory (S) or unsatisfactory (U) which is not calculated into the student's GPA. The review must be repeated until it is satisfactorily completed before graduation in the department major. Prerequisites: ART 200 and senior standing in the major.

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 441 - Sculpture-Advanced Credits: 3-9
Continuation of Sculpture III. Advanced exploration of sculpture concepts. Prerequisites: ART 342. Notes: Repeatable up to 9 hours.

ART 451 - Ceramics-Advanced Credits: 3-9
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 481 - Printmaking-Advanced Credits: 3-9
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 491 - Independent Study Credits: 1-12
ART 492-592 - Topics Credits: 1-9
ART 494 - Internship Credits: 1-16

ARTD (Art Design)

ARTD 201 - Graphic Design I Credits: 3
An introduction to graphic design stressing theory and creative development.

ARTD 202 - Computer Graphics I Credits: 3
A non-programming introduction to drawing, photo-imaging and page layout design software emphasizing computer-generated design projects.

ARTD 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, pixelation, image capture and editing. Corequisites: ART 111.

ARTD 301 - Graphic Design II Credits: 3
An introduction to typographic theory and practice for graphic designers. Emphasis on historical and contemporary typographic usage; hand and computer-generated projects. Recommend concurrent enrollment in ARTD 302. Prerequisites: ARTD 201.

ARTD 302 - Computer Graphics II Credits: 3
A non-programming intermediate computer graphics course focusing on digital-imaging and page-layout applications for graphic designers. Recommend concurrent enrollment in ARTD 301. Prerequisites: ARTD 201 and ARTD 202.

ARTD 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: ARTD 203 or equivalent, ART 112 or concurrent enrollment.

ARTD 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.

ARTD 351 - Visual Communication I Credits: 3
An intermediate Visual Communication course emphasizing theory and practice that explores graphic design and digital prepress. Prerequisites: ARTD 301 and ARTD 302. Corequisites: ARTD 351.

ARTD 352 - Design Media I Credits: 3
Introduction to animation and web applications. Prerequisites: ARTD 301 and ARTD 302. Corequisites: ARTD 351.

ARTD 403 - Intermediate Animation Credits: 3
The studio course develops and expands practice 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: ARTD 303, ART 112, ART 122 and ART 211. Notes: Course can be repeated for additional credit.

ARTD 451 - Visual Communication II: Senior Portfolio Credits: 3

ARTD 452 - Design Media II Credits: 3
A continuation of Design Media I with emphasis on completed multimedia and web page projects as portfolio works. Prerequisites: ARTD 351 and ARTD 352. Corequisites: ARTD 451.

ARTE (Art Education)

ARTE 414 - K-12 Art Methods (COM) Credits: 2-3
Students develop an understanding of the tools of inquiry of K-12 art; the ability to design, deliver and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to K-12 art; the ability to assess student learning in K-12 art; and to apply this knowledge, skills, and attitudes to real life situations and experiences.

ARTE 491-591 - Independent Study Credits: 1-3

ARTH (Art History)

ARTH 100 - Art Appreciation * ** (COM) 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 or ** IGR #2.

ARTH 120 - Film as Art * Credits: 3
This lecture course introduces and explores concepts of the moving image as an art form. Aspects explored include compositional visual and design elements, film history and narrative elements, and alternatives to mainstream media. Notes: * Course meets SGR #4.

ARTH 211 - History of World Art I * ** (COM) 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 or ** IGR #2.

ARTH 212 - History of World Art II * ** (COM) 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 or ** IGR #2.

ARTH 310 - History of United States Art and Architecture (AW) Credits: 3
From colonial times to present. Prerequisites: ARTH 212.

ARTH 320 - Modern Art and Architecture Survey (AW) (G) 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 (AW) Credits: 1-3
ARTH 492 - Topics Credits: 1-6

AS (Animal Science)

AS 101-101L - Introduction to Animal Science and Lab Credits: 3
Adaptation, breeding, feeding, marketing, behavior, classification, growth, genetics, reproduction and animal health as they apply to farm animals. Corequisites: AS 101L-101.

AS 104-104L - Introduction to Horse Management and Lab 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. Laboratory sessions will include involvement with the SDSU Horse Unit's activities and field trips to nearby facilities. Corequisites: AS 104L-104.

AS 105-105L - Western Horsemanship and Lab Credits: 1
Breeds of horses, gaiting, grooming, equipment, diets; basic instruction with suitable equipment. Corequisites: AS 105L-105.

AS 106-106L - English Horsemanship and Lab Credits: 1
Breeds of horses, gaiting, grooming, equipment, diets; basic instruction with suitable equipment. Corequisites: AS 106L-106.

AS 109 - First Year Seminar ** Credits: 2
First-year experience course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Notes: ** Course meets IGR #1.

AS 110 - Equine Yearling Halter Training Credits: 1
Practicum in techniques and strategies for handling and training a yearling horse. Students will learn the behavior of young horses and the appropriate steps necessary to teach a young horse to accept a halter and grooming, to lead properly, stand to be tied, load into a trailer and begin ground training for the future saddle-breaking process. Prerequisites: AS 104.

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.

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.

AS 201L - Advanced Swine Science Lab Credits: 1
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.

AS 203L - Basic Swine Science Lab Credits: 1
Basic application of concepts presented in basic swine science course. Including: artificial insemination; handling; semen collection; health and biosecurity; financial analysis; pig flow; buildings and ventilation; and feed management.

AS 210 - Equine Two-Year-Old Saddle Training Credits: 2
Practicum on proper progression and safety of teaching a horse to accept a saddle, rider, bridle restraint and reining principles. Prerequisites: AS 104 and AS 110.

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. Corequisites: AS 213L-213.

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.

AS 220 - Equine Nutrition Credits: 3
Basic principles in equine nutrition focusing on how to best feed the horse to meet its nutritional needs. Topics include the gastrointestinal tract, nutrient requirements, common feedstuffs, diet selection and evaluation, assessment of nutritional status, nutritional imbalances and toxicities. Prerequisites: AS 104.

AS 233-233L - Applied Animal Nutrition and Lab Credits: 4
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 101 and DS 150. Corequisites: AS 233L-233.

AS 241-241L - Introduction to Meat Science and Lab Credits: 3

AS 285-285L - Livestock Evaluation and Marketing and Lab Credits: 4

AS 291 - Independent Study Credits: 1-12

AS 301L - Advanced Swine Science Lab Credits: 1
Advanced application of concepts associated with swine production. Including: semen processing; troubleshooting production efficiency; risk management; marketing; buildings and ventilation; and on farm euthanasia and carcass disposal. Prerequisites: AS 202 and AS 203L.

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.

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.

**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.

**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.

**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.

**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.

**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.

**AS 309 - Swine Business and Records Analysis Credits: 1**
Evaluation of swine operations using farm and enterprise records, budgeting, and financial analysis and benchmarks.

**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.

**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.

**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.

**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.

**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.

**AS 315 - Controversial 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.

**AS 322 - Advanced Livestock Evaluation Credits: 2**
Advanced study of live and carcass evaluation of market animals. Type studies and selection for improvement in beef, sheep, and swine. Prerequisites: AS 200 and AS 285.

**AS 323 - Advanced Animal Nutrition Credits: 3**
Functions of various nutrients; digestion and metabolism of nutrients by different animal species. Prerequisites: AS 233.

**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; and either BIOL 101 or BIOL 135.

**AS 345-345L - Value-Added Meat Products and Lab Credits: 3**
Study the science, art, and economics of processed meats. Investigate methods to add value to meat and meat products, including hands-on processing, new product development, and industry tours. Prerequisites: AS 241. Corequisites: AS 345L-345.

**AS 350 - 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.

**AS 365-365L - Horse Production and Lab Credits: 3**
Feeding, breeding and management principles for horses. Prerequisites: AS 101 or AS 104. Corequisites: AS 365L-365.

**AS 370 - Stable Management Credits: 2**
This course will address skills needed to manage an equine facility for training, boarding, or reproductive purposes. Topics to include basic business concepts, such as advertising, contracts, and liability, facility design and maintenance, and practical equine skills pertaining to this type of enterprise. Prerequisites: AS 104 and AS 105.

**AS 400 - Judging Team Credits: 1-2**
SECTION 1-MEATS Identifying, judging and grading carcasses and cuts; training in writing reasons; participation in collegiate 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.

**AS 420-420L - Equine Reproductive Management and Lab Credits: 3**
Study of the reproductive systems of the mare and stallion, including detailed anatomy and physiology, and behavior of each gender. Practicums at the SDSU Horse Unit include foaling procedures, stallion handling and semen evaluation, mare handling, breeding preparation, cycle monitoring and other advanced reproductive techniques. Prerequisites: AS 220 or AS 365. Corequisites: AS 420L-420.

**AS 433-433L - Livestock Reproduction and Lab Credits: 3**

**AS 441-541 - Advanced Meat Science Credits: 3**
In-depth study of muscle anatomy and physiology, postmortem metabolism, rigor mortis, meat proteins, meat quality, and meat tenderness. Prerequisites: AS 241.

**AS 449-549 - Equine Issues and Leadership Credits: 3**
Students will be faced with professional development, service, and tackling major issues within the equine industry. A heavy emphasis on detail, fact finding, writing, and public speaking will prepare these students to serve as future leaders in our industry.

**AS 463-563 - Agricultural Waste Management Credits: 3**
Understand agricultural or biological wastes. Develop an understanding of 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. Cross-Listed: AST 463-563.
AST 474-474L - Cow/Calf Management and Lab Credits: 3
Feeding, breeding and management principles of beef cattle production under farm and ranch conditions. Prerequisites: AS 101 and AS 233. Corequisites: AS 474L-474.

AST 475 - Feedlot Operations and Management Credits: 3
Management principles of feedlot productions. Student participation in management techniques of feedlot operations. Feeding, health and personnel management issues will be discussed. Prerequisites: AS 233.

AST 477-477L - Sheep and Wool Production and Lab Credits: 3

AST 487-487L - Swine Production and Lab Credits: 3

AST 491-591 - Independent Study Credits: 1-3
Senior capstone course requiring students to conduct independent research of the scientific literature on a current issue in the animal and/or range field, formulate a position based upon the current science, and communicate this position via written and oral presentations.

AST 492-592 - Topics Credits: 1-6
AST 494 - Internship Credits: 1-12
AST 711 - Ruminology Credits: 3
AST 712 - Ruminant Nutrition Credits: 3
AST 720 - Advanced Selection of Domestic Animals Credits: 3
AST 730 - Endocrinology Credits: 3
AST 732 - Advanced Physiology of Reproduction Credits: 3
AST 733 - Vitamins and Minerals Credits: 3
AST 734 - Protein and Energy Nutrition Credits: 3
AST 736 - Monogastric Nutrition Credits: 3
AST 740 - Metabolism Credits: 3
AST 750 - Animal Growth and Development Credits: 3
AST 753 - Research Techniques in Meat Science Credits: 3
AST 790 - Seminar Credits: 1
AST 798 - Thesis Credits: 1-7
AST 898D - Dissertation-PhD Credits: 1-12

**AST (Agricultural Systems Technology)**

AST 109 - 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. Notes: ** Course meets IGR #1.

AST 202-202L - Construction Technology and Materials and Lab Credits: 2
Wood and concrete building materials; efficient construction procedures; hand tools, portable and stationary power tools; safe working practices. Corequisites: AST 202L-202.

AST 203-203L - Introduction to Precision Agriculture & Lab 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: AST 203L-203.

AST 211-211L - Ag and Outdoor Power for Teachers and Lab Credits: 1
This course is designed for students majoring in Agricultural Education, Communication and Leadership. Students will obtain a general working knowledge of spark ignition and compression ignition engines. Laboratory to accompany AST 211. Corequisites: AST 211L-211. Notes: Credit not allowed for both AST 211-211L and AST 213-213L.

AST 213-213L - Ag, Industrial and Outdoor Power and Lab Credits: 3
Operation and maintenance of large and small spark ignition engines and diesel engines. Propulsion of tractors with respect to: horsepower, fuel efficiency, safety, cost of operation, traction and power train type will be covered. Corequisites: AST 213L-213.

AST 273-273L - Microcomputer Applications in Agriculture and Lab Credits: 3

AST 303-303L - Design Management Experience and Lab Credits: 3
Collaboration on designs with Agricultural and Biosystems Engineering students. Develop design ideas and assist in the evaluation, construction and testing of designs. The students will have responsibility for managing the design projects. Prerequisites: GE 121 and GE 123. Corequisites: AST 303L-303.

AST 304-304L - Electrical Diagnostics for Farm Machinery and Lab Credits: 3
This course is designed to help students understand basic electricity, electronics, and electrical machines as applied in agricultural systems. Topics covered include Ohm's law and Kirchhoff's law, AC and DC circuits, servicing agricultural electronic systems, troubleshooting techniques and procedures, schematic interpretation, measurement techniques, common sensors and control systems for agricultural equipment, and CANbus communication.

AST 311-311L - Applied Electricity for Teachers and Lab Credits: 1
Basic wiring and electrical circuits. National Electric Code covering residential and farm applications. Laboratory course to accompany AST 311. Corequisites: AST 311L-311. Notes: Credit not allowed for both AST 311-311L and AST 342-342L.

AST 313-313L - Farm Machinery Systems Management and Lab Credits: 3
Farm machine selection and operation (including power requirements) tillage, spraying, planting, harvesting, storage, and ergonomics. Prerequisites: PHYS 101 or PHYS 111. Corequisites: AST 313L-313.

AST 333-333L - Soil and Water Mechanics and Lab Credits: 3
Engineering phases of soil and water conservation; elementary measurements and surveying and application to field problems; design and layout of conservation, drainage and irrigation practices. Corequisites: AST 333L-333.

AST 342-342L - Applied Electricity and Lab Credits: 3

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 412-412L - Fluid Power Technology and Lab Credits: 3

AST 423-423L - Rural Structures and Lab Credits: 3

AST 426-426L - Emerging Technologies in Agriculture & Lab Credits: 3
Application of recently introduced technology to agricultural production. The Global Positioning System, plus sensors for yield, quality, soil and crop properties as applied to crop production. GIS and remote sensing fundamentals for use in agriculture. Controls for variable rate application and automatic control, with communications networks for off-road equipment.
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 102 or MATH 115 or MATH 121 or MATH 122. Corequisites: AST 434L-434.

Characteristics of uniform and efficient irrigation systems. Estimating cost of operation as applied to materials, handling, storing, preserving, packaging and processing agricultural products. Corequisites: AST 443L-443.

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. Cross-listed: AS 463-563.

AST 491 - Independent Study Credits: 1-3
AST 492 - Topics Credits: 1-4
AST 492L - Topics Lab Credits: 0
AST 494 - Internship Credits: 1-12
AST 496 - Field Experience Credits: 1-12
AST 497 - Cooperative Education Credits: 1-12
AST 498 - Undergraduate Research/Scholarship Credits: 1-3
AST 791 - Independent Study Credits: 1-3

AT (Athletic Training)

AT 164 - Introduction to Athletic Training (COM) Credits: 2
A basic introductory course designed to acquaint students interested in athletic training with all aspects of the profession.

AT 371 - Athletic Training Clinical Experience I Credits: 2
Clinical application of course presented in AT 454. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to each area taught in AT 454 and according to the requirements established by the National Athletic Trainers' Association. Prerequisites: Major in Athletic Training. Corequisites: AT 454.

AT 372 - Athletic Training Clinical Experience II Credits: 2
Clinical application of course content presented in AT 456. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to athletic injury assessment and according to the requirements established by the National Athletic Trainers' Association. Prerequisites: Major in Athletic Training. Corequisites: AT 456.

AT 373 - Athletic Training Clinical Experience III Credits: 2
Clinical application of course content presented in AT 474. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to athletic rehabilitation according to the requirements established by the National Athletic Trainers' Association. Prerequisites: Major in Athletic Training. Corequisites: AT 474.

AT 374 - Athletic Training Clinical Experience IV Credits: 2
Clinical application of course content presented in AT 464. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to therapeutic modalities and according to the requirements established by the National Athletic Trainers' Association. Prerequisites: Major in Athletic Training. Corequisites: AT 464.

AT 441-441L/541-541L - Athletic Training Techniques I and Lab Credits: 3
This course is designed to meet outcomes and guidelines set forth by the Education Council of the National Athletic Trainers' Association related to therapeutic interventions. The second course in a 3-semester sequence, it is designed to have the student develop a basic understanding of the theory and application of therapeutic interventions including modalities and exercise in the treatment of the injured patient. The class will be taught through lectures and demonstrations. Prerequisites: Major in Athletic Training. Corequisites: AT 374.

AT 442-542 - Athletic Training Techniques II Credits: 3
This course is the second of the intermediate athletic training courses designed to meet all of the guidelines and competencies required by the National Athletic Trainers' Association. Content includes techniques related to the prevention, recognition, and management of athletic injuries to the upper and lower extremities. Related topics include pre-season screening, pre-participation physicals, and appropriate weight training techniques. Prerequisites: AT 441; Major in Athletic Training.

AT 443-543/443L-543L - Athletic Training Techniques III and Lab Credits: 3
This course is the third of the intermediate athletic training courses designed to meet all of the guidelines and competencies required by the National Athletic Trainers' Association. These courses should be taken in sequence. AT 443 includes a combination of material. One section of the class is devoted to the prevention, recognition, and management of athletic injuries relative to head, face, throat, abdomen, and thorax. The remainder of the class includes material in regards to evaluation and care of general illnesses and dermatological disorders common to athletics, understanding the role of pharmaceuticals in athletics-both legal and banned substances, drug testing procedures, special issues related to women in athletics, and the athletic trainer's role in counseling athletes. This lab is designed to meet outcomes and guidelines set forth by the Education Council of the National Athletic Trainers' Association related to prevention, evaluation and management of medical conditions and disabilities incurred by individuals involved in physical activity or sport. Students will obtain the knowledge, skill and clinical decision making to accurately assess and recognize general medical conditions (both acute and chronic), make appropriate referrals and work as part of a coordinated health care team to implement plans which allow individuals with medical conditions to participate safely in physical activity and sport. Prerequisites: Major in Athletic Training. Corequisites: AT 443L-443L/543L-543.

AT 444-544 - Athletic Training Techniques IV Credits: 2
This course is designed to cover the athletic training competencies in organization and administration. It will cover knowledge, skills and values that an athletic trainer must possess to develop, administer, and manage a health care facility and associated venues that provide health care to athletics and others involved in physical activity. Prerequisites: Major in Athletic Training.

AT 454-554 - Athletic Injury Assessment-Lower Extremity Credits: 2
This course is designed to have the athletic training student develop a sound understanding of the assessment of athletic related injuries and conditions occurring to the lower extremities. The course will incorporate anatomy of the lower extremity, the athletic related injuries or conditions which may occur, and evaluation techniques used to assess this area of the body. Prerequisites: Major in Athletic Training. Corequisites: AT 371.

AT 456-556 - Athletic Injury Assessment-Upper Extremity Credits: 2
This course is designed to have the athletic training student develop a sound understanding of the assessment of athletic related injuries and conditions occurring to the upper extremities. The course will incorporate anatomy of the upper extremity, the athletic related injuries or conditions which may occur, and evaluation techniques used to assess this area of the body. Prerequisites: Major in Athletic Training. Corequisites: AT 372.

AT 462-562 - Interventions I Credits: 3
First course in a 3-semester sequence, designed to teach students foundational principles and theories associated with the development of a treatment plan for an injured patient. The class is taught through lectures and demonstrations.

AT 464-564 - Interventions II Credits: 2
This course is designed to meet outcomes and guidelines set forth by the Education Council of the National Athletic Trainers' Association related to therapeutic interventions. The second course in a 3-semester sequence, it is designed to have the student develop a basic understanding of the theory and application of therapeutic interventions including modalities and exercise in the treatment of the injured patient. The class will be taught through lectures and demonstrations. Prerequisites: Major in Athletic Training. Corequisites: AT 374.

AT 471 - Fall Clinical Experience Credits: 1
This course is designed to meet the clinical experience competencies required during fall activity. Clinical applications include physical examinations; fitting and maintaining football protective equipment; monitoring and
management of environmental conditions; stretching and conditioning; and the evaluation and care of acute athletic injuries. Notes: Graded S/U.

AT 474-574 - Interventions III (AW) Credits: 2
This course is designed to meet outcomes and guidelines set forth by the Education Council of the National Athletic Trainers' Association related to therapeutic interventions. The third course in a 3-semester sequence, it is designed to have the student develop an advanced level of understanding of the theory and application of therapeutic interventions including modalities and exercise in the treatment of the injured patient. The class will be taught through lectures and demonstrations. Prerequisites: Major in Athletic Training. Corequisites: AT 373.

AT 490 - Seminar Credits: 2
AT 790 - Seminar Credits: 2
AT 795 - Practicum Credits: 1-3

AVIA (Aviation)

AVIA 101 - Introduction to General Aviation Credits: 1
Overview of the general aviation industry. This course will provide an awareness of the magnitude of aviation activity not involved in commercial air carrier operations. The student will discover a multitude of career opportunities and recognize the role general aviation 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 activity.

AVIA 150-150L - Introduction to Aviation Meteorology and Lab Credits: 2
This course is an introduction to Meteorology and forecasting. The major focus of this course is to understand public and aviation weather observations and forecasts. Topics covered include understanding the global energy balance and structure of the atmosphere as a background to explain seasons and weather. Air masses and frontal systems, and weather phenomena such as thunderstorms, icing, tornadoes, and tropical systems are related to forecasting. Corequisites: AVIA 150L-150.

AVIA 170 - Fundamentals of Flight Theory Credits: 3
Basic aviation principles for the beginning aviator are presented in this course. Topics include aerodynamics, basic aircraft systems, aircraft performance computations, weight and balance computations, meteorology, radio navigation and communication techniques, cross-country preparation, pilot physiology, and emergency operations. Students completing this course will be ready to challenge the Federal Aviation Administration Private Pilot written and oral exams. Corequisites: AVIA 171.

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 cross country progress check of the private pilot certificate. Corequisites: AVIA 170. Notes: Additional fees apply for aircraft rental and flight instruction.

AVIA 180 - Attitude Instrument Theory Credits: 2
This course begins with a discussion of Aeronautical Decision Making (ADM), airworthiness requirements for flight, and professionalism in aviation. The course proceeds to an in-depth study of instrumentation and glass technologies. Basic attitude flight principles will be enhanced through this course. In addition, students will have a fundamental knowledge of the air navigation systems used to conduct IFR flight. Corequisites: AVIA 181.

AVIA 181 - Introductory Flight II Credits: 2
Students will continue learning how to fly an 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 1 of the instrument commercial 14 CFR 141 requirements. Prerequisites: AVIA 171. Corequisites: AVIA 180. Notes: Additional fees apply for aircraft rental and flight instruction. Students enrolled in the program prior to Fall 2012 will take the course as AVIA 273 - Private Pilot Flight II.

AVIA 189 - Airframe & 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 199 - Exploring Aviation Credits: 1
This course is designed as an exploratory course for all majors to learn and experience aviation. Students will be exposed to different sectors of aviation and how it contributes to society as well as have the opportunity to learn about airports and their economic impact. All students in this course will have the opportunity to fly in a training airplane at least three times during the semester. Students will get hands on learning opportunities in the air and experience flight from a first-hand perspective. Aviation career options will be explored. Additional fees for flight experience included.

AVIA 200 - Aviation Safety Credits: 3
This course will introduce aviation safety principles as important aspects of air transportation. Topics will include regulatory issues, means of measuring air transportation safety, risk assessment, safety data analysis, use of technology in aviation safety, accident investigation, National Transportation Safety Board oversight of aviation safety, and other appropriate issues as arise.

AVIA 201 - Aviation Weather Credits: 2
This course is a study of the basic components of the earth's atmosphere and provides a basic foundation in the meteorological and environmental factors that influence the formation of the various weather patterns found in near and upper atmospheric levels over the continental United States and the Northern Hemisphere. Included in the course will be discussion on how weather influences the basic aerodynamics of an aircraft in-flight and the basic pilot-static instrument system. This course is intended for students who plan a career as professional pilots or a career in aviation operations or for an elective. Prerequisites: AVIA 150.

AVIA 295 - Practicum Credits: 1
Prerequisites: AVIA 370.

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 a field trip to participate in altitude chamber training provided by the U.S. Air Force and Federal Aviation Administration. Prerequisites: AVIA 200.

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 aviation aircraft and services. The course will cover aspects of management involved in fixed base operations, corporate flight operations, and similar operations utilizing general aviation aircraft. Flight line operations, administrative considerations, aircraft maintenance operations, and decision-making will be covered during the course. Technological advances pertaining to general aviation operations will be discussed throughout the course. Prerequisites: AVIA 200 and ACCT 210.

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 and operations, applicable FAA regulations, and meteorological considerations for flight in the airspace system. It also covers departure, arrival, and en route considerations as well as terminal operating procedures. Students completing this course will successfully complete the FAA Instrument Pilot written examination as a requirement for course completion. Prerequisites: Instructor consent. Corequisites: AVIA 370. Notes: Additional fees apply for aircraft rental and flight instruction. Students enrolled in the AVIA program prior to Fall 2012 will take AVIA 371 Instrument Pilot Theory.

AVIA 372 - Professional Flight I Credits: 2
Individual flight instruction for the FAA instrument and commercial flight rating. Students will obtain, under the supervision of SDSU flight instructors, the FAA Airplane Single Engine Land instrument rating as a requirement for course completion as well as continue building hours towards the commercial certificate. Prerequisites: Instructor consent. Corequisites: AVIA 370. Notes: Additional fees apply for aircraft rental and flight instruction. Students enrolled in AVIA 371 will take the course as AVIA 372 Instrument Flight.

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 and operations will be covered in depth for multi-engine operation, high performance aircraft characteristics, and safe operation of commercial aircraft in the US air transportation system will be covered in this course. Student will successfully complete the FAA Commercial Pilot Certificate written examination as a requirement of course completion. Prerequisites: Instructor consent (Students must have their FAA instrument rating as a prerequisite for this course). Corequisites: AVIA 377. Notes: Additional fees apply for aircraft rental and flight instruction. Students enrolled in the AVIA program prior to Fall 2012 will take the course as AVIA 375 Commercial Pilot Theory.

AVIA 377 - Professional Flight II Credits: 2
This course provides individualized flight instruction in preparation for the FAA Commercial Pilot Certificate. Student will complete, under the supervision of SDSU flight instructors, the FAA commercial practical exam. Prerequisites: AVIA 372. Corequisites: AVIA 375. Notes: Additional fees apply for aircraft rental and flight instruction. Students enrolled in the AVIA program prior to Fall 2012 will take the course as AVIA 376.

AVIA 392 - Special Topics in Aviation Credits: 1-3
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. Prerequisites: Instructor consent.

AVIA 400 - Air Transportation System 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 aids, motivating students, and marketing a program. Instructional techniques appropriate for aviation education are developed. Students will work in groups to develop lesson plans for airframe and powerplant subjects. Students will also face different challenges faced by the student pilot in the classroom and aircraft. Prerequisites: Department approval required.
information literacy and advanced communications through course work. Prerequisites: Instructor consent.

**BADM (Business Administration)**

**BADM 260 - Principles of Production and Operations Management**
Credits: 3
A broad analytical 'systems' viewpoint is used to develop competency in management decision-making and problem solving in operations setting in various businesses and especially manufacturing. This course involves the study of the production end of business, where resources are transferred into goods and services, and the management of operations through effective planning, implementing, and monitoring for continuous improvement. Prerequisites: One Math course except 021, 095, 101, 100T. Cross-Listed: MNET 260.

**BADM 280 - Personal Finance (COM)** Credits: 3
This course is a survey of individual investment opportunities. Topics include common and preferred stocks and corporate bonds, auto, life, and health insurance, home ownership, and will and estate planning.

**BADM 291 - Independent Study** Credits: 1-4
**BADM 292 – Topics Credits: 1-3**

**BADM 310 - Business Finance (COM)** Credits: 3
Business finance is an overview of financial theory including the time value of money, capital budgeting, capital structure theory, dividend policies, asset pricing, risk and return, the efficient markets hypothesis, bond and stock valuation, business performance evaluation and other financial topics. Prerequisites: ACCT 211. Cross-Listed: MGMT 310.

**BADM 334 - Small Business Management (COM)** Credits: 3
This course applies business policies and procedures to the small business environment. As such, it is designed for students contemplating management or ownership of a small business. Topics include the nature of the entrepreneur, financing and ownership options, marketing, government regulations, taxation, inventory control and other relevant business functions.

**BADM 336 - Entrepreneurship I (COM)** Credits: 3
This course is an introduction to the concepts, terminology, and process of new venture creation, operations and growth, as well as the introduction of entrepreneurial management practices into existing businesses. This course will assist in the identification of entrepreneurial opportunities and strategies and the role of personal factors (including creativity). Legal, ethical, and social responsibilities are emphasized. Cross-Listed: ENTR 336.

**BADM 350 - Legal Environment of Business (COM)** Credits: 3
This is a study of legal topics as they apply to the business environment. Topics include an introduction to the law, the U.S. Court system, legal process, government regulation, and criminal, tort, and contract issues.

**BADM 351 - Business Law (COM)** Credits: 3
This course involves a thorough study of the law of contracts, sales, product liability, agency, corporations and other selected topics. Prerequisites: BADM 350.

**BADM 360 - Organization and Management (COM)** Credits: 3
This course is a study of management, including the planning, direction, controlling and coordinating of the various activities involved in operating a business enterprise. Cross-Listed: MGMT 360.

**BADM 370 - Marketing (COM)** Credits: 3
This course introduces the student to the basic concepts and practices of modern marketing. Topics include marketing and its linkages to business, consumer behavior, marketing research, strategy and planning, product and pricing decisions, distributions and promotion decisions, marketing management, and evaluation and control aspects for both consumer and industrial goods. Prerequisites: ECON 201 or ECON 202. Cross-Listed: ECON 370.

**BADM 411-511 - Investments (COM)** Credits: 3
This course is a thorough study of the equity market including fundamental valuation techniques, asset allocation, efficient diversification, portfolio theory, risk and return, the primary and secondary market mechanisms, security market indicators, and international investing. An overview of the bond market including bond valuation, duration, and bond portfolio management, and an introduction to options, futures, and forward contracts are provided. The vital roles of computer technology and electronic trading are also explored. Prerequisites: BADM 310.

**BADM 412 - Security Analysis (COM)** Credits: 2-3
Security Analysis is a thorough study of portfolio management for individual as well as institutional investors and includes both equity and fixed income analysis. Security valuation and analysis are discussed as well as the topics of asset allocation, efficient diversification, portfolio theory and construction, investment policy, and performance evaluation. The vital roles of computer technology and electronic trading are also explored.

**BADM 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: ECON 330; BADM 360 or AGEC 478.

**BADM 424 - Operations Research (COM)** Credits: 3
This course looks at quantitative tools and methods used in the decision making process of business organizations. Linear programming, decision making under uncertainty, systems inventory models, and queuing models will be studied. Prerequisites: ECON 301 and STAT 281.

**BADM 438-538 - Entrepreneurship II (COM)** Credits: 3
This course focuses on the process of screening an opportunity, drafting a personal entrepreneurial strategy, and understanding the business plan writing process. Building the entrepreneurial team and the acquisition and management of financial resources are emphasized along with venture growth, harvest strategies, and valuation. Prerequisites: BADM 336/ENTR 356. Cross-Listed: ENTR 438-538.

**BADM 457 - Business Ethics** 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.

**BADM 460 - Human Resource Management (COM)** Credits: 3
This course provides a survey of managerial practices with respect to the management of the human resource function and an introduction to the topic of human resource management as an occupational choice. Major areas of inquiry include recruitment and selection, training and development, compensation and benefits administration and work force integration and maintenance. Cross-Listed: MGMT 460.

**BADM 464 - Organizational Behavior (COM)** Credits: 3
This course is a study of individuals and groups. Traditional organization theory and concepts are presented and study is given to motivation, group dynamics, and methods of coordination, change and adaptation within an organization. Prerequisites: BADM 360. Cross-Listed: MGMT 464.

**BADM 474 - Personal Selling (COM)** Credits: 3
This course is a study of the skills needed to develop and manage long-term relationships with customers and suppliers. Emphasis is placed on relationship selling, presentation, prospecting, handling objectives and closing techniques with consideration given to differences in the global marketplace.

**BADM 476-576 - Marketing Research (COM)** Credits: 3
This course provides an in-depth study of the primary methodologies of marketing research. Emphasis is placed on collecting, analyzing, interpreting and presenting information for the purpose of reducing uncertainty surrounding marketing and management decisions. Prerequisites: BADM 370 and STAT 281. Cross-Listed: ECON 476-576.

**BADM 482 - Business Policy and Strategy (COM)** Credits: 3
This course is designed to develop an understanding of strategy formulation, implementation, and evaluation. It involves integrating all functional areas of business, analyzing the environment in which the firm operates, and choosing strategies that enable the firm to meet its objectives. Prerequisites: BADM 310, BADM 350, BADM 360, BADM 370 and senior standing.

**BADM 483 - Small Business Consulting (COM)** Credits: 1-3
This course is a consulting program whereby students, working under faculty guidance, assist businesses by researching and developing possible solutions.
to specific problems involved in business start-up and expansion. Prerequisites: Senior standing. Cross-Listed: ENTR 483.

BIOL 498 - Business Plan Writing and Competition (COM) Credits: 1
Students will write a business plan and present it to a panel of faculty and business community members. The top three business plan presenters will move on to a statewide competition. Cross-Listed: ENTR 489.

BIAD 490 - Seminar Credits: 3
BIAD 491 - Independent Study Credits: 1-4
BIAD 492 - Topics Credits: 1-4
BIAD 493-493L - Workshop Credits: 1-3

BIAD 494 - Internship Credits: 1-12
Corequisites: ENTR 494.

BIAD 498 - Undergraduate Research/Scholarship Credits: 1-12
BIAD 592 - Topics Credits: 1-3

BIOL (Biology)

BIOL 101-101L - Biology Survey I and Lab * (COM) Credits: 3

BIOL 103-103L - Biology Survey II and Lab * (COM) Credits: 3
Study of energetics; plant growth; development and reproduction; animal structure and function. Intended for those not majoring in biology. Laboratory experience that accompanies BIOL 103. Prerequisites: BIOL 101. Corequisites: BIOL 103L-103. Notes: * Course meets SGR #6.

BIOL 105 - Human Biology ** (COM) Credits: 3
Presents key biological principles that are characteristic of living things in general and human beings in particular, focusing on the application of these principles to the concerns of contemporary life. Not intended for life science majors. Notes: ** Course meets IGR #2.

BIOL 109-109L - First Year Seminar and Lab ** 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. Laboratory course to accompany BIOL 109. Corequisites: BIOL 109L-109. Notes: ** Course meets IGR #1.

BIOL 142 - Anatomy (COM) Credits: 3
An elementary study of the gross structure of the human body.

BIOL 151-151L - General Biology I and Lab * (COM) Credits: 4
The introductory course for those majoring in biology and microbiology. Presents the concepts or cell biology, evolution, heredity, molecular genetics and ecology. Laboratory experience that accompanies Corequisites: BIOL 151L-151. Notes: * Course meets SGR #6.

BIOL 153-153L - General Biology II and Lab * (COM) Credits: 4
A continuation of BIOL 151, the introductory course for those majoring in biology and microbiology. Presents the concepts of animal and plant structure and function, energetics, and reproduction. Laboratory experience that accompanies BIOL 153. Prerequisites: BIOL 151. Corequisites: BIOL 153L-153. Notes: * Course meets SGR #6.

BIOL 199L - First Year Experience Research Lab Credits: 1
Guided independent research on isolation and characterization of bacteriophage. Prerequisites: Consent (Honors-eligible - ACT of 27 or higher).

BIOL 200-200L - Animal Diversity and Lab Credits: 3
Investigate all members of the animal kingdom comprising the living world focusing on diversity, systematics, reproductive patterns, principles of structure and function, ecology, and environmental relationships. Laboratory experience that accompanies BIOL 200. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BIOL 200L-200.

BIOL 202-202L - Genetics and Organismal Biology and Lab Credits: 4
First course in a 2-semester sequence designed to teach students current concepts in genetics, cellular 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; basic cell structure; chromosomal basis of inheritance and linkage; extra nuclear genes; chromosomal mutations; epistasis, alleles and the environment; gene function; genetic mapping; population genetics; quantitative genetics; evolution and natural selection. Laboratory experience that accompanies BIOL 202. Prerequisites: BIOL 103 or BIOL 153; CHEM 114-114L. Corequisites: BIOL 202L-202.

BIOL 204-204L - Genetics and Cellular Biology and Lab (COM) Credits: 3, 1
Second course in a 2-semester sequence designed to teach students current concepts in genetics, cellular and molecular biology. This course will prepare students in the biological sciences for advanced courses in their emphasis areas. Topics covered in this course include: DNA and chromosomal structure; mobile genetic elements; transcription; RNA processing; translation; enzymes and metabolism; membrane structure and function; respiration and photosynthesis; the endomembrane system and trafficking; cytoskeleton; cell signaling; genetic engineering and biotechnology. Laboratory experience that accompanies BIOL 204. Prerequisites: BIOL 202. Corequisites: BIOL 204L-204. Notes: One semester of Organic Chemistry is highly recommended.

BIOL 310 - Human Physiology for Allied Health Professionals (COM) Credits: 4
Lectures, laboratory work and demonstrations of human physiological processes both normal and abnormal.

BIOL 310L - Human Physiology for Allied Health Professionals Lab (COM) Credits: 0
Laboratory experience that accompanies BIOL 310.

BIOL 321-321L - Human Anatomy and Lab (COM) Credits: 4
Structures of various systems in the human body are presented as a structural basis for physiology. Laboratory experience that accompanies BIOL 221. Prerequisites: Sophomore standing or consent based on the following criteria a combination of 30 credits completed or in progress a B in CHEM 106 or higher, and an overall GPA of 3.0. Corequisites: BIOL 221L-221.

BIOL 290 - Seminar Credits: 1

BIOL 291 - Independent Study Credits: 1-4

BIOL 311-311L - Principles of Ecology and Lab (COM) Credits: 3, 1
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. Laboratory experience that accompanies BIOL 311. Cross-Listed: NRM 311. Notes: BIOL 311L is an optional, stand-alone lab.

BIOL 325-325L - Physiology and Lab (COM) Credits: 4
Basic cell physiology, neural, hormonal and neuroendocrine control systems. Coordinated body functions. Laboratory experience that accompanies BIOL 325. Prerequisites: BIOL 221-221L and 8 credits of chemistry. Corequisites: BIOL 325L-325.

BIOL 371 - Genomics (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
Surveys evidence for biological evolution and the historical development of evolutionary theory, and examines genetic and other mechanisms responsible for life's diversity. Prerequisites: BIOL 151.

BIOL 383 - Bioethics ** (COM) (G) Credits: 4
Ethical, social and policy dilemmas in medicine and biology. Cross-Listed: PHIL 383. Notes: ** Course meets IGR #2.
BIOL 415-415L/515-515L - Mycology and Lab (COM) Credits: 3
Comprehensive taxonomic survey of the kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship to fungi to human affairs. Laboratory experience that accompanies BIOL 415-415/515-515L. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BIOL 415L-415/Biol 515L-515L. Cross-Listed: PS 415-415L/515-515L.

BIOL 439-539 - Biology of Aging Credits: 3
Physical, sensory, and physiological changes with age, aging of cells and tissues. Cellular, developmental, endocrine and other theories of aging. Pathologies of aging. Prerequisites: BIOL 325.

BIOL 440-440L - Restoration Ecology (COM) Credits: 4

BIOL 453-553 - Advanced Genetics Credits: 3
Procedures in genetic studies as they relate to molecular and classical genetic applications. Prerequisites: BIOL 202 or BIOL 204 or BIOL 371. Cross-Listed: PS 453-553.

BIOL 466-566 - Environmental Toxicology and Contaminants (COM) Credits: 3
This course will prepare students in the area of Ecological Effects of Toxic Substances and other contaminants. Wildlife toxicology and impacts of agriculture on the Northern Plains will be emphasized. Topics covered will include pesticides, heavy metals, aquatic and terrestrial ecotoxicity and other topics related to Wildlife Toxicology. Cross-Listed: NRM 466-566.

BIOL 467-467L/567-567L - Parasitology and Lab (COM) Credits: 3
The broad field of animal parasitology, including protozoa, helminths, and 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. Laboratory experience that accompanies BIOL 467. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BIOL 467L-467L/BIOL 567L-567L. Cross-Listed: ZOOL 467-467L.

BIOL 476-576 - Advanced Mammalian Physiology Credits: 4
An advanced study of the physiological mechanisms utilized by mammals to regulate body functions with the nervous and endocrine systems, to acquire and use chemical energy from their environment, and to integrate the functions of the organs' systems to maintain the health of the animal. Emphasis is placed on applying physiological concepts and principles to solve problems. Previous courses in anatomy, physiology, and biochemistry are recommended. Prerequisites: BIOL 221 or VET 223 or instructor written consent. Cross-Listed: VET 476-576.

BIOL 483-483L - Developmental Biology and Lab (COM) Credits: 4
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. Laboratory experience that accompanies BIOL 483. Prerequisites: BIOL 151.

BIOS 664 - Molecular Plant Physiology Credits: 6
BIOS 788 - Master's Research Problems Credits: 1-3
BIOS 790 - Seminar Credits: 1
BIOS 791 - Independent Study Credits: 1-6
BIOS 792 - Topics Credits: 1-6
BIOS 793 - Workshop Credits: 1-6
BIOS 794 - Internship Credits: 1-6
BIOS 796 - Field Experience Credits: 1-6
BIOS 798 - Thesis Credits: 1-10
BIOS 890 - Seminar Credits: 1
BIOS 890D - Dissertation PhD Credits: 1-7

BOT (Botany)

BOT 127 - Ethnobotany Credits: 3
A phylogenetic approach to the study of plant diversity and evolutionary relationships emphasizing structure and function of plant systems. Laboratory experience that accompanies BOT 201 Prerequisites: BIOL 101 or BIOL 151. Corequisites: BOT 201L-201L. Notes: * Course meets SGR #6.

BOT 301-301L - Plant Systematics (COM) Credits: 4
Principles of phylogeny, classification, nomenclature, evolution; demonstrations, field study and laboratory practice in collection, preserving, and identifying plants. Prerequisites: BIOL 103 or BIOL 153. Corequisites: BOT 301L-301L.

BOT 303-303L - Forest Ecology and Management and Lab Credits: 3
The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed. Corequisites: BOT 303L-303L. Cross-Listed: HO 303-303L.

BOT 327-327L - Plant Physiology and Lab (COM) Credits: 4
Chemical and physical principles of plant function including water relations and energy metabolism; genetic, environmental and hormonal regulation of plant growth and development; and plant responses to stress. Laboratory experience the accompanies BOT 327. Prerequisites: Select one group: BIOL 101 and BIOL 103; or BIOL 151 and BIOL 153; or BOT 201 and BIOL 101; or BOT 201 and BIOL 151. Corequisites: BOT 327L-327L.

BOT 405-405L/505-505L - Grasses and Grasslike Plants and Lab Credits: 3
A systematic survey of grasses and grasslike plant of the northern Great Plains; field and lab practice in collection and identification of graminoid plants; discussion of unique biological aspects of grasses and grasslike plants that make them economically and ecologically significant. Laboratory experience that accompanies BOT 405-505. Prerequisites: BIOL 103 or BIOL 153. Corequisites: BOT 405L-405L/505L-505L.

BOT 415-415L/515-515L - Aquatic Plants and Lab Credits: 3
A systematic survey of vascular plants that grow in wetland habitats, and a study of their adaptations to life in the water. Field and laboratory practice in identification and recognition of common aquatic plants. Laboratory to accompany BOT 415-515. Prerequisites: BIOL 103 or BIOL 153. Corequisites: BIOL 415L-415L/515L-515L.

BOT 419-419L - Plant Ecology and Lab (COM) Credits: 3
Description of plant communities, their dynamics and instruction. Environmental factors and their relationship with plants. Field trips. Laboratory experience that accompanies BOT 419. Prerequisites: BIOL 103 or BIOL 153 or BOT 201. Corequisites: BOT 419L-419.
CA (Consumer Affairs)

CA 110 - Individual Financial Literacy Credits: 1
Introduction to personal financial management. Topics covered include banking, budgeting, and financial statements.

CA 111 - Individual Financial Management Credits: 1
Introduction to personal financial management. Topics covered include leasing and buying; credit cards and credit management; and time value of money.

CA 150 - Introduction to Consumer Affairs Credits: 2
Foundations of the discipline of consumer affairs, including history and mission; role in meeting the needs of individuals and families through business, public and government sectors; the integrative nature of the discipline; and career opportunities. Analyze professionals traits, personal skills and knowledge needed to attain a position in the desired profession of consumer affairs. Overview of courses and sequencing for the Consumer Affairs major.

CA 230 - Consumer Behavior Credits: 3
Understanding cultural, economic, social, psychological conditions, and media environments that influence the consumer purchase process in the marketplace. Study of diverse types of consumer subcultures. Cross-Listed: CS 230.

CA 289 - Consumers in the Market Credits: 3
Welfare of the consumer in relation to government regulation, policies, laws, consumer rights and responsibilities, and the economic system.

CA 292 - Topics Credits: 1-3

CA 340 - Work Family Interface (AW) Credits: 3
Introduction to resource management theories, processes and principles as applied to efficient use of human, time, social, and material resources in promotion of individual and family well-being. Balancing work and family is addressed as an application of family resource management. Prerequisites: ENGL 201.

CA 345 - Foundations in Financial Management Credits: 3
Financial resource management related to the economic aspects of family financial planning. Specifically addresses major financial planning issues and problems that individuals and families encounter including goal setting, saving, borrowing, risk management, basic tax structure, investment diversification, and basic considerations for retirement and estate planning. Emphasis will be given to application of time value of money across the content.

CA 350 - Family Financial Management I Credits: 3
Principles and practices of insurance needs and selection, investment strategies to realize financial goals and income tax planning to improve financial well-being of families. Technical skills required of family financial planners are emphasized. Prerequisites: CA 345.

CA 412 - Emerging Issues in Consumer Affairs Credits: 2
Study of current and emerging consumer issues facing individuals, families, and the global community. Prerequisites: CA 494.

CA 430 - Consumer Decision Making Credits: 3
Study of theories and principles in judgment and decision making and behavioral economics. Barriers and strategies to improve consumer judgment and decision-making will be addressed including heuristics and biases, role of emotion and social forces. Cross-Listed: CS 430.

CA 442 - Family Resource Management Lab Credits: 3
Application of resource management concepts to improve individual and family economic well-being. The course emphasis is placed on managerial activities of families with limited resources. Management involves facing opportunities and solving the practical problems of everyday life, coordinating the activities of family members and making and implementing decisions. A required service learning experience (20 hours) will provide an opportunity for direct application of resource management concepts to the problem solving process. Prerequisites: Must be junior or senior standing.

CA 450 - Family Financial Management II Credits: 3
Principles and practices of retirement planning, saving and estate planning to improve financial well-being of families. Comprehensive case study will incorporate family financial planning principles addressed in CA 350 (Family Financial Management I). Prerequisites: CA 350.

CA 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.

CA 487 - Transition to the Professional World Credits: 2
Students acquire personal and professional skills necessary for success in the workplace. Students will secure an internship and address internship expectations. Prerequisites: CA 150, CA 230, CA 289 and CS 377.

CA 490 - Seminar Credits: 1
Prerequisites: CA 494.

CA 491 - Independent Study Credits: 1-3

CA 492-592 - Topics Credits: 1-3

CA 494 – Internship Credits: 3
Prerequisites: CA 340, CA 345 and CA 487. Notes: Consumer Affairs Major, senior class standing.

CA 595 – Practicum Credits: 3-6

CA 612 - Financial Counseling Credits: 3

CA 621 - Financial Theory and Research I Credits: 3

CA 640 - Fundamentals of Family Financial Planning Credits: 3

CA 645 - Military Personal Financial Readiness Credits: 3

CA 660 - Invest for Family's Future Credits: 3

CA 680 - Insurance Planning for Families Credits: 3

CA 704 - Estate Planning for Families Credits: 3

CA 715 - Housing and Real Estate in FFP Credits: 3

CA 721 - Financial Theory and Research II Credits: 3

CA 725 - Family, Employee Benefits and Retirement Planning Credits: 3

CA 735 - Personal Income Taxation Credits: 3

CA 745 - Professional Practices in Financial Planning Credits: 3

CA 755 - Financial Planning Case Study Credits: 3

CA 788 - Master's Research Problems/Projects Credits: 3

CA 790 – Seminar Credits: 3

CA 792 – Topics Credits: 1-3

CA 798 – Thesis Credits: 1-6

CD (Community Development)

CD 600 - Orientation to Community Development Study Credits: 1
CD 601 - Organizing for Community Change Credits: 3
CD 602 - Community & Regional Economic Policy & Analysis Credits: 3
CD 603 - Community Natural Resource Management Credits: 3
CD 604 - Community Analysis Credits: 3
CD 605 - Principles & Strategies of Community Change Credits: 3
CD 611 - Impact Analysis Credits: 1
CD 612 - Housing and Development Credits: 3
CD 613 - Introduction to Native Community Development Credits: 3
CD 616 - Public and Nonprofit Budgeting Credits: 3
CD 617 - Role of Tribal colleges in Economic Development Credits: 1
CD 623 - Ecological Economics Credits: 3
CD 624 - Building Native Community and Economic Capacity Credits: 3
CD 626 - Economic Development Strategies Credits: 3
CD 631 - Evaluation of Organizations and Programs Credits: 3
CD 633 - Introduction to Environmental Law Credits: 3
CD 634 - Native American Natural Resource Management Credits: 3
CD 635 - Sustainable Communities Credits: 3  
CD 636 - Policy and Politics of Coastal Areas Credits: 3  
CD 637 - Immigration and Communities Credits: 3  
CD 638 - Community and Regional Economic Analysis II Credits: 3  
CD 641 - Leadership for Change Credits: 3  
CD 642 - Grant Writing Credits: 3  
CD 643 - Nonprofit Management Credits: 3  
CD 644 - Participatory Action Research Methods Credits: 3  
CD 645 - Community Developer as Community Education Credits: 3  
CD 791 - Independent Study Credits: 1-3  
CD 792 - Topics Credits: 3  
CD 794 - Internship Credits: 3  
CD 795 - Practicum Credits: 3  

CEE (Civil & Environmental Engineering)  

CEE 106-106L - Elementary Surveying and Lab Credits: 4  
Course topics include land measurement theory, definition and analysis of errors, horizontal curves, traverse work and construction surveying and an introduction to the concepts and applications of GPS and GIS to surveying practice. Lab topics include care and operation of instruments, concepts of horizontal and vertical control; measurement of horizontal distances, vertical angles and elevation differences, field data quality and errors. Prerequisites: MATH 115 or MATH 120. Corequisites: CEE 106L-106L.  

CEE 208-208L - Engineering Surveys and Lab Credits: 3  
Principles of topographic surveys and mapping, CAD applications for the conversion of topographic field data to site mapping, subdivision surveys, additional applications beyond those in CEE 106 to construction and route surveys. Prerequisites: CEE 106. Corequisites: CEE 208L-208L.  

CEE 216-216L - Materials and Lab Credits: 3  
Basic structure and properties of engineering materials, the effect of environmental conditions on mechanical and physical properties, emphasis is on civil engineering materials such as steel, aluminum, polymers, cement and timber. Testing of mechanical properties of civil engineering materials including stress and strain measurement. Proportioning, mixing and testing of small concrete batches. Proper analysis and reporting of laboratory data is emphasized. Prerequisites: CHEM 112. Corequisites: CEE 216L-216L.  

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 112. Notes:** Course meets IGR #2.  

CEE 282 - 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: GE 109-109L and CEE 106. Notes: A PC Laptop computer is required for this course.  

CEE 304 - Land Surveying Credits: 3  
Public land surveys, land subdivisions, land boundaries, land descriptions, state plane coordinates, legal aspects of land ownership, precise surveying methods such as triangulation, base line measurements. Prerequisites: CEE 106.  

CEE 306-306L - Remote Sensing in Civil Engineering Credits: 2  
Engineering evaluation of aerial photographs and satellite imagery, including topography, analysis of soils and surface drainage characteristics. Use of aerial photographs and satellite imagery for location and design of highways, airports and other construction projects. Prerequisites: CEE 106. Corequisites: CEE 306L-306L.  

CEE 311 - Structural Materials Lab Credits: 3  
Laboratory tests on structural materials and elements, and interpretation of test results. Careful laboratory techniques are emphasized. Prerequisites: CEE 216. Corequisites: EM 321.  

CEE 323-323L - Water Supply and Wastewater Engineering and Lab 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. Design calculations for water and wastewater unit process elements. Prerequisites: CEE 225. Corequisites: CEE 323L-323L.  

CEE 331 - Fluid Mechanics Lab Credits: 1  
Measurement of properties of common fluids, and tests on fluids in motion Corequisites: EM 331.  

CEE 340-340L - Engineering Geology and Lab Credits: 3  
Basic principles of physical geology and soil mechanics from a civil and environmental engineering prospective; Topics include minerals, rocks, mechanics of rock materials, weathering, engineering properties of soil, unified soil classification system, groundwater, subsurface contamination, hazardous geologic processes, and waste disposal methods. Identification of minerals and rocks, classification of soils, and measurement of index properties of soils. Prerequisites: CEE 216. Corequisites: CEE 340L-340L.  

CEE 346-346L - Geotechnical Engineering (COM) and Lab Credits: 4  
Composition, structure, index, and engineering properties of soils, soil classification systems, introduction to soil engineering problems involving stability, settlement, seepage, consolidation, and compaction; and laboratory work on the determination of index and engineering properties of soils. Computer-aided graphics and word processing are required for lab reports. Prerequisites: EM 321 and CEE 340. Corequisites: CEE 346L-346L.  

CEE 353 - Structural Theory (COM) Credits: 3  
Basic concepts in structural analysis of beams, trusses, and frames. Determination of governing load conditions for moving loads by use of influence lines. Development of basic virtual work concept to obtain deflections for beams, trusses, and frames. Introduction to slope deflection equations and the moment-distribution for analysis of indeterminate structure. Prerequisites: EM 321.  

CEE 363 - Highway and Traffic Engineering Credits: 3  
Highway administration, traffic characteristics, highway standards, drainage, geometric design, construction methods. Prerequisites: CEE 106.  

CEE 411-411L/511-511L - Bituminous Materials and Lab Credits: 3  
Properties of bituminous materials including their compatibility with various types of aggregates. Asphalt mixes are designed and tested. Standards tests are performed on bituminous materials with emphasis on test results. Asphalt surface evaluation techniques. Performance of standard tests on asphalt products and mixtures to determine various characteristics. Emphasis will be placed on the interpretation of test results. Prerequisites: CEE 216. Corequisites: CEE 411L-411L/511L-511L.  

CEE 422-422L/522-522L - Environmental Engineering Instrumentation and Lab Credits: 3  
Development of an understanding of standard analytical methods for parameters commonly measured in liquid environmental systems. Analysis of water and wastewater samples using environmental laboratory instrumentation. Development of laboratory skills in water and wastewater analysis. Prerequisites: CEE 225 or consent. Corequisites: CEE 422L-422L/522L-522L.  

CEE 423-523 - Municipal Water Distribution and Collection System Design Credits: 3  
Design of municipal water distribution and collection systems utilizing modern design tools including the utilization of software to simulate system behavior in response to environmental changes. Prerequisites: CEE 353 and EM 331.  

CEE 424-524 - Industrial Waste Treatment Credits: 3  
Characteristics and composition of industrial wastes, sampling and methods of analysis of these wastes and remedial measures for treatment and disposal. Prerequisites: CEE 353.
engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Notes: ** Course meets IGR #1.

CHEM 112-112L - General Chemistry I and Lab * (COM) Credits: 3, 1
An introduction to the basic principles of chemistry for students needing an extensive background in chemistry (including chemistry majors, science majors, and pre-professional students). Completion of a high school course in chemistry is recommended. Laboratory designed to accompany CHEM 112. Corequisites: CHEM 112L-112 and MATH 102. Notes: * Course meets SGR #6.

CHEM 114-114L - General Chemistry II and Lab * (COM) Credits: 3, 1
A continuation of CHEM 112. An introduction to the basic principles of chemistry for students needing an extensive background in chemistry. Laboratory designed to accompany CHEM 114. Prerequisites: CHEM 112, MATH 102 or higher (MATH 115, MATH 120, MATH 121, MATH 123, or MATH 125). Corequisites: CHEM 114L-114. Notes: * Course meets SGR #6.

CHEM 115-115L - Atomic and Molecular Structure and Lab * Credits: 3, 1
This is the first course in a four-course sequence that serves as an advanced introduction to the principles of general chemistry relevant to preparation for organic chemistry. Topics covered include atomic structure, theories of bonding, molecular structure, inter- and intra-molecular forces, the structure-activity relationship, and qualitative thermochemistry. Laboratory course to accompany CHEM 115. Prerequisites: Completion of a high school course in chemistry is required. Corequisites: CHEM 115L-115 and MATH 102. Notes: This course is intended for students majoring in chemistry or biochemistry, or those who have been admitted to the Honors College. AP credit will not be acknowledged as equivalent to CHEM 115. CHEM 112-112L may not be substituted for CHEM 115-115L unless explicitly allowed by the department head. * Course meets SGR #6.

CHEM 120-120L - Elementary Organic Chemistry and Lab * Credits: 3, 1
Compounds of carbon with emphasis on those of interest to students of Agriculture, Family and Consumer Sciences. Not a prerequisite for any 200 level and above course. Prerequisites: CHEM 106 or CHEM 112. Corequisites: CHEM 120L-120. Notes: * Course meets SGR #6.

CHEM 127-127L - Structure and Function of Organic Molecules and Lab * Credits: 3, 1
A continuation of CHEM 115 which introduces the chemistry of carbon containing compounds. It is the second course in a four-course sequence. Topics covered include: nomenclature, functional group analysis, stereochemistry, acid/base chemistry, organic chemistry reactions, mechanistic explanation of electron movement, and thermochimistry of organic reactions. Chemistry, Biochemistry, and Honors College students only. CHEM 326 may not be substituted for CHEM 127 unless explicitly allowed by the department head. Laboratory designed to accompany CHEM 127. Prerequisites: CHEM 115. Corequisites: CHEM 127L-127. Notes: * Course meets SGR #6.

CHEM 229-229L - Transformations of Organic Molecules and Lab Credits: 3, 1
A continuation of CHEM 127 which focuses on instrumentation related to analytical organic chemistry, as well as advanced reactions, synthesis and retrosynthetic analysis, and an introduction to biochemistry. It is the third course in a four-course sequence. Credit may not be substituted for CHEM 328 and CHEM 328L. Laboratory designed to accompany CHEM 229. Prerequisites: CHEM 127. Corequisites: CHEM 229L-229.

CHEM 237 - Intermediate Laboratory Investigations Credits: 2
This laboratory based course builds upon previous training to include problem based learning in research contexts. Students will design and implement experiments related to departmental research, evaluate data, and report outcomes of their experimentation. Prerequisites: CHEM 229-229L.

CHEM 242-242L - Chemical Equilibrium and Thermodynamics and Lab Credits: 4, 1
This course is the foundational course in physical chemistry. Topics include coverage of the first and second laws of thermodynamics, and equilibrium of chemical systems. Laboratory for CHEM 242. Prerequisites: CHEM 114 or CHEM 127; MATH 125 and PHYS 211. Corequisites: CHEM 242L-242.

CHEM 326-326L - Organic Chemistry I and Lab (COM) Credits: 3, 1
A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. Laboratory designed to accompany CHEM 326. Prerequisites: CHEM 114, minimum 4 credits. Corequisites: CHEM 326L-326.

CHEM 328-328L - Organic Chemistry II and Lab (COM) Credits: 3, 1
A continuation of CHEM 326. A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. Laboratory designed to accompany CHEM 328. Prerequisites: CHEM 326, Corequisites: CHEM 328L-328L.

CHEM 329 - Organic Chemistry III Credits: 2
An advanced undergraduate course in organic chemistry, this course builds upon previous organic chemistry training and will include topics of contemporary synthesis, organometallic chemistry, molecular orbital theory, pericyclic reactions, and physical organic chemistry. Prerequisites: CHEM 229 or CHEM 326. Notes: Co-registration in CHEM 329L is not required.

CHEM 329L - Organic Chemistry III Lab Credits: 2
Advanced stand-alone laboratory course for advanced undergraduate organic chemistry. The laboratory course focuses on multistep synthetic methodologies to assemble and analyze complex molecules. Prerequisites: CHEM 229L or CHEM 328L. Notes: Co-registration in CHEM 329L is not required.

CHEM 332-332L - Analytical Chemistry and Lab (COM) Credits: 3, 1
Fundamental concepts and principles of quantitative chemical analysis including quantitative chemical equilibrium calculations and error analysis applied to the evaluation of experimental measurements and data. Laboratory to accompany CHEM 332. Prerequisites: CHEM 114 or CHEM 116. Corequisites: CHEM 332L-332L.

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 114 or CHEM 229; 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 242 and PHYS 213.

CHEM 348-348L - Biophysical Chemistry and Lab Credits: 3, 1
A study of the fundamental principles governing the physical chemistry of biological systems. Topics covered include the forces governing protein and nucleic acid stability, the thermodynamics of protein folding and protein-ligand interactions, bioenergetics, kinetics of biochemical reactions, biological membranes and membrane transport. The physical basis of protein purification, probing protein-ligand interactions, and the determination of macromolecular structure is also discussed. Laboratory to accompany CHEM 348. Fundamental physical chemistry principles and techniques of physical chemistry used in studying biomacromolecules and biological systems. Prerequisites: CHEM 464 and MATH 125. Corequisites: CHEM 348L-348.

CHEM 432 - Analytical Chemistry II Credits: 2
Theory and applications of electrochemistry, atomic spectroscopy, X-rays, surface characterization, thermal methods, and radiochemistry applied to chemical analysis. Prerequisites: CHEM 332.

CHEM 433 - Bioanalytical Chemistry Credits: 2
Introduction to the principles and methods of analytical techniques applied to biochemical systems, including method validation, separations, microscopy, and related techniques. Prerequisites: CHEM 332 and CHEM 464.

CHEM 434-434L - Instrumental Analysis and Lab (COM) Credits: 3, 1
Theory and application of modern instrumental methods to chemical analysis. Laboratory designed to accompany CHEM 434. Prerequisites: CHEM 328, CHEM 332 and CHEM 344. Corequisites: CHEM 434L-434.
CHEM 452-452L - Inorganic Chemistry and Lab (COM) Credits: 3, 1
Theoretical and periodic aspects of inorganic chemistry. Synthesis and characterization of inorganic compounds. Prerequisites: CHEM 332.
Corequisites: CHEM 452L.

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, repair, transcription and RNA processing, and protein translation. Prerequisites: CHEM 229 or CHEM 328.

CHEM 465 - Biochemistry II (COM) Credits: 3
A continuation of CHEM 464. Prerequisites: CHEM 464.

CHEM 466 - Laboratory Methods- Biochemistry Credits: 1
A study of fundamental biochemistry laboratory skills, including protein isolation and analysis by electrophoresis, enzyme kinetics and spectroscopic analysis of biomolecules. Prerequisites: CHEM 464.

CHEM 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 127 or CHEM 326.

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.

CHEM 491 - Independent Study Credits: 1-9
CHEM 492 – Topics Credits: 1-4
CHEM 494 – Internship Credits: 1-4
CHEM 498 - Undergraduate Research/Scholarship (AW) Credits: 1-12
CHEM 516 - Chemical Communication Skills Credits: 2
CHEM 566 - Biochemistry H Credits: 3
CHEM 691 - Independent Study Credits: 1-4
CHEM 701 - Advanced Organic Chemistry I Credits: 3
CHEM 703 - Advanced Physical Chemistry Credits: 3
CHEM 704 - Advanced Inorganic Chemistry Credits: 3
CHEM 705 - Principles of Biochemistry Credits: 2-5
CHEM 706 - Advanced Analytical Chemistry Credits: 3
CHEM 710 - Philosophy of Science Credits: 2
CHEM 711 - Chemical Education Research Credits: 2
CHEM 713 - Qualitative Research Methods Credits: 2
CHEM 714 - Quantitative Research Methods Credits: 2
CHEM 715 - Chemistry Instruction in Higher Education Credits: 2
CHEM 722 - Synthesis of Natural Products Credits: 3
CHEM 724-724L - Structural Determination of Organic Compounds and Lab Credits: 3
CHEM 726 - Advanced Organic Chemistry II Credits: 3
CHEM 728 - Bioorganic Chemistry Credits: 3
CHEM 731 - Advanced Environmental Chemistry Credits: 3
CHEM 732 - Aquatic Chemistry Credits: 3
CHEM 733 - Atmospheric Chemistry Credits: 3
CHEM 734 - Environmental Surface Chemistry Credits: 3
CHEM 738 - Electroanalytical Chemistry Credits: 3
CHEM 739 - Chromatography and Separation Credits: 3
CHEM 740 – Analytical Spectroscopy Credits: 3
CHEM 741 - Quantum Chemistry I Credits: 3
CHEM 742 - Quantum Chemistry II Credits: 3
CHEM 744 - Chemical Thermodynamics Credits: 3
CHEM 745 - Statistical Thermodynamics Credits: 3
CHEM 748 - Chemical Kinetics Credits: 3
CHEM 753 - Organometallic Chemistry Credits: 3
CHEM 764 - Biochemistry I Credits: 3
CHEM 766 - Biochemistry II Credits: 3
CHEM 767 - Biophysical Chemistry Credits: 3
CHEM 770 - Atomic Theory & Bonding Credits: 3
CHEM 771 - Intermolecular Interactions & Phases of Matter Credits: 3
CHEM 772 - Thermodynamics Credits: 3
CHEM 773 - Equilibria & Acid-Base Chemistry Credits: 3
CHEM 774 - Kinetics, Nuclear & Electrochemistry Credits: 3
CHEM 775 - Organic & Biochemistry Credits: 3
CHEM 776 - Laboratory Development Credits: 3
CHEM 777 - Action Research in the Secondary Classroom Credits: 2
CHEM 778 - Chemistry Teaching Strategies Credits: 3

CHEM 781 - Bioinorganic Chemistry Credits: 3
CHEM 788 - Research Problems in the Chemistry Classroom Credits: 1-2
CHEM 790 - Seminar Credits: 1
CHEM 792 - Topics Credits: 1-6
CHEM 798 – Thesis Credits: 1-7
CHEM 898D - Dissertation PhD Credits: 1-12

CHIN (Chinese)

CHIN 101 - Introduction to Chinese I Credits: 4
An opportunity to develop skills in everyday spoken Chinese. Emphasis will be on correct pronunciation, listening skills and fluency.

CHIN 102 - Introductory Chinese II Credits: 4
A continuation of Chinese 101, except that 200 new characters will be introduced. Prerequisites: CHIN 101.

CHRD (Counseling & Human Resource Development)

CHRD 301 - Introduction to Rehabilitation Credits: 3
The purpose of this course is to provide introductory level information regarding the counseling profession. Students will be exposed to the history, traditions, methods, and purposes of professional counseling, as well as the legal and ethical requirements that apply to clinical practice. The course will provide overview of the counseling field and provide students with a basis for development of a beginning professional identity.

CHRD 351 - Medical and Vocational Case Management Credits: 3
The purpose of this course is to provide students with experience in the day to day requirements and skills needed to manage casework and provide services for consumers in actual human services agencies.

CHRD 352 - Counseling Special Populations Credits: 3
This course will familiarize students with the history, needs, and cultural characteristics of consumers of counseling services that have disabilities. Ethnic and religious aspects will be considered as they relate to professional counseling.

CHRD 353 - Ethics and the Helping Professions Credits: 3
The purpose of this course is to provide ethical and legal standards as related to critical professional issues. The relationship and integration of values for the counselor's role in practice, training, and consultation will be explored.

CHRD 451 - Individual and Group Counseling Credits: 3
This course will introduce students to fundamental perspectives on professional counseling. Change processes and strategies will be examined from differing viewpoints. Students will be familiarized with group dynamics, structure, and power.

CHRD 452 - Addictions Rehabilitation Credits: 3
The purpose of this course is to introduce students to practice and policy aspects of addictions counseling. From a strengths perspective, biological, psychological, social, and spiritual factors will be considered as they relate to substance abuse issues.

CHRD 453 - Family Therapy Credits: 3
Family structure, systems, and communication will be examined. Perspectives on family dynamics and therapeutic change will be explored.

CHRD 471-571 - Gerontology Issues in Counseling Credits: 3
This course is designed to familiarize helping professionals with psychological aspects of the aging process. Students will gain skills in establishing rapport and interacting in a professional, caring manner with older adults and learn about appropriate resources and techniques to assist older clients.

CHRD 475 - Wellness Counseling Credits: 2
This course will introduce students to interventions designed to enhance individual wellness including behavioral and motivational strategies. Change processes and strategies will be examined along with signs and symptoms of mental health states.
Examinesthe substantivecriminal law, exploringthe larger issues concerning

Presents a behavioral and legal analysis of criminal case concepts, such as

the relationship of the individualto the state through analyzing such topics as

the role of the defense attomey, prosecutor, and judge. The court system is

the nature of criminal liability and the functions and justifications for criminal

Organizations Credits: 3

the boxmdaries of the law.

Individual First Amendment guarantees, constitutional rights of the accused in

the criminal process and equal protection of the law as interpreted through

bargaining, screening, diversion, speedy trial, insanity defense, discovery, and

suppression hearings, trial and sentencing, emphasizing bail reform, plea

initial appearance, bail, preliminary hearing, grand jury, arraignment,

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.

CHRD 716 - Human Resource Management in Business and Industry

Credits: 3

CHRD 721 - School Counseling Credits: 3

CHRD 722 - Administration and Management of School Counseling

Programs Credits: 3

CHRD 723 - Counseling the Family Credits: 3

CHRD 731 - Multicultural Counseling and Human Relations Credits: 3

CHRD 736 - Appraisal of the Individual Credits: 3

CHRD 742 - Career Counseling and Planning Credits: 3

CHRD 751 - Overview of Rehabilitation & Mental Health Counseling

Credits: 3

CHRD 752 - Medical and Psychological Aspects of Disability Credits: 3

CHRD 753 - Case Management Principles and Plan Development

Credits: 3

CHRD 755 - Clinical Diagnosis and Treatment Planning Credits: 4

CHRD 756 - Counseling the Addictive Client Credits: 3

CHRD 757 - Advanced Testing: Intellectual Assessment Credits: 3

CHRD 759 - Advanced Testing: Personality Assessment Credits: 3

CHRD 766 - Group Counseling Credits: 3

CHRD 770 - Student Development: Theory and Practice Credits: 3

CHRD 771 - Student Personnel Services Credits: 3

CHRD 772 - Administration and Leadership in Student Affairs Credits: 3

CHRD 785 - Pre-Practicum Credits: 3

CHRD 786 - Counseling Practicum Credits: 3-5

CHRD 788 - Research Problems in Counseling and Guidance Credits: 1-3

CHRD 791 - Independent Study Credits: 1-3

CHRD 794 - Internship Credits: 2-6

CHRD 798 - Thesis Credits: 1-6

CJUS (Criminal Justice)

CJUS 201 - Introduction to Criminal Justice * (COM) Credits: 3

Overviews the criminal justice institutions involved in the operations of criminal law including the police, the attorney, the bail system, the trial, the guilty plea, sentencing, corrections and an analysis of criminal law in terms of why certain kinds of conduct are criminal in our society. Notes: * Course meets SGR #3.

CJUS 203 - Policing in a Free Society (COM) Credits: 3

Presents the role of law enforcement within the criminal justice system, including law enforcement organizations and functions of separate operational units. Also examines the role of the police in a democratic society, covering concepts such as police services, crime deterrence, discretion and enforcement policies.

CJUS 330 - Civil Rights and Liberties Credits: 3

Individual First Amendment guarantees, constitutional rights of the accused in the criminal process and equal protection of the law as interpreted through U.S. Supreme Court decisions. Cross-Listed: POLS 330.

CJUS 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 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 433 - Criminal Procedure (COM) Credits: 3

Constitutional analysis of the criminal procedures, focusing primarily on the fourth, fifth, and sixth amendments, respectively, the right to be free from unreasonable search and seizure, the privilege against self-incrimination, and the right to counsel. Examines the need to protect individual defendants from abuse at the hands of the state while enhancing law enforcement efficiency.

CJUS 436 - Juvenile Justice (COM) Credits: 3

Examines the separate system created in our society to handle juvenile justice, tracing the historical and philosophical development of the juvenile justice system and inspecting the various stages of the juvenile justice process as well as critical issues currently facing the system.

CJUS 491-591 - Independent Study Credits: 1-3

CJUS 492-592 – Topics Credits: 3

CM (Construction Management)

CM 101 - Introduction to Construction Credits: 1

Introduction to the construction industry and the concept of being a construction management professional as well as the ethics required of a person with influence on the construction industry. A variety of ideas are presented to the students to assist in their career choice.

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 210-210L - Construction Surveying and Lab Credits: 3

The study of construction surveying and layout including topographic surveys and mapping. Land and construction surveys, principles of curve and quantity calculations and other advanced topics in surveying. Prerequisites: GE 121 or LA 120; MATH 102. Corequisites: CM 210L-210.

CM 216 - Construction Materials Credits: 3

Source, processing, and applications of construction materials. Prerequisites: MATH 102.

CM 230 - Applied Construction Credits: 1-3

The supervised application of construction principles to the actual building of a whole or part of a structure. Prerequisites: CM 101. Notes: May be repeated for up to 3 credits.

CM 232-232L - Cost Estimating and Lab Credits: 3

The study of the basic concepts of construction plan, specification and mapping. Land and construction surveys, principles of curve and quantity calculations and other advanced topics in surveying. Prerequisites: GE 241 or PHYS 111. Corequisites: CM 232L- 232L.

CM 292 – Topics Credits: 1-3

CM 320-320L - Construction Soil Mechanics and Lab Credits: 3

Introduces updated information developed in research and practices for application to construction operations. An overview of the nature of soil materials and their engineering properties is coupled with simple, direct examples of analysis to show how common construction methods and operation may be controlled or influenced. Prerequisites: GE 241 or PHYS 111. Corequisites: CM 320L-CM 320.

CM 332 - Building Construction Methods and Systems Credits: 3

The study of the structural and finish systems that make up a building and the related methods of implementation. Prerequisites: CM 216 and junior standing or instructor approval.

CM 333 - Mechanical, Electrical, Plumbing Systems Credits: 3

The study of mechanical, electrical, plumbing, and fire protection systems, design considerations, and system components in a modern building.
The study of the procedures and methods required to determine the value of construction projects with associated bidding procedures. Prerequisites: ACCT 211, CM 216 and CM 232.

The study of the structural design process in the built environment. Prerequisites: GE 241 and 1 PHYS course. Corequisites: CM 353L-355L.

The study of the design of buildings and the use of contemporary concepts to regulate and influence the design process. Prerequisites: GE 123, CM 332, and CM 353-355L.

The study of the systems involved in heavy construction and the equipment and methods required to implement them. Prerequisites: CM 216.

Construction safety and health and effective management of risk. 

The study of the ethical, procedural, and supervisory concepts involved with the execution of a construction project. Prerequisites: CM 443.

Participation and related preparation for student competitions hosted by regional, national, and international industry organizations. Prerequisites: Instructor approval.

Preparation to become a certified building inspector or building plan checker/reviewer by studying the prevailing building code. Prerequisites: CM 332.

Preparation for accreditation by a recognized authority in the efficient construction of buildings.

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 252 and CM 374.

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 252 and CM 374.

The study of the residential construction process including design, documentation, and construction. Corequisites: CM 455L-455L.

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. Prerequisites: CM 332.

The study of the application of legal, contractual, and generally accepted accounting principles to the construction industry. Prerequisites: ACCT 210. Notes: Registration Restriction: Senior standing or instructor approval.

Tools and techniques used to evaluate the cost of new site development; risk assessment and market feasibility analysis for properties to be acquired for economic development. Corequisites: CM 485L-485.

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: 2
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, 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 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/compilers, computer arithmetic. Prerequisites: EE 245-245L.

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.

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.

CSC 346 - Object Oriented Programming (COM) Credits: 3
The study of object oriented methodologies using a modern language such as C++ or Java. Advanced data structures, I/O and file management will be implemented using polymorphism, inheritance, overloading and encapsulation. Prerequisites: 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: CSC 300 and CSC 346.

CSC 391 - Independent Study Credits: 1-3
CSC 392 - Topics Credits: 1-3

CSC 422-522 - GUI Programming (COM) Credits: 3
This course is event-driven graphical user interface (GUI) programming will cover topics such as C++ programming for Windows.

CSC 433-533 - Computer Graphics (COM) Credits: 3
Graphical programming concepts. Display media and device characteristics. Point, line, and circle plotting. Coordinating systems and transformations. Polygon clipping and filling. Spline methods, hidden surface elimination, and shading. Prerequisites: CSC 300 and MATH 125.

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 250, MATH 253 and MATH 316.

CSC 446 - Compiler Construction Credits: 3
Structure of algorithmic, conversational, list processing and string manipulation languages. Concepts and facilities of programming languages, structure of compilers, introduction to formal languages and parsing. Prerequisites: CSC 300 and CSC 445.

CSC 447-547 - Artificial Intelligence (COM) Credits: 3
Concepts in Artificial intelligence: programming in languages such as Prolog or LISP; knowledge representation; search algorithms. Prerequisites: CSC 250.

CSC 450-550 - Game Programming I Credits: 3
This course teaches the fundamental concepts of computer game programming using Windows and C/C++. The C/C++ languages are used for this course because they are the standard language used for most commercial games. In this course, students will learn how to design 2D games for Windows, creating a simple game as part of the course. Prerequisites: CSC 300 and CSC 346.

CSC 452 - Game Programming II Credits: 3
This course focuses on team-based computer game development. Each team of students will plan and implement a semester-long computer game programming project. The students will be required to write regular reports and give regular in-classroom presentations and demonstrations on 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.

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 300.

CSC 470 - Software Engineering (COM) Credits: 3
An introduction to the software engineering process, including lifecycle phases, problem analysis, specification, project estimation and resource estimations, design, implementation, testing/maintenance, and project management. In particular, software validation and verification as well as scheduling and schedule assessment techniques will be discussed. Prerequisites: CSC 300.

CSC 474-574 - Computer Networks Credits: 3
Analysis of current and future computer networks with emphasis on the OSI model. Local and wide area networks. TCP/IP, SNA, token ring, ethernet and other common networks will be covered. Protocol and interfaces within and across networks including the OSI layers, routers, bridges and gateway. Prerequisites: CSC 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.

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.

CSC 487 - Software Engineering II (AW) Credits: 3
The course is designed to illustrate the principles discussed in CSC 470. The students will be team leaders on a project that involves the system analysis, design, integration, testing, and maintenance of a large, real world software system. The students will also document the process of the real world software development. Prerequisites: CSC 470.

CSC 491 - Independent Study Credits: 1-3
CSC 492-592 - Topics Credits: 1-3
CSC 494 - Internship Credits: 1-8
CSC 497 - Cooperative Education Credits: 1-3
CSC 498 - Undergraduate Research/Scholarship Credits: 1-6
CSC 601 - Accelerated Computer Science Fundamentals Credits: 3
CSC 630 - Principles of Data Base System Design Credits: 3
Students are advised to check for most current descriptions at: www.catalog.sdstate.edu
For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.

CSC 705 - Design and Analysis of Computer Algorithms Credits: 3
CSC 710 - Structure and Design of Programming Languages Credits: 3
CSC 720 - Theory of Computation Credits: 3
CSC 740 - Management Information Systems Credits: 3
CSC 750 - Recent Advances in Parallel Process Credits: 3
CSC 770 - Software Engineering Management Credits: 3
CSC 790 - Seminar Credits: 1
CSC 791 - Independent Study Credits: 1-3
CSC 792 - Topics Credits: 1-3
CSC 798 - Thesis Credits: 1-7

CSS (Computational Science & Statistics)

CSS 890 - Seminar in Computational Science and Statistics (COM) Credits: 1
CSS 891 - Independent Study Computational Science and Statistics (COM) Credits: 1-3
CSS 892 - Topics in Computational Science and Statistics (COM) Credits: 1-3
CSS 898D - Dissertation Research (COM) Credits: 1-36

CTE (Career & Technical Education)

CTE 105 - Principles of Career and Technical Education Credits: 1-3
A study of career and technical education terminology, service areas, instructional programs and basic principles of vocational 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 201 - Mentorship/Practicum I Credits: 2
This course is the first class in a two-year mentorship/practicum program designed for new faculty entering secondary and post-secondary education. Course content will focus on teaching and learning, philosophy, curriculum development, assessment and evaluation, program planning and management, and individual and organizational development.

CTE 202 - Mentorship/Practicum II Credits: 2
This course is the second class in a two-year mentorship/practicum program designed for new faculty entering secondary and post-secondary education. Course content will focus on teaching and learning, philosophy, curriculum development, assessment and evaluation, program planning and management, and individual and organizational development, but at higher cognitive, affective, and psychomotor levels than CTE 201.

CTE 208 - Occupational Internship I Credits: 1-3
Coordinated work experience in an occupation related to a specific vocational education content area. Prior application is required. Prerequisites: Permission of instructor.

CTE 308 - Occupational Internship II Credits: 1-3
Coordinated work experience in an occupation related to a specific vocational education content area. Coordinated plan must build upon CTE 208 and substantiate a progressive educational experience. Prior application is required. Prerequisites: Prior approval of instructor.

CTE 405 - Philosophy of Career and Technical Education Credits: 2
Overview of vocational-technical and practical arts education, its place in the community and school; organization and characteristics of instructional programs at secondary, post-secondary and adult levels in agriculture, family and consumer sciences education, business and office, industrial, health, and distributive education; career education; legislation; and current trends and issues. Prerequisites: Sophomore in education. Notes: For prospective teachers and guidance personnel.

CTE 408 - Occupational Internship III Credits: 1-3
Coordinated work experience in an occupation related to a specific vocational education content area. Coordinated plan must build upon CTE 308 and substantiate a progressive educational experience. Prior application is required. Prerequisites: Prior approval of instructor.

CTE 420-520 - Entrepreneurship in Career and Technical Education Credits: 3
This course is designed to help educators in all areas of vocational education to incorporate basic concepts of entrepreneurship into the curriculum. Topics include: small business plans, government regulations, site locations, record keeping, financing, legal considerations, business promotions, managing human resources, small business contributions to the economy and economic development, educational resources for entrepreneurship, placement of the entrepreneurship concept in vocational education programs and review of basic concepts related to entrepreneurship such as business ownership options and entrepreneur characteristics.

CTE 425-525 - Development of Career and Technical Education Thought and Practice Credits: 3
Philosophy, origins, and development of vocational, technical and practical arts, educations at adult, postsecondary, secondary, and pre-vocational levels. Current and emerging principles, practices, and issues are stressed.

CTE 430-530 - Cooperative Education Coordination Techniques Credits: 3
This course emphasizes the organization of cooperative work experience in vocational education programs: agriculture, marketing education, health occupations, family consumer sciences education, business education, and trade and industrial. Emphasizes strategies and techniques for coordinating classroom instruction with on-the-job work experience. Topics include: program organization, coordinator responsibilities, student selection, placement, advisory councils, public relations, training stations, training plans, legal aspects, and program and student evaluation.

CTE 463-563 - Technical and Industrial Experience Credits: 1-4
This course is designed for Career and Technical Educators. The purpose of this course is to aid the educator in staying current with new technologies and methodologies occurring in business and industry. Approval is required from the Coordinator of Career and Technical Education (CTE) at least two weeks prior to the educational experience. To receive graduate credit a student will need to complete a paper reviewing the educational experience. Complete details on receiving undergraduate and graduate credit for the Technical and Industrial Experiences course are included in the application materials. (Appropriate forms and related paperwork can be acquired from the Coordinator of CTE.)

CTE 488 - Student Teaching Credits: 8
Full time off-campus supervised teaching in a secondary or post-secondary Vocational Technical setting for 10 weeks. Student teaching fee assessed.

CTE 491-591 - Independent Study Credits: 1-4
CTE 492-592 - Topics Credits: 1-3
CTE 519 - Methods of Teaching Credits: 3
CTE 540 - Curriculum Design in CTE Credits: 3
CTE 791 - Independent Study Credits: 1-3
CTE 792 - Topics Credits: 1-3
CTE 794 - Internship Credits: 1-3

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 132 - Movement 2 Credits: 2
The advanced principles of human movement as they apply to the individual, actor, dancer and the musician. Prerequisites: DANC 131.
DANC 135 - Dance Activities Credits: 1
Credit earned by active participation in academic sponsored dance performance activities. Prerequisites: Consent. Notes: May be repeated for up to 8 credits.

DANC 230 - Technique 1 Credits: 2
Technical dance training in basic structures of Classical Ballet and Jazz.

DANC 231 - Technique 2 Credits: 2
Technical dance training in basic structures of Modern and Tap dance.

DANC 240 - Multicultural Dance Activities Credits: 1
Folk dances from around the world, including cultural background, costumes, skill differences for elementary, middle and high school, or adults.

DANC 241-241L - Creative Movement for Children and Lab Credits: 2
Theory and laboratory class which studies how creative movement activities meet special needs of children. Emphasis is on a problem-solving approach. Consideration is given to developmental stages of children, basic elements of dance, creative movement, games, rhythms and manipulatives, plus teaching methods, structuring and presenting lessons. Corequisites: DANC 241L-241.

DANC 330 - Technique 3 Credits: 2
Technical dance training in intermediate and advanced structures of Classical Ballet and Jazz. Prerequisites: DANC 230 or instructor consent.

DANC 331 - Technique 4 Credits: 2
Technical dance training in intermediate and advanced structures of Modern and Tap Dance. Prerequisites: DANC 231 or instructor consent.

DANC 420 - Techniques of Teaching Dance Credits: 2
Theory and practice of teaching the various dance forms: social, square, folk, modern, rhythmic games, creative dance for children. Experience in lesson planning. Unit and general curriculum requirements K-12. Prerequisites: DANC 130 and DANC 240.

DANC 430 - Composition and Choreography Credits: 2
Methods of creating dance choreography. Prerequisites: DANC 230 and DANC 231, or DANC 330 and DANC 331, or instructor consent.

DANC 431 - Dance for the Musical Theatre Credits: 2
Dance exploration in many genres of dance for the musical theatre. Prerequisites: DANC 230 and DANC 231, or DANC 330 and DANC 331, or instructor consent.

DANC 491 - Independent Study Credits: 1-3
Prerequisites: Consent.

DANC 492 - Topics Credits: 1-5

**DS (Dairy Science)**

DS 109 - First Year Seminar ** Credits: 2
First-year experience course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Notes: ** Course meets IGR #1.

DS 130-130L - Introduction to Dairy Science and Lab Credits: 3
Essentials of successful dairy farm operation, production testing, feeding, and management of dairy herd. Composition of milk; testing of milk for milk fat, milk solids and quality; and an examination of nutritive value of dairy products. Corequisites: DS 130L-130. Notes: Fall and Spring.

DS 202 - Dairy Products Judging Credits: 1
Quality of milk, cheddar cheese, ice cream, and cottage cheese. Notes: Spring.

DS 212 - Dairy Cattle Evaluation Credits: 2

DS 212 - Dairy Foods Judging Credits: 1
Survey of the dairy processing industry. Principles of processing and manufacturing dairy foods including quality standards and nutritive quality. Notes: Fall.

DS 301-301L - Dairy Microbiology and Lab Credits: 3
Quality control problems during the production and processing of fluid milk for human use, including role of regulatory agencies and quality standards. Prerequisites: MICR 231-231L or MICR 233-233L. Corequisites: DS 301L-301. Notes: Odd Spring.

DS 311 - Dairy Cattle Judging Credits: 1
Judging major breeds of dairy cattle. Type classification. May include participation in regional dairy cattle or national collegiate cattle judging contests. Maximum of two credits. Prerequisites: DS 212. Notes: Fall.

DS 313-313L - Technical Control of Dairy Products I and Lab Credits: 3
Fundamental properties of milk and its products as they affect testing. Common laboratory tests for procurement and grading milk. Compositional tests for control of dairy products during processing. Prerequisites: DS 130 and CHEM 106 or CHEM 112. Corequisites: DS 313L-313. Notes: Fall.

DS 314 - Dairy Farm Operation Evaluation Credits: 1
Examination of the performance and management of milking operations, feeding, records, reproduction, herd health, facilities, housing, 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.

DS 321-321L - Dairy Product Processing I and Lab Credits: 5
Principles and practices in assembling, receiving, processing, and packaging milk and cream for human use, frozen milk and cream, butter and anhydrous milk fat, concentrated and fractionated milks, dried milks, casein, and lactose. Sanitation procedures. Prerequisites: DS 130, DS 313 (as prerequisite or concurrent), and MICR 231-231L or MICR 233-233L. Corequisites: DS 321L-321. Notes: Odd Fall.

DS 322-322L - Dairy Product Processing II and Lab Credits: 5
Processing or manufacturing of relatively nonperishable dairy products such as frozen dairy desserts, cultured milks, sour cream, yogurt, and cheese. Prerequisites: DS 130, DS 313, and MICR 231-231L or MICR 233-233L. Corequisites: DS 322L-322. Notes: Even Spring.

DS 401 - Advanced Dairy Products Judging Credits: 1-2
Quality evaluation of dairy products. Includes participation for alternate team members in the regional collegiate dairy products evaluation contest. Alternate team members take course for 1 credit. Team members who participate in both the regional and national contests take course for 2 credits. Prerequisites: DS 202. Notes: Maximum of 3 credits. Fall.

DS 411-411L - Dairy Breeds and Breeding and Lab Credits: 3

DS 412-412L - Dairy Farm Management and Lab Credits: 4
Dairy herd management practices, production testing, labor requirements, buildings and equipment maintenance, crop systems, merchandising cattle and milk. Dairy farm capital, budgets, and credits; and factors affecting economic returns of dairy farming. Prerequisites: DS 130. Corequisites: DS 412L-412L. Notes: Odd Spring.

DS 413-513 - Physiology of Lactation Credits: 3

DS 421 - Dairy Plant Management Credits: 3
General costs, buildings, equipment, merchandising, personnel, other management factors of dairy processing plants. Prerequisites: Junior standing. Notes: Even Fall.

DS 422-422L - Technical Control of Dairy Products II & Lab Credits: 4
Physical and chemical properties of milk constituents and their effect on processing, testing, and nutritive value of milk and its products. Intentional or accidental additives, their effect and significance. Laboratory tests for process
control or legal compliance. Prerequisites: DS 313 and CHEM 108 or CHEM 120. Corequisites: DS 422L-422. Notes: Spring.

DS 432 - Dairy Cattle Feeding Credits: 3
Practical considerations involved in feeding dairy cattle. Prerequisites: AS 233. Notes: Even Fall.

DS 442-542 - Dairy Product and Process Development Credits: 3
Students will work in small groups to design and produce a prototype dairy product. The course will include standards of identity for dairy products, nutritional labeling requirements, least cost formulation, design of manufacturing processes and methods for planning product development. Prerequisites: DS 313 Notes: Odd Spring.

DS 490 - Seminar (AW) Credits: 1

DS 491 - Independent Study Credits: 1-3

DS 492 - Topics Credits: 1-4

DS 494 - Internship Credits: 3-12

DS 496 - Field Experience Credits: 1-12

DS 497 - Cooperative Education Credits: 3-12

DS 498 - Undergraduate Research/Scholarship Credits: 1-6

DS 711 - Ruminology Credits: 3

DS 722-722L - Advanced Dairy Microbiology and Lab Credits: 3

DS 731 - Lab Techniques in Dairy Science Credits: 3

DS 790 - Seminar Credits: 1-3

DS 791 - Independent Study Credits: 1-4

DS 792 - Topics Credits: 1-4

DS 798 - Thesis Credits: 1-7

DS 898D - Dissertation-Ph.D. Credits: 1-12

ECE (Early Childhood Education)

ECE 150-150L - Early Experience and Lab Credits: 2
Experimental-based introduction to professional contexts within early childhood education (ECE) and/or human development and family studies (HDFS). Students serve as volunteers in community-based human services and educational settings, shadowing professionals to better understand professional roles and opportunities. Corequisites: ECE 150L-150L.

ECE 328-328L - Guidance with Young Children and Lab (COM) Credits: 1-2, 1
Observation and guidance in preschool under supervision of professional practitioners. Laboratory that accompanies ECE 328. Prerequisites: Admission into PSI/ECE 150, ECE 371 and ECE 372. (Minimum grade of C for all.) Corequisites: ECE 328L-328 & department written consent. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 228 - Guidance with Young Children and ECE 228L - Observation and Participation in Early Childhood Lab (COM).

ECE 361-361L - Methods and Materials/Early Childhood Education and Lab (AW) Credits: 2, 1
Applications for early childhood classrooms will be studied. Inquiry-based, hands-on methods to address materials exploration, creative and affective development, anti-bias and culturally responsive curriculum which are both developmentally appropriate and inclusive for all children from ages three to eight. Prerequisites: Admission to PS I, ECE 150, ECE 371 and ECE 372. Corequisites: ECE 361L-361, ECE 328-328L, ECE 362-362L and ECE 363-363L. Notes: Students enrolled in ECE prior to Fall 2012 will take ECE 361/362 as ECE 361-361L - Methods and Materials/Early Childhood Education and Lab (AW) and ECE 362-362L - Early Childhood Education Curriculum and Lab.

ECE 362-362L - Early Childhood Curriculum & Assessment & Lab Credits: 2, 1
This course will focus on curriculum models and assessment protocols that have evolved from historical and theoretical perspectives. Rules and regulations, ethical standards, as well as principles of developmentally appropriate curriculum and assessment practices, that are inclusive for all children from ages three to eight, will be practiced. An emphasis will be placed on inquiry-based practices and multicultural perspectives, and connection between curriculum and assessment will be learned. Prerequisites: Admission to PS I, HDFS 227, Corequisites: ECE 328-328L, ECE 361-361L, and ECE 363-363L. Notes: Students enrolled in ECE prior to Fall 2012 will enroll in the course will take the course as ECE 362-362L - Early Childhood Education Curriculum and Lab.

ECE 363-363L - Emergent Literacy and Numeracy and Lab Credits: 3
This course will focus on language and math learning and emergent literacy and math development of children from infancy to age 8. Focus will be on providing authentic, developmentally appropriate activities that are integrated across the curriculum. Students will learn to evaluate developmentally appropriate literature and literacy and math lessons/activities for young children (birth to 8). A lab experience will enable students to develop and implement strategies for classroom teaching and for linking classroom learning to home literacy and math. Laboratory course to accompany ECE 363. Prerequisites: Acceptance into PSI. Corequisites: ECE 363L-363. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 363-363L - Emergent Literacy in Birth to Eighth Education and Lab.

ECE 371-371L - Infant and Toddler: Developmentally Appropriate Practices and Lab (COM) Credits: 3
This course is a study of developmentally appropriate practices for infants/toddlers (aged birth to 3 years). Students will learn developmentally appropriate learning environments and experiences for infants and toddlers that facilitate development and learning in the cognitive, language, physical, social/emotional, and aesthetic domains. The health, safety, and nutritional needs of infants and toddlers will also be studied and applied. Prerequisites: ECE 328-328L and HDFS 227. Corequisites: ECE 371L-371L.

ECE 372 - Preschool to Middle Childhood Development Credits: 2
This is a beginning level development course focused on the study of human growth and development from age three to twelve. This is one of two foundational developmental courses for the Early Childhood Education curricula. The curriculum for this course includes historical and modern view of child development, biological, cognitive and socio-emotional processes and periods of development from preschool to middle childhood and theories of development.

ECE 412-512 - Kindergarten Education Credits: 3
Course designed for students and teachers interested in work with kindergarten-age children. Issues, activities, and materials specific to kindergarten will be emphasized.

ECE 420 - Health, Safety and Nutrition of Young Children Credits: 2
Exploration of school health, safety, disease control and nutrition; development of health and nutrition policies and standards in early childhood settings based on current public policy; creating a healthy and safe school environment for young children and families. The health, safety, and nutritional needs of infants and toddlers will also be studied and applied. Prerequisites: ECE 364, ECE 465, ECE 470 and ECE 488. Notes: Students enrolled in ECE prior to Fall 2012 will enroll in the course as ECE 220 - Health, Safety and Nutrition of Young Child.

ECE 441 - Professional Issues in Child and Family Studies Credits: 2
Study of professional issues in the Child and Family Studies field. Course materials are inclusive of public policy, advocacy, leadership, professional development and ethics and workplace issues. Prerequisites: PS II. Corequisites: PSIII. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 441 - Professional Issues in Child and Family Studies.

ECE 455 - Admin. & Supervision of Early Childhood Setting Credits: 2
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. Prerequisites: ECE 488 and PSII Admission. Corequisites: ECE 495. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 455 - Administration and Supervision of Early Childhood Setting.

ECE 464 - Parent/Child Relationships in a Prof. Context Credits: 3
The focus of this course includes home-based, school-based, and community-based communication and involvement strategies with families. Students will learn about the diversity of families within society today. Theoretical, international, and other diverse perspectives on partnerships between families and professionals will be explored. Prerequisites: Admission into PSI; ECE 328-328L, ECE 361-361L, ECE 362-362L and ECE 363-363L. Corequisites: ECE 488. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 364 - Parent/Child Relationships in a Professional Context.

ECE 465 - Documentation, Inquiry and Teacher Research Credits: 2
Methods of documentation, inquiry and teacher research will be explored. Students will engage students in the process of inquiry with young children and participate in teacher research on specific topics of interest as applied to

Course Information 275

Students are advised to check for most current descriptions at: www.catalog.sdstate.edu For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.
work with children in a preschool setting. Prerequisites: ECE 328-328L, ECE 361-361L, ECE 362-362L and ECE 363-363L. Notes: Admission into PS II. Students enrolled in ECE prior to Fall 2012 will take the course as ECE 465 - Introduction to Developmental Assessment and Teacher-Research with Young Children.

ECE 468 - Early Intervention in Family-Centered Practices Credits: 3
An overview of current theories, issues and practices in early intervention including: historical, philosophical and attitudinal attributes, early intervention legislation, and service delivery models. Teaming with families and other professionals will be emphasized with attention to cultural sensitivity and family-centered practices. Prerequisites: HDFS 241, ECE 361, ECE 362, and ECE 364.

ECE 470 - Early Childhood Inclusion Strategies Credits: 3
An introduction to teaching strategies and curriculum adaptations to include children who have disabilities in 0-5 early childhood educational settings. An overview of the following current early childhood intervention issues will be covered: risk determinants, disability characteristics, medical issues, assistive technology, and other resources both online and traditional. Family-centered practices will be emphasized. Prerequisites: ECE 328-328L, ECE 361-361L, ECE 362-362L and ECE 363-363L; PS II Admission. Corequisites: ECE 488. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 470 - Early Childhood Inclusion Strategies.

ECE 473 - Orientation to K-3 Student Teaching Credits: 2
This course is designed to prepare students for the professional role of teaching in kindergarten through third grade. Students study professional issues related to early childhood and elementary education. Course materials are inclusive of public policy, advocacy, leadership, professional development, ethics, and workplace issues. Corequisites: ECE 488.

ECE 475 - Pedagogy and Guidance in Primary Grade Classrooms Credits: 2
This course explores the unique aspects of instructional design for the primary grades (kindergarten through grade 3). Content includes organizing the primary classroom for learning, establishing and maintaining a safe and predictable learning environment, developing effective lesson plans and aligning them with state curriculum standards and district curriculum goals, and exploring models of teaching and approaches to learning in the early elementary grades. Corequisites: ECE 495 (K-3).

ECE 478-478L - Integrated Curriculum in Birth-to-Age Eight Education and Lab Credits: 4
This course supports teacher candidates in the semester immediately preceding the K-Grade 3 student teaching semester. Topics of study include content and methods of instruction for teaching an integrated curriculum in the primary grades with specific emphasis on science, social studies, and language arts. Students will develop and collect applicable resources for teaching in the primary grades. Prerequisites: PS III admission & consent. Corequisites: ECE 478L-478 and ECE 495 (K-3).

ECE 487 - Orientation to Child and Family Studies Practicum Credits: 1-12
Orientation to Child and Family Services Practicum will identify expectations for the experience. Students will develop written and verbal communication skills necessary to obtain a practicum and work site. Students will investigate and locate an appropriate practicum site and set professional and educational goals for the practicum experience. Prerequisites: ECE 488; PS III admission. Corequisites: ECE 495. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 487 - Orientation to Child and Family Services Practices.

ECE 488 - Student Teaching (COM) Credits: 1-12
Students preparing for teaching in the early childhood setting will observe, participate, and teach under the supervision of the regular classroom teacher in an approved early childhood setting. An additional "Mandatory Fee" applies to this course. Corequisites: ECE 420, ECE 464, ECE 465 and ECE 470. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 488 - Student Teaching (COM).

ECE 491-591 - Independent Study Credits: 1-3
ECE 492-592 - Topics Credits: 1-3

ECE 495 - Practicum Credits: 1-12
Corequisites: ECE 441, ECE 455 and ECE 487. Notes: Students enrolled in ECE prior to Fall 2012 will take the course as ECE 495 - Practicum (COM).

ECE 543 - Child Inquiry Credits: 2
ECE 645 - Contemporary Perspectives in ECE Credits: 3
ECE 665 - Parent Education: Theory and Issues Credits: 3
ECE 676 - Early Childhood Education Admin. & Practicum Credits: 1-4
ECE 711 - Child Development Theory and Application Credits: 3
ECE 788 - Individual Research and Study Credits: 1-7
ECE 791 - Independent Study Credits: 1-3
ECE 792 - Topics Credits: 1-3
ECE 794 - Internship Credits: 1-7
ECE 795 - Practicum Credits: 1-6
ECE 798 - Thesis Credits: 1-7

ECON (Economics)

ECON 101 - Global Economy Credits: 3
A study of basic economic principles presented from a global perspective and focused at individuals with little or no previous economic skills. Topics include: modern economic systems, foreign exchange rates, import and export trade, labor flows, government policy, and consumer behavior and welfare. Notes: Not a substitute for ECON 201 or ECON 202.

ECON 199 - 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.

ECON 201 - Principles of Microeconomics *** (COM) 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 or ** IGR #2.

ECON 202 - Principles of Macroeconomics *(COM) (G) 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 292 - Topics Credits: 1-4

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 or MATH 125.

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 201; ECON 202; and MATH 102, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125 or MATH 281.

ECON 330 - Money and Banking (COM) Credits: 3
Money and banking examines the historical development of money, the banking system, and the federal reserve in the United States. The course studies interest rate determination and how monetary policy affects rates and the economy. Prerequisites: ECON 201 and ECON 202.

ECON 370 - Marketing Credits: 3
Marketing; market organization and cooperative marketing functions; pricing; efficiency, and role and management of marketing activities. Prerequisites: ECON 201 or ECON 202. Cross-Listed: BADM 370.

ECON 372 - Introduction to Resource and Environmental Economics Credits: 3
Introduction to environmental economics. The course surveys environmental issues such as pollution and carbon emissions. Cost-benefit analysis of the cleanup of environmental problems is introduced as are natural resource metrics. Cross-Listed: AGEC 372.
ECON 403-503 - History of Economic Thought (COM) Credits: 3
History of economic thought surveys the historical development of economic theory from ancient to modern times. The writings of Aristotle, Adam Smith, Marx, and Marshall provide part of the diverse menu of economic thought. Prerequisites: ECON 201 or 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 420-520 - Economics of the Public Sector Credits: 3
Governmental operations, policies, and revenues as related to employment, productivity and economic welfare. Alternatives that would affect social services, education, commerce and trade, fiscal policies, and quality of life. Prerequisites: ECON 201 or consent. Notes: Offered on demand.

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: MATH 121 and STAT 281.

ECON 428 - Mathematical Economics Credits: 3
Mathematical methods in introductory calculus and linear algebra. Applications to economic analysis. Static and dynamic partial and general equilibrium models, production functions, activity analysis, distribution, cycles, growth, mathematical programming, and model building. Prerequisites: ECON 301, ECON 302 and MATH 121.

ECON 431-531 - 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 201 and ECON 202.

ECON 440-540 - Economics of International Sector Credits: 3
International flow of trade and balance of payments. Monetary and fiscal policies. Trade controls and their effect upon the agricultural and domestic economies. Significant current developments in trade and finance. Prerequisites: ECON 201; ECON 202; and ECON 301, ECON 302 or ECON 330.

ECON 450-550 - Industrial Organization (COM) Credits: 3
Industrial organization studies how different industry structures influence firm performance and business practices, and how government policies affect competitiveness and the economy. Prerequisites: ECON 201 and ECON 202.

ECON 453-553 - Risk Management-Personal and Business Credits: 3
Protection against or adaptation to risk and uncertainty. Principles and practices of fire, casualty, surety and life insurance and other risk management techniques. Prerequisites: STAT 281 and ECON 301.

ECON 460-560 - Economic Development *** (G) 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 201 and ECON 202 or consent. Notes: ** Course meets IGR 92.

ECON 467 - Labor Law and Economics Credits: 3
History and development of the U.S. labor movement; the labor market in a market economy from firm's and union's viewpoint; collective bargaining; public policy toward collective bargaining. Prerequisites: ECON 201 or ECON 202 or junior standing.

ECON 472-572 - Resource & 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.

ECON 476-576 - Marketing Research Credits: 3
Marketing problems confronting agribusinesses and businesses. Descriptive and analytical techniques in a research methods approach. Prerequisites: ECON 201 or BADM 370 and STAT 281. Cross-Listed: BADM 476-576.

ECON 482 - Labor Economics (COM) Credits: 3
Labor economics studies the functioning of labor markets. Topics include the theory of labor supply, unions, discrimination, and the government role in labor markets. Prerequisites: ECON 201 and ECON 202.

ECON 490 - Seminar Credits: 1-3
ECON 491-591 - Independent Study Credits: 1-4
ECON 492 - Topics Credits: 1-4
ECON 494 - Internship Credits: 1-6
ECON 496 - Field Experience Credits: 1-3
ECON 498 - Undergraduate Research/Scholarship Credits: 1-12
ECON 601 - Economics Study in Industrial Management Credits: 3
ECON 610 - Financial Management Credits: 3
ECON 660 - Operations Management Credits: 3
ECON 662 - Bio-Energy Economics and Sustainability Credits: 3
ECON 663 - Bio-Energy Feasibility and Commercialization Credits: 3
ECON 672 - Bioenergy and Resource Economics Credits: 3
ECON 691 - Independent Study Credits: 1-3
ECON 692 - Topics Credits: 1-4
ECON 703 - Advanced Macroeconomics Credits: 3
ECON 704 - Advanced Microeconomics Credits: 3
ECON 705 - Econometrics Credits: 3
ECON 707 - Research Methodology in Applied Economics Credits: 2
ECON 713 - Monetary Theory and Practice: The American Experience Credits: 3
ECON 740 - Investment Science Credits: 3
ECON 788 - Research Paper Credits: 1-3
ECON 792 - Topics Credits: 1-4
ECON 798 - Thesis Credits: 1-7

ED (Education)

ED 692 - Topic Credits: 1-4
ED 695 - Practicum Credits: 1-4

EDAD (Educational Administration)

EDAD 695 - Practicum Credits: 1
EDAD 700 - Introduction to School Administration Credits: 2
EDAD 701 - Introduction to Educational Administration Credits: 3
EDAD 707 - The Principalship Credits: 2
EDAD 708 - Elementary Principalship Practicum Credits: 1
EDAD 709 - Secondary Principalship Practicum Credits: 1
EDAD 715 - Supervision Credits: 3
EDAD 730 - School Finance Credits: 2
EDAD 735 - School Law Credits: 2
EDAD 741 - Community and Public Relations Credits: 2
EDAD 788 - Research Problems in Educational Administration Credits: 1-2
EDAD 790 - Seminar Credits: 1-3
EDAD 791 - Independent Study Credits: 1-3
EDAD 792 - Topics Credits: 1-3
EDAD 793 - Workshop Credits: 1-3
EDAD 794 - Internship Credits: 1-6

EDER (Education Evaluation & Research)

EDER 415 - Educational Assessment Credits: 2
A study of educational measurements covering both the elementary and secondary fields.
EDEH 691 - Independent Study Credits: 1-3
EDEH 711 - Educational Assessment Credits: 3
EDEH 760 - Informational Literacy Credits: 3
EDEH 788 - Research Problems in Education Credits: 1-2
EDEH 792 – Topics Credits: 1-3

**EDEH (Education Foundations)**

EDEH 293 – Workshop Credits: 1

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.

EDEH 365 - Computer-Based Technology & 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.

EDEH 366 - Teaching Using Video Conferencing (COM) Credits: 1
This course is an introduction to distance teaching methods, including designing lessons, best practices, and classroom management for distance education classrooms. Emphasis will be placed on videoconferencing classrooms and online learning.

EDEH 427-527 - Middle School: Philosophy and Application Credits: 2
Group processes and issues in affective education at the middle school/junior high level. Topics for study are group processes, interdisciplinary team-planning, cooperative learning, student advisory programs, self-esteem building, and student/teacher relationships. Prerequisites: Consent (admission into teacher education program, junior standing, an adolescent psychology/development course).

EDEH 460-560 - Applied Linguistics for Teaching English as a Second Language 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.

EDEH 461-561 - Cultural and Psychological Perspectives in the Acquisition of English as a Second Language Credits: 3
Addresses the social and cognitive processes involved in the acquisition of a second language including developmental influences.

EDEH 462-562 - Teaching Language Arts for English as Second Language Across the Curriculum Credits: 3
The teaching of reading and writing to students with limited English proficiency. Emphasis will be on reading and writing as it pertains to performance in educational and public settings.

EDEH 463-563 - Methods of Teaching English as Second Language Credits: 3
Develops the central concepts, tools of inquiry, and structure of teaching English to students with limited English proficiency. Includes the evaluation of instructional processes, learning resources, curriculum, and programs. Emphasis will be on teaching students to use English in educational and public settings.

EDEH 466-566 - Literacy in Primary Grades Credits: 3
This course is designed for individuals interested in teaching literacy in the primary grades. It follows the International Reading Association's (IRA) professional standards and includes scientifically-based reading research regarding instruction and assessment. Corequisites: EDEH 466L-566L.

EDEH 466L-566L - Literacy in Primary Grades Lab Credits: 0
Lab to teach reading methods in local elementary primary classrooms. This will be an application of material learned in EDEH 466-566. Corequisites: EDEH 466-566.

EDEH 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.

EDEH 489 - Professional Issues in Education Credits: 1
EDEH 490-590 – Seminar Credits: 1-3
EDEH 492-592 – Topics Credits: 1-3
EDEH 496 - Field Experience Credits: 1
EDEH 691 - Independent Study Credits: 1-3
EDEH 700 - Exceptional Learners Credits: 3
EDEH 725 - Education in a Pluralistic Society Credits: 3
EDEH 727 - Group Processes Credits: 3
EDEH 730 - Current Issues in Education Credits: 3
EDEH 745 - Effective Teaching: Theory into Practice Credits: 3
EDEH 747 - Curriculum: Theory and Practice Credits: 2
EDEH 750 - Technology in Education Credits: 3
EDEH 751 - Teaching Reading Across Disciplines Credits: 3
EDEH 790 – Seminar Credits: 1-3
EDEH 792 – Topics Credits: 1-3
EDEH 794 – Internship Credits: 1-6

**EE (Electrical Engineering)**

EE 102 - Introduction to Electrical Engineering II Credits: 1
Students will learn fundamental design techniques and build a system for entry into the EE design contest (SDSU’s showcase engineering event). Students are exposed to systems aspects of electrical engineering through faculty and industry seminars and a variety of presentations.

EE 220-220L - Circuits I and Lab (COM) Credits: 4
This course is designed to provide the electrical engineering student with an understanding of the basic concepts of the profession. Topics covered include resistive circuits, transient circuits, and sinusoidal analysis. Students also investigate essential principles by conducting laboratory experiments related to the topics studied in the classroom. P-spice is used to analyze electrical circuits using personal computers. Prerequisites: "C" or better in MATH 125. Corequisites: MATH 321.

EE 221-221L - Circuits II and Lab (COM) Credits: 4
This course is designed to provide the electrical engineering student with an understanding of the basic concepts of the profession. Topics covered include resistive circuits, transient circuits, and sinusoidal analysis. Students also investigate essential principles by conducting laboratory experiments related to the topics studied in the classroom. P-spice is used to analyze electrical circuits using personal computers. Lab accompanies EE 221. Prerequisites: MATH 321 and "C" or better in EE 220.

EE 222-222L - Circuits and Machines and Lab Credits: 4
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. 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 220. Corequisites: EE 222L-222.

EE 224L - EE Software Tools Lab Credits: 1
Introduction to software application tools used in a majority of electrical engineering courses. Two primary applications tools studied are PSpice (circuit simulation) and MATLAB (matrix-based mathematics software). The course enables rapid mastery of each application's syntax and provides an ability to apply each tool to analyze and/or solve electrical engineering problems. The course is taught concurrently with EE 222 (Circuits and Machines) allowing for several circuit applications to be explored while learning the fundamentals of each tool. Prerequisites: "C" or better in EE 220 or consent. Corequisites: EE 222.

EE 245-245L - Digital Systems and Lab Credits: 4
The fundamental concepts of analysis and design of digital circuits including combinational and sequential logic design using TTL, CMOS, PLD's and software tools. Laboratory topics which enhance the design concepts of the lecture course, EE 245. Prerequisites: "C" or better in CSC 150 or CSC 218. Corequisites: EE 245L-245.
EE 260 - Electronic Materials Credits: 3
Introduction to the materials, processes and designs used for the fabrication of electronic devices and packaging. Prerequisites: CHEM 112 and PHYS 213. Corequisites: EE 220.

EE 291 - Independent Study Credits: 1-3

EE 292 – Topics Credits: 1-3

EE 300-300L - Basic Electrical Engineering I and Lab Credits: 3
Circuit analysis and measurement concepts applicable to dc and sinusoidal ac electrical systems, including Ohm's Law and Kirchhoff's Laws. Non-EE students. Hands-on exposure to electrical components, circuits, test equipment and safety issues. Experiments are designed to reinforce the theoretical concepts presented in EE 300. For non-EE students. Hands-on exposure to electrical components, circuits, test equipment and safety issues. Experiments are designed to reinforce the theoretical concepts presented in EE 300. For non-EE students. Prerequisites: MATH 125 and PHYS 213. Corequisites: EE 300L-300L.

EE 310 - Probabilistic Methods in Electrical Engineering Credits: 3
Basic probability and random variables. Applications to system reliability and effect of tolerance specifications. Description of engineering systems and problems using non-deterministic 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-Harwitz 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 (COM) Credits: 3
Description of deterministic signals through use of Fourier Series, Fourier and Laplace transforms. System descriptions and response treatment by differential equations and transform theory. Prerequisites: "C" or better in EE 221 or EE 222.

EE 317 - Signals and Systems II Credits: 3
Study of discrete time signals and systems, including difference equations, discrete Fourier transforms, and Z transform. Applications and methods of digital signal filtering are considered. Prerequisites: EE 316.

EE 320-320L - Electromagnetics I (COM) Credits: 4
Presents concepts of electronic devices and circuits including modeling of semiconductor devices, analysis and design of transistor biasing circuits, and analysis and design of linear amplifiers. Use of computer simulation tools and breadboarding as part of the circuit design process is emphasized. Students are introduced to methods for designing circuits that still meet specifications even when there are statistical variations in the component values. Lab accompanies EE 320. Prerequisites: "C" or better in EE 221 or EE 222.

EE 321-321L - Electronics II and Lab Credits: 4

EE 347-347L - Microcontroller Systems Design and Lab 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. Laboratory topics which enhance the design concepts of the concurrent lecture course, EE 347. Prerequisites: "C" or better in EE 245-245L and either CSC 250, Corequisites: EE 347L-347L.

EE 360 - Electronic Devices Credits: 3
Introduction to microelectronic devices, semiconductor and junction theory, semiconductor devices, other solid-state devices. Prerequisites: EE 260.

EE 385 - Electromagnetics Credits: 4
Experimental results of Coulomb, Ampere, and Faraday, classical field theory. Forces, potentials, energy storage and dissipation are all treated for static fields. Faraday's induction law, Maxwell's displacement current, and a complete description of the time-varying fields given by Maxwell's equations. Prerequisites: EE 221-221L or EE 222-222L and MATH 225.

EE 420-420L - Electronics III and Lab Credits: 4
Selected topics in the design of analog and digital electronics. Provides increased understanding of theory, simulation, and application of semiconductor devices. Experimental design and analysis of analog and digital electronic circuits. Prerequisites: EE 245 and EE 321-321L. Corequisites: EE 420L-420L.

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.

EE 430-430L - Electromechanical Systems and Lab Credits: 4
Basic engineering laws and concepts in analysis of electromechanical systems and devices. Includes study of DC and AC machines, and electronic drives. Systems, including electronic drives, electric machines, and mechanical loads, are analyzed in open-loop and closed-loop control for systems under steady-state and transient conditions. Experimental work with electronic drives and electric machines. Prerequisites: EE 385. Corequisites: EE 430L-430L.

EE 434-434L - Power Systems and Lab Credits: 4
Basic parameters of transmission lines. Representation of power systems, symmetrical components, network equations and solutions, load-flow studies and load-flow control, and symmetrical faults on synchronous machines. Computer (PowerWorld Simulator and/or PSCAD) modeling and simulation of power systems. Load-flow and load-flow control, symmetrical and asymmetrical faults, and contingency analysis studies are performed. Prerequisites: EE 385. Corequisites: EE 434L-434L.

EE 436-436L/536-536L - Photovoltaic Systems Engineering and Lab Credits: 3, 1
Fundamentals of hybrid photovoltaic power systems. Topics may include: an overview of energy and electricity use; solar resource characteristics; load assessment; the fundamentals of solar cells, batteries, power electronics, and generators and other power sources; power system design; the National Electric Code; and energy economics. This lab provides practical experience in the design of hybrid photovoltaic power systems. Prerequisites: EE 320 and EE 360. Corequisites: EE 436L-436L/536L-536L.

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 electrical generation, substations and industrial sites in the four-state area of South Dakota, North Dakota, Minnesota, and Wisconsin, which make a significant contribution to present electric power technology. Typical sites have included hydro, steam, and nuclear generation plants; sunflower and wood, and garbage co-generation plants; lignite coal fields; 400 kV DC transmission line terminals; 500 kV AC substation; energy control centers; coal gasification plant; static VAR generators, taconite mining and paper mills, wind power manufacturers, coal handling facilities, various manufacturing facilities. Prerequisites: Instructor consent.

EE 454-554 - Biomedical Instrumentation & Electrical Safety Credits: 3
The design of electronic instrumentation for physiological applications. Emphasis on modeling and design of biopotential electrode/amplifier systems, physiological measurement techniques, therapeutic and prosthetic devices, and electrical safety in health care facilities. Prerequisites: EE 321 or consent.

EE 460-460L/560-560L - Sensor and Measurements Laboratory Credits: 2, 1
Introduction to the operation, design, testing and applications of modern sensors in use and under development. Signal conditioning and system integration are also reviewed. Laboratory to accompany EE 460-560. Corequisites: EE 460L-460L/560L-560L.

EE 462L-562L - Electronic Materials Lab Credits: 1
An introduction to microelectronic fabrication techniques including evaporative and sputter deposition, photolithography, mask design, and packaging. Prerequisites: Instructor consent.
EE 464 - Senior Design 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 463. Typical topics include 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, verification and certification, use of probability and statistics for reliable design, interpretation of data sheets, and component selection. Prerequisites: Senior standing and completed EE 315, EE 317, EE 321-321L, EE 347-347L, EE 360, and ENGL 277.

EE 465 - Senior Design II (COM) (AW) Credits: 2
Sequel to EE 464 Senior Design I. Seniors build and test design project in simulated environment incorporating engineering standards and realistic constraints. Requirements include laboratory notebook, progress reports, final oral presentation and written report. Prerequisites: EE 464.

EE 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 471-471L/571-571L - Fiber Optic Communications and Lab Credits: 4
Theory and application of optical fibers and communication systems. Topics include fundamentals of optical fiber waveguides, electrically-lossless sources, single-mode and multimode, propagation, coupling consideration, photodetectors, signal degradation, fabrication and cabling, and transmission linked analysis. This laboratory reinforces the theoretical concepts presented in the lecture course, EE 471-471L. Topics include basic knowledge and skills needed for handling and testing optical fibers, characteristics of optical components, fiber optic communication systems, and fiber-optic sensing systems. Prerequisites: EE 316. Corequisites: EE 471L-471L/571L-571L.

EE 475-575 - Digital Image Processing Credits: 3
Introduction to the fundamentals of digital image processing. Topics include image formation, transforms, enhancement, restoration, compression, and analysis. Prerequisites: EE 317 or consent.

EE 491 - Independent Study Credits: 1-3
EE 492-492L - Topics Credits: 1-3
EE 492L-492L - Topics in Laboratory Experience Credits: 1
EE 494 - Internship Credits: 1-3
EE 497 - Cooperative Education Credits: 1-3
EE 498 - Undergraduate Research/Scholarship Credits: 1-3
EE 591 - Independent Study Credits: 1-4
EE 691 - Independent Study Credits: 1-3
EE 692 - Topics Credits: 1-3
EE 702 - Theory and Applications of Nanoscale Materials Credits: 3
EE 716 - Printed Electronics Materials and Processes Credits: 3
EE 720 - Synthesis and Characterization of Nanomaterials Credits: 3
EE 723 - Luminescent Spectroscopy Materials Credits: 3
EE 735 - Photovoltaics Credits: 3
EE 736 - Advanced Photovoltaics Credits: 3
EE 737 - Organic Photovoltaics Credits: 3
EE 751 - Linear Systems Theory Credits: 3
EE 765 - Electric Properties of Materials Credits: 3
EE 766 - Advanced Electronic Materials Credits: 3
EE 770 - Information and Signal Processing Credits: 3
EE 785 - Microwave Theory Credits: 3
EE 788 - Engineering Research or Design Paper Credits: 1-2
EE 790 - Seminar Credits: 1
EE 791 - Independent Study Credits: 1-9
EE 792 - Topics Credits: 1-3
EE 798 - Thesis Credits: 1-7
EE 898D - Dissertation Credits: Variable

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. Prerequisites: CHEM 112 AND BIOL 101, BIOL 103, BIOL 151 or BIOL 153. Notes: ** Course meets IGR #2.

EES 425-525L/525L - Disturbance Ecology and Lab Credits: 4
Introduction to basic concepts of disturbance ecology. Demonstration and discussion of linkages between basic biology and management of natural resources. Introduction to field and laboratory techniques for monitoring and assessment of ecological responses to pollution and other forms of disturbance. Prerequisites: BIOL 153 and BIOL 311/NRM 311. Corequisites: EES 425L-4255L/525L-525L.

EES 491 - Independent Study Credits: 1-3
EES 492 - Topics Credits: 1-3
EES 494 - Internship Credits: 1-12
EES 496 - Field Experience Credits: 1-12
EES 498 - Undergraduate Research/Scholarship Credits: 1-4
EES 592 - Topics Credits: 1-7
EES 692 - Topics Credits: 1-7

EFA (Events and Facilities Administration)

EFA 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. Cross-Listed: HMGT 355.

EFA 415 - Recreation and Sport Facility Management Credits: 3
Advanced study of recreation and sport operations and facility management including planning and design, fiscal and personnel management (including fundraising), legal considerations, safety and control, maintenance, and equipment, as these relate to indoor and outdoor recreation/sport facilities. Cross-Listed: RECR 415.

EFA 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: EFA 355/HMGT 355 and Junior standing or consent.

EFA 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. Cross-Listed: HMGT 472.

EFA 482 - Hospitality Management 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. Cross-Listed: HMGT 482.

EFA 491 - Independent Study Credits: 1-3
EFA 494 - Internship Credits: 1-3

EHS (Education and Human Sciences)

EHS 109 - 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. Notes: ** Course meets IGR #1.

EHS 309 - Interdisciplinary Group Processes Credits: 2
This course is designed to help students to expand critical thinking skills and intellectual risk-taking strategies, learn to manage feedback and critique processes, and apply innovative solutions through problem-based learning in
Students are advised to check for most current descriptions at: www.catalog.sdstate.edu
For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.

an interdisciplinary setting. Students will continue to investigate, reflect on, and integrate their awareness of contemporary issues, diversity, and wellness topics introduced in EHS 109.

EHS 310 - Leadership for Families and the Food System Credits: 3
Principles of leadership within the unique contexts of agriculture, biological sciences, family and consumer sciences. Topics covered include definitions and approaches to the study of leadership, leadership styles, gender and ethnic diversity, leadership in groups, ethical issues, mission statements, and emerging leadership issues. Cross-Listed: ABS 310.

ELED (Elementary Education)

ELED 488 - K-8 Student Teaching (COM) Credits: 2-16
Students preparing for teaching in the elementary school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved elementary school. An additional "Mandatory Fee" applies to this course.

EHEL 493-593 - Workshop Credits: 1-3 *
EHEL 495 - Practicum Credits: 1-12
EHEL 592 - Topics Credits: 1-3
EHEL 748 - Elementary Curriculum Practicum Credits: 1

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 (COM) 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.

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.

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.

EM 422-522 - Theory of Elasticity Credits: 3
Analysis of stress and strain; equilibrium and compatibility equations; Hook's law; fundamental problems in the theory of elasticity; plane-stress and plane-strain problems of the narrow beam, rotating discs and a plate with a circular hole. Prerequisites: EM 321 and MATH 331.

EM 423-523 - Theory of Plasticity Credits: 3
Analysis of stress and strain; plastic behavior of materials; basic laws of plastic flow; applications to bending of beams, torsion of bars and thick-walled cylinders; slip line theory and its application to extrusion problems; limit analysis theorems and their applications to structural problems. Prerequisites: EM 422-522 or consent.

EM 624 - Theory of Plates and Shells Credits: 3
EM 731 - Advanced Fluid Mechanics Credits: 3
EM 741 - Finite Element Analysis Credits: 3

ENGL (English)

ENGL 003 - English as a Second Language: Grammar Review and Intermediate Composition (COM) Credits: 3
Conversation, listening, and reading comprehension, vocabulary and idioms, grammar review and intermediate composition.

ENGL 013 - English as a Second Language: More Complex Structural Patterns and Advanced Composition (COM) Credits: 3
Conversation, listening, and reading comprehension, vocabulary and idioms, more complex structural patterns, and advanced composition. Prerequisites: ENGL 003 or placement.

ENGL 023 - English as a Second Language: Listening and Reading, Grammar, Comprehension (COM) Credits: 3-5
A multi-skills course preliminary to ENGL 003 and ENGL 013. Reading and listening comprehension, vocabulary building, pronunciation, grammar and sentence structure, and formal and informal written and spoken English. A major focus will be written and oral sources. Prerequisites: Placement or permission of the instructor. May be required instead of or in addition to other English courses.

ENGL 031 - Basic Writing I (COM) Credits: 1
Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation. Notes: Taught only as needed.

ENGL 032 - Basic Writing II (COM) Credits: 2
Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

ENGL 033 - Basic Writing III (COM) Credits: 3
Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

ENGL 099 - English As a Second Language (COM) Credits: 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 * Credits: 3
Practice in the skills, research, and documentation needed for effective academic writing. Analysis of a variety of academic and non-academic texts, rhetorical structures, critical thinking, and audience will be included. Prerequisites: ENGL 032, ENGL 033, or placement. Notes: * Course meets SGR #1 and SGR #7.

ENGL 125 - Introduction to Peace and Conflict Studies * ** Credits: 3
Introduction to historical and contemporary debates within the discipline of Peace and Conflict Studies, during which each student is guided to identify her or his own interests within those debates, and then encouraged to evaluate and apply those interests within a coordinated service learning experience. Cross-Listed: GLST 125. Notes: * Course meets SGR #4 or ** IGR #2.

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. Students will learn to write from a variety of critical and theoretical stances. In addition, the course provides training in research methods for the discipline, including use of print and electronic sources, and in MLA documentation style. Students will generate bibliographies, source studies, and both documented and undocumented critical papers. Papers will be based on readings from poetry, fiction, and drama.

ENGL 201 - Composition II * Credits: 3
Study of and practice in writing persuasive prose, with the aim to improve writing skills in all disciplines. Prerequisites: ENGL 101. Notes: * Course meets SGR #1 and SGR #7.

ENGL 210 - Introduction to Literature * ** (COM) Credits: 3
Readings in fiction, drama, and poetry to acquaint students with literature and aesthetic form. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #2.

ENGL 211 - World Literature I * ** (COM) Credits: 3
Selected works of world literature in translation from ancient times through the Renaissance. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #2.

ENGL 212 - World Literature II * ** (COM) (G) Credits: 3
Selected works of world literature in translation since the Renaissance. ENGL 211 and 212 need not be taken in sequence. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #2.
ENGL 221 - British Literature I * ** (COM) (G) Credits: 3
A chronological survey of British literature from Old English through the 18th century. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #2.

ENGL 222 - British Literature II * ** (COM) (G) 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 or ** IGR #2.

ENGL 240 - Juvenile Literature * ** 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 or ** IGR #2.

ENGL 241 - American Literature I * ** (COM) Credits: 3
Background and survey of major works from the beginnings to the Civil War. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #2.

ENGL 242 - American Literature II * ** (COM) Credits: 3
Background 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 or ** IGR #2.

ENGL 248 - Women in Literature * ** (COM) 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 or ** IGR #2.

ENGL 249 - Literature of Diverse Cultures * ** (G) 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 or ** IGR #2.

ENGL 250 - Science Fiction * (COM) Credits: 3
A survey of short stories and novels from the 19th century to the present. Notes: * Course meets SGR #4.

ENGL 256 - Literature of the American West * ** (COM) Credits: 3
A study of the literature produced in our region, centered on the Great Plains, including that of Native Americans, both oral and written; of pioneers, immigrants; and farmers; Western literature, and current writers. Prerequisites: ENGL 101. Cross-Listed: AIS 256. Notes: * Course meets SGR #4 or ** IGR #2.

ENGL 268 - Literature * (COM) 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* Credits: 3
Study and practice of technical writing in Engineering and related disciplines. Prerequisites: ENGL 101 and GE 101, GE 109-109L or PHYS 109 or consent. Notes: * Course meets SGR #1 and SGR #7.

ENGL 283 - Creative Writing I * ** (COM) Credits: 3
Study and practice in the techniques of writing fiction, poetry and/or drama. Prerequisites: ENGL 101. Notes: * Course meets SGR #1, SGR #7, and ** IGR #2.

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 334 - English Drama: Credits: 3
Course content can be any period or type of English drama; the period or type will be identified each semester as, for example, "English Drama: Renaissance" or "English Drama: Contemporary," etc. May be repeated with different name and content. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.
ENGL 427-527 - Advanced Shakespeare Credits: 3
Selected plays of Shakespeare and significant Shakespearean criticism. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 428-528 - English Renaissance/16th Century Literature (COM) Credits: 3
Major writers of the 16th and early 17th centuries, excluding Shakespeare. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 434-534 - 18th Century English Literature (COM) Credits: 3
British poetry, prose, drama, fiction, and criticism, 1660-1800. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 437-537 - English Romantic Literature (COM) Credits: 3
English literature of the Romantic movement (1789-1832). Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 438-538 - English Victorian Literature (COM) Credits: 3
English literature of the Victorian period (1830-1900). Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 439-539 - Modern English Literature (COM) Credits: 3
English literature from 1900 to 1945. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 440-540 - Contemporary English Literature Credits: 3
English literature since WWII. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 445 - American Indian Literature (COM) Credits: 3
Traditional oral literature and autobiographies of American Indians. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites. Cross-Listed: AIS 445.

ENGL 447 - American Indian Literature of the Present Credits: 3
Twentieth-century autobiography, fiction, and poetry by Native American authors. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites. Cross-Listed: AIS 447.

ENGL 453-553 - American Renaissance (COM) Credits: 3
An analysis of the major American writers from 1820-1865. Prerequisites: Junior class standing; ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 454-554 - American Realism and Naturalism (COM) Credits: 3
American literature of the realist and naturalist movements of the late 19th and early 20th centuries. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 459-559 - American Literature Between the Wars Credits: 3
American literature of the modernist movement from 1917 to 1945. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 460-560 - Contemporary American Literature Credits: 3
American literature since WWII. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 470 - Capstone in Peace and Conflict Studies Credits: 3
Student-driven course in which the instructor guides each student through the completion of an experience-based research project of her or his design. The topic of this project will both derive from and expand upon the interests that the student has identified during the Introduction to Peace and Conflict Studies course. Prerequisites: ENGL 125; ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 479 - Capstone Course and Writing in the Discipline (AW) Credits: 3
In depth study of selected major author(s), work(s), or other aspects of literary history; incorporates a review of current methods of literary criticism and an intensive focus on research and writing within the discipline. To be taken in the student's final on-campus Spring semester. Prerequisites: ENGL 151; Senior standing required; ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 481-581 - Travel Studies Credits: (1-5)
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report. Prerequisites: ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 483-583 - Advanced Creative Writing (COM) Credits: 3
Advanced study of the writing process with the emphasis on refining technique and style in a genre of the student's choice, fiction, creative nonfiction, and drama. Prerequisites: ENGL 383. ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 484 - Literary Criticism (COM) Credits: 3
The theory and practice of various critical approaches to literature. Prerequisites: ENGL 101. ENGL 201 or ENGL 283 are recommended prerequisites.

ENGL 490 - Seminar Credits: 1-4
ENGL 491-591 - Independent Study Credits: 1-5
ENGL 492-592 - Topics Credits: 1-5
ENGL 494 - Internship Credits: 1-12
ENGL 704 - Introduction to Graduate Studies Credits: 3
ENGL 705 - Seminar in Teaching Composition Credits: 3
ENGL 710 - Seminar in Rhetoric Credits: 3
ENGL 724 - Seminar in English Literature to 1660 Credits: 3
ENGL 725 - Seminar in English Literature since 1660 Credits: 3
ENGL 728 - Seminar in American Literature to 1900 Credits: 3
ENGL 729 - Seminar in American Literature since 1900 Credits: 3
ENGL 742 - Seminar in American Indian Literature Credits: 3
ENGL 755 - Seminar in Minority Literature Credits: 3
ENGL 791 - Independent Study Credits: 1-3
ENGL 792 - Topics Credits: 1-4
ENGL 798 - Thesis Credits: 1-7

ENTR (Entrepreneurship)

ENTR 202 - Human Resource Operations in Entrepreneurship Credits: 1
Study of human resource issues and regulations and how they impact operations and work flow efficiencies.

ENTR 203 - Intellectual Property in Entrepreneurship Credits: 1
Students will learn of mechanisms for the protection of ideas, products or services from unauthorized use. Students will also understand the relative merits of patents, trademarks, and copyrights and learn of ways to make such mechanism work for them.

ENTR 204 - Finance/ Venture Capital in Entrepreneurship Credits: 1
Study of the various financing options and their requirements that are available to help grow a business including traditional financing, angel investors, venture capital and government programs.

ENTR 205 - Legal Issues/Business Structure/Risk Management Credits: 1
Legal Issues: Legal structure of your business; government regulations dealing with business taxation, employees, consumer protection, commerce, zoning, bankruptcy, and the environment; contract and lease terms and requirements.

ENTR 206 - Taxation in Entrepreneurship Credits: 1
Study of the Internal Revenue Code sections and provisions that apply to individuals conducting business under sole proprietorship, partnership, s-corporation and/or limited liability company form of organization. Sales and Use tax reporting requirements.

ENTR 207 - Financial Analysis/Record Keeping/Accounting in Entrepreneurship Credits: 1
The course will cover financial projections in the context of business planning; general record keeping and accounting practices for existing businesses; and financial analysis to make business decisions.

ENTR 208 - Ecommerce in Entrepreneurship Credits: 1
This course provides a basic technical introduction to build "virtual" Internet-based businesses in creating opportunities and marketing plans. It investigates some different facets of electronic commerce and pertinent basic technologies to develop strategies.
ENTR 236 - Innovation & Creativity Credits: 3
Students will learn about the variables that stimulate and inhibit creativity and innovation in individuals, teams, and organizations. Strong emphasis is placed on thinking outside the structured environment while dealing with real applications. Students will learn the process of generating ideas that lead to innovative outcomes.

ENTR 237 - ENTR II: Entrepreneurship Development Credits: 3
Students will learn and understand the concepts of what it takes to be an entrepreneur by understanding entrepreneurial characteristics, forms of business, and business finances. Students will learn the value of doing a feasibility analysis, developing goals and objectives, and a vision and mission for a business. Students will also develop a strategic business plan and implement the business plan by starting a team business. Prerequisites: ENTR 236.

ENTR 301 - Marketing/Promotion in Entrepreneurship Credits: 3
Marketing: Define marketing and market(s); analyze the customer and competition, develop strategies using the 4-P's of marketing—product, price, promotion, and place; learn the basics of collecting information and conducting market research.

ENTR 302 - International & Global Marketing in Entrepreneurship Credits: 1
This module will examine opportunities, risk, and reward involved in marketing products and services in the global market as well as an analysis of business types that have the potential for success outside the United States.

ENTR 304 - Strategy/Pricing/Location in Entrepreneurship Credits: 3
Students will learn concepts and theories in marketing strategies; the techniques used for pricing products based on development costs and market demand, and the effects of location on sales, strategy, and development.

ENTR 305 - Selling in Entrepreneurship Credits: 1
Students will learn to identify and develop communication skills to promote products in regards to consumer needs and desires.

ENTR 306 - The Harvest in Entrepreneurship Credits: 1
Discussion and analysis of various methods for harvesting a business including succession of planning, licensing, franchising, and when to sell a business.

ENTR 320 - Principles & Practices of Social Entrepreneurship Credits: 3
Students will understand principles and practices of social entrepreneurship and be introduced to the perspectives and endeavors of thought leaders and entrepreneurs who address social needs through various organizations. Students will be introduced to frameworks for social change at the local, national, and global level, and the role of personal factors (including social responsibility) in shaping social good and growth.

ENTR 336 - Entrepreneurship I (COM) Credits: 3
This course is an introduction to the concepts, terminology, and process of new venture creation, operation and growth, as well as the introduction of entrepreneurial management practices into existing businesses. New ventures include public and non-profit institutions as well as for-profit businesses. This course will assist in the identification of entrepreneurial opportunities and strategies and the role of personal factors (including creativity). Legal, ethical, and social responsibilities are emphasized.

ENTR 338 - ENTR III: New Venture Creation Credits: 3
Students will build on entrepreneurial concepts by discovering methods to structure and harvest a business, evaluate growth opportunities and challenges, understand advanced market research, business planning, financial concepts, ratio trend analysis, and business ethics. Students will apply the knowledge by writing individual business and marketing plans.

ENTR 438-538 - Entrepreneurship II (COM) Credits: 3
This course focuses on the process of screening an opportunity, drafting a personal entrepreneurial strategy, and understanding the business plan writing process. Building the entrepreneurial team and the acquisition and management of financial resources are emphasized along with venture growth, harvest strategies, and valuation. Prerequisites: BADM 336/ENTR 336. Cross-Listed: BADM 438-538.

ENTR 483 - Small Business Consulting (COM) Credits: 3
This course is a consulting program whereby students, working under faculty guidance, assist businesses by researching and developing possible solutions to specific problems involved in business start-up and expansion.

ENTR 488 - Entrepreneurial Studies Capstone Credits: 1
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.

ENTR 489 - Business Plan Writing and Competition (COM) Credits: 1
Students will write a business plan and present it to a panel of faculty and business community members. The top three business plan presenters will move on to a statewide competition. Cross-Listed: BADM 489.

ENTR 494 - Internship Credits: 3

EPSY (Educational Psychology)

EPSY 302 - Educational Psychology (COM) Credits: 3
A comprehensive study of the fundamental psychological facts, principles and theories that apply to the nature of the learner and the learning process.

EPSY 422 - Psychology of Adolescence (COM) Credits: 3
A study of the behavior and development of middle and secondary level students.

EPSY 526 - Psychology of the Early Adolescent Learner Credits: 3
EPSY 723 - Adolescent Psychology Credits: 3
EPSY 740 - Advanced Educational Psychology Credits: 3

ET (Electronics Technology)

ET 118-118L - DC and AC Concepts and Lab Credits: 6

ET 122-122L - Introductory Circuits and Lab Credits: 4
The course provides a foundation in the theory and operation of semiconductor devices used to predict, analyze, and measure electrical circuits. Basic electrical components, Kirchhoff's Laws, series/parallel circuits, instruments, network analysis, capacitance, inductance, and impedance. Corequisites: ET 122L-ET 122.

ET 210-210L - Introduction to Electronic Systems Credits: 4
Introduction to electronic systems and circuits. Direct current and alternating current circuits including Ohm's law and Kirchhoff's laws. Measurement and characterization of electronic systems at the block diagram level. Introduction to semiconductors, including diodes, BJTs and MOSFETs. Introduction to digital circuitry, including basic logic gates. Laboratory practice includes the proper use of standard test instruments in troubleshooting. A study in the operation of active devices and their applications. Troubleshooting methods, measurement techniques, introductory circuit board design and soldering fundamentals are also explored. Prerequisites: MATH 102. Corequisites: ET 210L-210.

ET 230-230L - Introductory Digital and Lab Credits: 4
ET 232-232L - Digital Electronics & Microprocessors & Lab Credits: 3
Development of digital logic and circuit building blocks, number systems, Boolean algebra, combinational and sequential logic, and integrated logic families. Introduction to the architecture, programming, application and troubleshooting of programmable logic device (PLD) electronic systems, including VHDL programming. Exploration of the basic architecture of microprocessors and applications. Laboratory practice includes digital circuit measurement and troubleshooting techniques. Laboratory to accompany ET 232. Prerequisites: ET 210-210L. Corequisites: ET 232L-232.

ET 240 - Techniques of Servicing Credits: 2
The practical aspects of servicing many types of electronic equipment. The latest techniques and equipment will be available for demonstration and laboratory usage. Prerequisites: EET 210.

ET 291 - Independent Study Credits: 1-3
ET 292 – Topics Credits: 1-3

ET 320-320L - Analog Electronics and Lab 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 320L-320.

ET 325-325L - Advanced Analog Electronics and Lab 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 320.

ET 330-330L - Microcontrollers and Networks and Lab Credits: 3, 0
Introduction to the architecture, programming, application and troubleshooting of single-chip microcontroller electronic systems; includes programming in microcontroller-specific BASIC language; interface of the microcontroller for practical applications, measurement techniques and instrumentation; network components: hardware, software, protocols (TCP/IP), topologies, and cabling. Laboratory practice includes the use of in-circuit emulation, personal computer hardware and software installation and troubleshooting techniques. Prerequisites: ET 210. Corequisites: ET 330L-330L.

ET 332-332L - Advanced Digital Electronics and Lab Credits: 3
Advanced digital logic at a component and systems level, using VHDL programming. Memory mapping and state machine operations. Differentiation of logic family device specifications and small system design. Prerequisites: ET 232.

ET 345-345L - Power Systems and Lab Credits: 3
Basics of electrical power and wiring, including panel board, conductor and over-current protection sizing, 3-phase power, grounding, commercial and industrial power systems installation, and power monitoring and reporting. Current National Electric Code will be reviewed. Prerequisites: ET 320.

ET 370-370L - Computer Systems and Lab Credits: 4
A course to familiarize students with hardware/software configurations, installations, usage, and basic troubleshooting techniques of past and current personal computers. Prerequisites: ET 330. Corequisites: ET 370L-370L.

ET 380-380L - Circuit Boards and Design and Lab Credits: 3
A course to acquaint the student with procedures used to prototype and construct circuits used in electronics manufacturing. Topics include pre-fabrication planning, component specification, printed circuit board layout and production, customer interfacing, assembly and soldering, and final test procedures. State-of-the-art circuit board layout software will be used in the design of an electronics circuit project. Project management techniques introduced. Prerequisites: ET 320. Corequisites: ET 380L-380L.

ET 426-426L - Communication Systems and Lab Credits: 4
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 320. Corequisites: ET 426L-426.

ET 428-428L - Advanced Communication Systems and Lab Credits: 4
Complex radio systems including repeaters, mobile telephone, and paging systems. Systems design and troubleshooting techniques are studied as well as microwave and basic radar. Prerequisites: ET 426. Corequisites: ET 428L-428.

ET 451-451L - Industrial Controls and PLCs and Lab Credits: 3
The course is designed to provide students with the fundamentals of industrial control systems, control system classifications and control operations including programmable logic controllers, process control and common detection sensors, motion control systems, and motors and motor drive systems. Laboratory to accompany ET 451. Prerequisites: ET 210. Corequisites: ET 451L-451L.

ET 453-453L - Manufacturing Automation and Lab Credits: 3
The course offers advanced topics in manufacturing automation including automation hardware/software, system design and integration, and management techniques for improving design and manufacturing operations. Hands-on lab activities provide the students the opportunity to develop and program automated systems. Corequisites: ET 453L-453L. Cross-Listed: MNET 453.

ET 471-471L - Capstone Experience and Lab (AW) Credits: 2
Technical projects developed in Project Management are completed. Student teams present results in a public venue. Prerequisites: OM 469 or GE 469. Corequisites: OM/MNET/ET 471L-471L. Cross-Listed: OM 471L-471L/MNET 471L-471L.

ET 472-472L - Networking I and Lab Credits: 4
The study of personal computer systems, concentrating on Intel-type personal computers, networking and data communications from a software and management point of view. Microsoft NT and Novell are explored. Prerequisites: ET 370. Corequisites: ET 472L-472L.

ET 474-474L - Networking II and Lab Credits: 4
Further study of personal computer systems, concentrating on Intel-type personal computers, networking and data communications from a software and management point of view. Microsoft NT and Novell are explored. Prerequisites: ET 472. Corequisites: ET 474L-474L.

EURO (European Studies)
EURO 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 389 - 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.

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 (Experiential Learning)
EXPL 178-578 - 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. Prerequisites: Consent.
EXPL 187 - Study Abroad: Global Learning (COM) Credits: 1-4
The course will introduce students to studying abroad during college and will discuss topics related to cross-cultural experiences.

EXPL 287 - Study Abroad: Global Learning (COM) Credits: 1-4
The course will introduce students to studying abroad during college and will discuss topics related to cross-cultural experiences.

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 387 - Study Abroad: Global Learning (COM) Credits: 1-4
The course will introduce students to studying abroad during college and will discuss topics related to cross-cultural experiences.

EXPL 487-587 - Study Abroad (COM) Credits: 0-18
The course will introduce students to studying abroad during college and will discuss topics related to cross-cultural experiences.

FCSE (Family and Consumer Sciences Education)

FCSE 1-7 – Thesis Credits: 1-7
FCSE 292 – Topics Credits: 1-3
FCSE 295 – Practicum Credits: 1
FCSE 331 - Work Force Preparation in Family and Consumer Sciences Credits: 2
Strategies for developing curriculum and designing methods of instruction for teaching employability skills, career decision making and occupational areas of family and consumer sciences. A field experience will be included.

FCSE 405 - Philosophy of Career and Technical Education Credits: 2
Overview of career and technical education, including history and role and purpose in schools, communities and society; organization and characteristics of instructional programs at secondary, post-secondary and adult levels; career education; funding; and current trends and issues in career and technical education. Prerequisites: Sophomore status in education program. Corequisites: FCSE 295. Cross-listed: AGED 405. Notes: For prospective teachers in agriculture or family and consumer sciences education.

FCSE 411 - Philosophy and Methods Family and Consumer Sciences (AW) Credits: 4
The philosophical foundations and history of vocational family and consumer sciences programs in school systems. The learner and the constructivist learning process, curriculum development, and program planning, methods of instruction, selection and use of resource materials, and the educator's role will be studied in depth as preparation for the student teaching experience. Must be taken in semester immediately preceding.

FCSE 412-412L - Preparation for Student Teaching in FCSE and Lab Credits: 4
Planning and developing instruction to meet the needs of selected age groups in formal and informal settings. Classroom/laboratory management, integration of core academics into career and technical education, assessment, advisement of student organizations, professional issues, and current topics in education will be addressed in preparation for a career in an educational setting. Prerequisites: Senior Standing, AGED/FCSE 295, AGED/FCSE 405, AGED 404, EPSY 302, EDFN 475, SEED 314, and SEED 450. Corequisites: FCSE 412L-412L. Cross-listed: AGED 412-412L.

FCSE 421 - Adult Education Credits: 3
Theories, strategies and trends related to working with diverse adult audiences within the context of family and consumer sciences. Experience in working with adults will be included. Open to all majors.

FCSE 488 - 7-12 Student Teaching FCSE Credits: 1-6
An experiential application of teaching pedagogy and content in family and consumer sciences education under the supervision of a certified teacher in an approved program. Prerequisites: Admission into the Teacher Education Program and PS III, Senior Class Standing, and FCSE 412.

FCSE 491-591 - Independent Study Credits: 1-3
FCSE 592 - Topics Credits: 1-3
FCSE 595 – Practicum Credits: 1-3
FCSE 611 - History and Philosophy of FCS Credits: 3
FCSE 673 - Supervised Student Teaching in FCSE Credits: 6-9
FCSE 721 - Occupational Programs in FCS Credits: 3
FCSE 741 - Supervision of FCSE Credits: 2
FCSE 751 - Curriculum of FCS Credits: 3
FCSE 761 - Advanced Methods and Assessment in FCSE Credits: 3
FCSE 788 - Action Research Project Credits: 1-3
FCSE 792 – Topics Credits: 1-3
FCSE 798 – Thesis Credits: 1-7

FREN (French)

FREN 101 - Introductory French I * (COM) (G) 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) (G) 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) (G) Credits: 4
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 or ** IGR #2.

FREN 202 - Intermediate French II * ** (COM) (G) Credits: 4
Continues FREN 201. Laboratory as required. Prerequisites: FREN 201. Notes: * Course meets SGR #4 or ** IGR #2.

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 212 - Intermediate Oral Practice II Credits: 2-3
Intensive conversational work to develop interpersonal, interpretive, and presentational modes of communication in French. Prerequisites: FREN 201 and FREN 202 (completed or concurrent). Notes: May be taken concurrently with French 202 or with another course above 202.

FREN 296 - Field Experience Credits: 1-6

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 Credits: 1-3

FREN 433 - French Culture and Civilization (AW) 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 Credits: 1-3
FREN 492 - Topics Credits: 1-3
FREN 493 - Workshop Credits: 1-6
Prerequisites: FREN 202.

FREN 496 - Field Experience Credits: 1-6
FREN 591 - Independent Study Credits: 1-3

GE (General Engineering)

GE 101 - Introduction to Engineering and Technology Credits: 1
Students are introduced to the concept of being a professional and the ethics required of a professional person. A breadth of ideas is presented to the students which helps them in their career choice.

GE 109-109L - First Year Seminar and Lab ** Credits: 1,1
First-year experience 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. Laboratory to accompany GE109. Corequisites: GE 109L-109. Notes: ** Course meets IGR #1.

GE 121 - Engineering Design Graphics I Credits: 1
A course in graphical communication, expression and interpretation. The ability to visualize in three dimensions is developed through shape description, sketching and multi-view projection exercises. The emphasis is on visualization and free hand sketching. Also includes Engineering, Mechanical, and Architectural scales, geometric constructions, use of instruments, dimensioning, and sectional views. Corequisites: One MATH course except for 021, 101, 100T.

GE 122 - Engineering Design Graphics II Credits: 1
This course provides a basic in graphical descriptive geometry as applied to solving spatial problems. Graphical conventions including but not limited to section, scales, and dimensions are also covered. Prerequisites: GE 121.

GE 123 - Computer Aided Drawing Credits: 1
A course with Major emphasis on 2-dimensional drafting skills and 3-dimensional solid modeling utilizing microcomputer software. All work requires a "hands-on" approach. Prerequisites: GE 121 or ID 150 or LA 120.

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 ** (G) 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. Notes: ** Course meets IGR #2.

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 102 or higher and 1 course from PHYS. Cross-Listed: MNET 241.

GE 291 - Independent Study Credits: 1-3
GE 292 - Topics Credits: 1-3
GE 293 - Workshop Credits: 1-3

GE 310 - 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 410-510 - Human Factors in Design Credits: 3
Human factors engineering (HFE), sometimes called ergonomics, deals with optimizing working and living conditions through design for human use. This course will explore design methods to enhance the effectiveness and efficiency of work and to enhance product user's comfort, safety, health and satisfaction. Prerequisites: MATH 102.

GE 425-525 - Occupational Safety and Health Management Credits: 3
This course covers methods to implement and manage a safe work environment. Study will address OSHA standards and other related governmental regulations, hazard recognition and control, accident cost assessment, ergonomics, and emphasis on a proactive approach to accident prevention.

GE 469 - Project Management Credits: 3
Basic theory, application, and techniques 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 research. Prerequisites: Instructor consent.

GE 491-591 - Independent Study Credits: 1-3
GE 492-592 - Topics Credits: 1-3
GE 494 - Internship Credits: 1-3
GE 496 - Field Experience Credits: 1-6
GE 690 - Seminar Credits: 1-3
GE 691 - Independent Study Credits: 1-3
GE 696 - Field Experience Credits: 1-6
GE 788 - Research Problems/Projects Credits: 1-2
GE 798 - Thesis Credits: 1-7

GEOG (Geography)

GEOG 101 - Introduction to Geography * (COM) 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 131-131L - Physical Geography: Weather and Climate and Lab * (COM) Credits: 4
An introduction to the physical patterns of the Earth focusing on location, Earth-sun relationships, portrayal of the Earth, cartographic analysis, and weather and climate phenomena. Corequisites: GEOG 131L-131. Notes: * Course meets SGR #6.

GEOG 132-132L - Physical Geography: Natural Landscapes and Lab * (COM) Credits: 4

GEOG 199 - GeoTech for the 21st Century Credits: 2
Introductory geographical analysis using technologies such as Geographical Information Systems (GIS), Global Positioning Systems (GPS), digital mapping, and remote sensing. Includes the collection and processing of information. Notes: Topics vary. May be repeated for credit.

Course Information 287
GEOG 200 - Introduction to Human Geography ** (COM) (G)
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 or ** IGR #2.

GEOG 210 - World Regional Geography ** (COM) (G) 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 or ** IGR #2.

GEOG 212 - Geography of North America * (COM) Credits: 3
A regional and topical analysis of the geographic patterns of the United States features and characteristics on a regional basis. Notes: * Course meets SGR #3.

GEOG 219 - Geography of South Dakota * 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 economics, dating from early Native American settlement through the present time period. Notes: * Course meets SGR #3.

GEOG 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3
Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Studio to accompany PS/GEOG 310. Prerequisites: GEOG 132-132L or PS 213-213L, or consent of instructor. Corequisites: GEOG 310L-310L. Cross-Listed: PS 310-310L. Notes: ** Course meets IGR#2.

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
An in-depth examination of various geophysical events (earthquakes, volcanic eruptions, tsunami, earth failures), meteorological events (floods, severe storms -- tornados, hurricanes, blizzards, lightning) and human induced disasters (technological failures involving dams, nuclear power plants, etc.). Attention given to people's responses and their interactions with the environment plus prevention and amelioration efforts.

GEOG 351 - Economic Geography Credits: 3
A study of the factors involved in the location and distribution of economic activities and their impact on the commercial products and role in world trade.

GEOG 353 - Geography of Religion 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. Notes: ** Course meets IGR #2.

GEOG 382 - Quantitative Research Methods in Geography (AW) Credits: 3
The introduction of basic quantitative techniques and concepts for the analysis of geographic data. Focus on descriptive, inferential, and spatial statistics, emphasizing their applications in geographic research. Notes: STAT 281 recommended.

GEOG 383-383L - Cartography and Lab Credits: 3
History and principles of cartography. Emphasis on field mapping; map projections; cartographic design; map interpretations; and exercises in map making. Corequisites: GEOG 383L-383S.

GEOG 384-384L - Advanced Cartography and Lab Credits: 3
This course provides advanced cartographic training techniques as applied to practical applications in field mapping, the production of map projections, cartographic design, and map making. Prerequisites: GEOG 383. Corequisites: GEOG 384L-384L.

GEOG 400 - Cultural Geography (COM) Credits: 3
A detailed analysis of the concept of culture in a geographical context, including such applications as culture and nature, cultural growth and change, cultural universals, culture and economy, cultural relativities, cultural landscape, culture region, and cultural conflict.

GEOG 405 - Historical Geography Credits: 3
Historical periods portrayed against geographical background.

GEOG 415-515 - Environmental Geography ** 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. Notes: ** Course meets IGR #2.

GEOG 421-521 - Qualitative Research Methods in Geography (AW) Credits: 3
The theory and application of qualitative methods in geographic studies. Emphasis on the purpose and effective use of archival, visual, interview, survey, focus group, observation, and ethnography techniques. Design and implementation of research projects using qualitative methods as the primary data collection and analysis tool.

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 447 - Geography of the Future 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 - Site Selection and Development Credits: 3
Analysis of geographic factors involved in selection of locations and sites for manufacturing, commercial and agricultural enterprises.
GEOG 459-559 - Political Geography ** (COM) Credits: 3
Spatial perspectives of political phenomena from the local to the global scales. Issues include ethnicity, nationalism, boundaries, territory, power, electoral geography, and impacts on the natural environment. Notes: ** Course meets IGR #2.

GEOG 460-560 - Geopolitics Credits: 3
An introduction to geopolitics that addresses the fundamental links between power and space at the global, national, and local scales. Focuses on classical geopolitics, critical geopolitics, political-economic approaches to geopolitics, world orders and hegemonic cycles, historical development of the international state system, and geography of imperialism.

GEOG 461-561 - Urban Geography Credits: 3
Geography of cities: types, functions, and distribution of world cities. Special emphasis on planning of cities in the U.S.

GEOG 464 - Local and Regional Planning Credits: 3
Regional planning with particular reference to the upper Mid-West.

GEOG 470 - Intercultural Communication (COM) (G) 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: SPCM 470.

GEOG 472 - Introduction to GIS Credits: 3
This course introduces many of the basic concepts of Geographic Information Systems (GIS) and provides an overview of the functions and capabilities of ArcGIS Desktop GIS software and an introduction to the ArcGIS Spatial Analyst extension. It will be taught primarily as a hands-on-course with supplementary lectures, demos, and discussion.

GEOG 473-573 - GIS: Data Creation and Integration Credits: 3
This course introduces advanced tools and techniques of data creation, data integration, mapping, and spatial analysis in Geographic Information Systems (GIS). It provides basic approaches for solving problems of data integration including format identification, conversion, and spatial registration. Building on the skills and techniques learned in the introductory GIS course or equivalent, it gives a conceptual base to many methods and techniques associated with vector and raster-based spatial analysis including imagery. It provides an examination of the functions and capabilities of ArcGIS Desktop GIS software (including extensions).

GEOG 474-574 - GIS: Vector and Raster Modeling Credits: 3
This course introduces basic concepts of vector and raster modeling in Geographic Information Systems (GIS) with special emphasis is on construction and use of raster digital elevation models (DEMs). Provides in-depth experience with a range of geoprocessing techniques for handling and analyzing GIS data. Topics include vector processing in a model framework, weighted suitability modeling, path finding, modeling viewsheds, constructing surfaces from point samples, and spatial hydrologic modeling. Builds on the skills and techniques learned in the introductory GIS course or equivalent.

GEOG 475-575 - GIS Applications Credits: 3
This course explores the latest software and its applications in Geographic Information Sciences.

GEOG 482-582 - Travel Studies Credits: 1-4
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

GEOG 483-483L - Air Photo Interpretation and Lab Credits: 3
Development of skills and techniques involved in the interpretation of aerial photographs showing physiography, land use, industrial, commercial and military functions. Various computer softwares and other laboratory equipment will be applied to the methods and principles of air photo interpretation. Prerequisites: GEOG 383. Corequisites: GEOG 483L-483.

GEOG 484-484L - Remote Sensing and Lab Credits: 3
Applications of remote sensing. Development of remote sensing; instrumentation; and techniques and methodology that will aid in the determination of need and proper utilization of our physical and cultural resources. The lab is a hands-on experience using various software and the application of methods and principles of remote sensing. Corequisites: GEOG 484L-484.

GEOG 485-485L - Quantitative Remote Sensing and Lab Credits: 3
This course will concentrate on the digital processing and visualization of various types of remotely sensed imagery. Image sources, characteristics, formats and analysis techniques will be explored as well as the integration of remotely sensed imagery with GIS and GPS datasets. Prerequisites: GEOG 484. Corequisites: GEOG 485L-485L.

GEOG 490-590 - Seminar Credits: 1-4
GEOG 491-591 - Independent Study Credits: 1-4
GEOG 492 - Topics Credits: 1-5
GEOG 494 - Internship Credits: 1-12
GEOG 692 - Topics Credits: 1-4
GEOG 710 - Evolution of Geographic Thought Credits: 3
GEOG 714 - Research and Writing Credits: 3
GEOG 734 - Climatology Credits: 3
GEOG 741 - Quant. Remote Sensory for Terrestrial Monitoring Credits: 3
GEOG 742 - Cultural Geography Credits: 3
GEOG 743 - Geospatial Analysis Credits: 3
GEOG 760 - Adv. Methods in Geospatial Modeling: Topical Credits: 3
GEOG 765 - Advanced Studies in Land Utilization Credits: 1-4
GEOG 766 - Advanced Remote Sensing Application Credits: 3
GEOG 767 - Fire and Ecosystems Credits: 3
GEOG 785 - Quantitative Methods in Geography Credits: 3
GEOG 786 - Geographic Information Systems Credits: 3
GEOG 788 - Research Paper in Geography Credits: 1-3
GEOG 790 - Seminar Credits: 1-4
GEOG 791 - Independent Study Credits: 1-4
GEOG 792 - Topics Credits: 3
GEOG 794 - Internship Credits: 1-3
GEOG 798 - Thesis Credits: 1-7

GER (German)

GER 101 - Introductory German I * (COM) (G) 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) (G) Credits: 4
Continued emphasis on authentic listening, speaking, reading, writing, and culture skills at the elementary level. Prerequisites: GER 101. Notes: * Course meets SGR #4.

GER 201 - Intermediate German I * ** (COM) (G) (G) 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 and ** IGR #2.

GER 202 - Intermediate German II * ** (COM) (G) (G) 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 and ** IGR #2.

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 296 - Field Experience Credits: 1-6

GER 310 - Practical German Language Skills Credits: 3
This course is meant for students who have completed the 200-level sequence, either via coursework at SDSU or via an approved placement exam. It will give them a thorough review of important grammatical points and will lead them towards dealing with and understanding German texts. In the process, they will develop and improve their speaking skills. The combination of...
grammar review, reading, and discussion will give the student a solid foundation for the 311/312 sequence.

GER 311 - Composition and Conversation I (COM) Credits: 2
Oral and written work. Grammar review and composition; emphasis on German conversation. Maybe taken concurrently with GER 411. Prerequisites: GER 202 or consent.

GER 312 - Composition and Conversation II (COM) Credits: 2
Oral and written work. Grammar review and composition; emphasis on German conversation. Maybe taken concurrently with GER 412. Prerequisites: GER 202 or consent.

GER 330 - Reading and Writing for Communication Credits: 3
Development of reading, writing, and speaking proficiency through vocabulary needed to read and discuss literary and authentic texts. Prerequisites: GER 201 and GER 202.

GER 353 - Introduction to German Literature Credits: 3
Introduction to German Literature through reading and discussion. Prerequisites: GER 201 and GER 202.

GER 380 - Deutschland Heute (COM) Credits: 3
An examination of contemporary German society, politics, country and people. Taught in German. Prerequisites: GER 311 and GER 312.

GER 392 - Topics Credits: 2-3

GER 396 - Field Experience Credits: 1-6

GER 410 - Focus on German Grammar Credits: 3
Intensive study of challenging grammatical features of Standard German. Students will review important grammar concepts and apply them in various forms in writing and speech.

GER 411 - Advanced Composition and Conversation I (COM) Credits: 3
Conversational work, oral reports, discussion, diction. Maybe taken concurrently with GER 311. Prerequisites: GER 202.

GER 412 - Advanced Composition and Conversation II (COM) Credits: 3
Conversational work, oral reports, discussion, diction. Maybe taken concurrently with GER 312. Prerequisites: GER 202.

GER 433 - German Civilization I (COM) Credits: 3
The culture of the German-speaking countries form beginning to modern times including literary and artistic trends, governmental structures, and the life and customs of the people. Reading and discussions in German. Prerequisites: GER 202.

GER 434 - German Civilization II (COM) (AW) Credits: 3
The culture of the German-speaking countries from the beginning to the 18th century and then to modern times including literary and artistic trends, and customs. Reading and discussion in German.

GER 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 Credits: 3
An exploration of German film from its inception to the present, with research and discussion of the interrelationship between film and historical experience.

GER 491-591 - Independent Study Credits: 1-3
GER 492 - Topics Credits: 2-3
GER 496 - Field Experience Credits: 1-6

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 415-515 - Intergenerational Issues Credits: 1-3
Exploration of intergenerational issues (impacting both younger and older generations). Examination of intergenerational practice in the United States and internationally, including naturally occurring intergenerational activities and intentional programming, as a means of addressing intergenerational issues.

GERO 486-586 - Service Learning Credits: 1-3
Service-Learning in Gerontology, including service planning, interaction with community, and reflection. Prerequisites: Instructor permission required. Cross-Listed: HDFS 486-586/LMNO 486-586.

GERO 491-591 - Independent Study Credits: 1-3
GERO 492-592 - Topics Credits: 1-3

GLST (Global Studies)

GLST 101 - Introduction to Global Studies (G) Credits: 3
This course introduces students to global issues from an interdisciplinary perspective. Emphasis will be given to the concepts of globalization and global citizenships and to cross-cultural communication.

GLST 125 - Introduction to Peace and Conflict Studies * ** Credits: 3
Introduction to historical and contemporary debates within the discipline of Peace and Conflict Studies, during which each student is guided to identify his or her own interests within those debates, and then encouraged to evaluate and apply those interests within a coordinated service learning experience. Cross-Listed: ENGL 125. Notes: * Course meets SGR #4 or ** IGR #2.

GLST 201 - Global Studies I * ** (G) 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 #4 or ** IGR #2.

GLST 380 - Futuristic Communications Credits: 3
Drawing upon the tenets of Futurism, the historical artistic movement begun by Italian poet Filippo's Futurist Manifesto, this intensive writing course will expose students to a wide-ranging set of cultural disruption issues caused by machines, technological innovations, and other rapid changes in modern life. Students will consider both the positive and negative implications caused by these cultural revolutions in a wide variety of literary, artistic, and cinematic texts. They will also think critically about their own role as global citizens. Prerequisites: ENGL 101 and ENGL 201. Cross-Listed: ENGL 380.

GLST 480 - Ethics of Globalization ** Credits: 3
A writing intensive, critical, and rigorous examination of the ethical bases and global citizenship, and intercultural competence. Students participate in "hands on experiences" and learn to adapt interdisciplinary approaches to research. Prerequisites: GLST 201. Notes: Study abroad prior to enrolling in GLST 401 is recommended. ** Course meets IGR #2.

GLST 480 - Ethics of Globalization ** (AW) Credits: 3
Capstone course for the Global Studies major. Explores globalization, global citizenship, and intercultural competence. Students participate in "hands on experiences" and learn to adapt interdisciplinary approaches to research. Prerequisites: GLST 201. Notes: Study abroad prior to enrolling in GLST 401 is recommended. ** Course meets IGR #2.

GLST 481 - Travel Studies (Cross Cultural Experience) Credits: 3
This is the 3-credit core component of the Global Studies Major (Cross-Cultural Experience). All Global Studies Majors are required to complete a cross-cultural experience outside the USA that includes at least three credits of coursework. There are at least four distinct ways in which this course can be completed.

GLST 490 - Seminar Credits: 3
GLST 491 - Independent Study Credits: 1-3
Students are advised to check for most current descriptions at: www.catalog.sdstate.edu For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.

GLST 492 – Topics Credits: 3
GLST 494 – Internship Credits: 1-6

GS (General Studies)
GS 340 - International Travel Study (COM) 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 (AW) Credits: 3
GS 491 - Independent Study Credits: 1-3

GSE (Geospatial Science and Engineering)
GSE 740 - Introduction to Geospatial Science Engineering Credits: 3
GSE 741 - Quantitative Remote Sensing for Terrestrial Monitoring Credits: 3
GSE 743 - Geospatial Analysis Credits: 3
GSE 760 - Advanced Methods in Geospatial Modeling: Topical Credits: 3
GSE 766 - Advanced Remote Sensing Application Credits: 3
GSE 767 - Fire and Ecosystems Credits: 3
GSE 790 – Seminar Credits: 1-3
GSE 791 - Independent Study Credits: 1-3
GSE 792 – Topics Credits: 1-3
GSE 890D – Dissertation PhD Credits: 1-12

GSR (Graduate School & Research)
GSR 601 - Research Regulations Compliance Credits: 1

HDFS (Human Development & Family Studies)
HDFS 141 - Individual and the Family * Credits: 3
Patterns of behavior and relationships as influenced by family interaction. Emphasis on social and emotional needs of individual and family within various cultural and family contexts as informed by Systems Theories. Open to students of all majors. Notes: * Course meets SGR #3.

HDFS 150 - Early Experience Credits: 2
Experimental-based introduction to professional contexts within early childhood education (ECE) and/or human development and family studies (HDFS). Students serve as volunteers in community-based human services and educational settings, shadowing professionals to better understand professional roles and opportunities.

HDFS 210 - Lifespan Development * (COM) 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 & 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 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 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 292 – Topics Credits: 1-3

HDFS 337 - Human Development II: Adolescence Credits: 3
Knowledge and understanding of adolescents 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 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 347 - Human Development III: Adulthood Credits: 3
Developmental approach to Human Development across adulthood. Emphasis on the physical, biological, intellectual and emotional changes. Impact of changes upon the personality, self-concept of the individual and their effects upon social behavior, productivity and personal relationships.

HDFS 355 - 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 410-510 – Parenting Credits: 3
The study of theories, models, research and skills regarding parenting effectiveness and parent-child relations in the context of Western, Native American, and other cultures living in the U. S. Included are comparisons of the relative strengths and weaknesses of various parenting approaches, historical perspective of parenthood and children, and the developmental perspectives of children and parenting. Best practices for individual and community parent education programs will be addressed.

HDFS 425-525 - Family Resiliency Credits: 3
Literature on stress experienced by individuals and families with an emphasis on a systemic analysis of the conceptual/clinical literature of individual and family resiliency will be examined. Individual and family characteristics of resilient families and prevention and solution-based principles will be explored in order to understand and promote family resilience in a developmental and ecological context. Students in counseling and human development as well as education, nursing, and other behavioral, social, and health sciences may benefit from the course.

HDFS 435-535 - Family Policy Credits: 3
This course examines the impact of family policies, government laws, and programs related to family life. The course will emphasize the current state of families—or family trends—and the implications of such trends for family policy. The varied effects that policies and programs have on different types of families and different aspects of family functioning and well-being will be explored.

HDFS 441 - Professional Issues in Human Development and Family Studies Credits: 3
Study of professional issues in the Child and Family Studies field. Course materials are inclusive of public policy, advocacy, leadership, professional development and ethics and workplace issues. Prerequisites: HDFS major with senior standing.

HDFS 480 – Travel Studies Credits: 1-5
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report.

HDFS 486-586 - Service Learning Credits: (1-3)
Service-Learning in Human Development and Family Studies, including service planning, interaction with community, and reflection. Prerequisites: Instructor permission required. Cross-Listed: GERO 486-586/LMNO 486-586.
Preparation for Practicum Credits: 1

Practicum will complete the requirements needed to enroll in HDFS 495 Practicum. Students will independently investigate practicum sites using criteria for an approved site. Upon approval, students will meet with the agency supervisor to develop professional goals for the practicum experience and create the practicum contract. This course will be taken upon beginning practicum.

Prerequisites: HDFS 487 and by department consent.

Foundations and Principles of Community Service Credits: 3

Orientation in Graduate Study Credits: 1

Research and Evaluation in CHD Credits: 3

Program Administration and Management Credits: 3

Family Resource Management Credits: 3

Adult Development Credits: 3

Family Dynamics Credits: 3

Lifespan Development Credits: 3

Crisis Across the Lifespan Credits: 3

Interpersonal Relationships Credits: 3

Parent Education: Theory and Issues Credits: 3

Program Design, Evaluation, and Implementation Credits: 3

Child Development Theory and Application Credits: 3

Grant Writing Credits: 3

Family Theory and Research Credits: 3

Work and Family Credits: 3

Family Public Policy Credits: 3

Individual Research and Study Credits: 1-7

Seminar Credits: 1-3

Independent Study Credits: 1-3

Internship Credits: 1-7

Thesis Credits: 1-7

HMGT (Hospitality Management)

Introduction to Hospitality Industry Credits: 3

A review of the basic components of the hospitality and tourism industry in the state, national and international economy. Future trends and career opportunities within these areas will be explored.

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.

Practicum Credits: 1-3

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 and lodging arrangements, and career opportunities. Cross-Listed: EFA 355.

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.

Lodging Management Credits: 3

Functions of management as applied to the lodging industry including organizing, staffing, controlling, planning, purchasing and marketing for the front office, housekeeping, and maintenance departments. Industry terminology and methods of operations will be explored for all levels of service and segments in the lodging industry. Prerequisites: HMGT 171.

Leisure Activities and Club Management and Lab Credits: 3

The course will explore management and service skills required to ensure the success of club and resort facilities providing leisure activities in the hospitality and tourism industry. The lab portion will include planning and conducting industry visits or tours of attractions and the development and practice of professional service skills for this segment of the hospitality industry. Prerequisites: HMGT 171. Corequisites: HMGT 371L-371L.

Foodservice Operations and Purchasing Management Credits: 3


Quantity Food Production and Service and Lab Credits: 4

Application of foodservice management principles in quantity food production, purchasing, and service. Lab to accompany HMGT/NFS 381. Prerequisites: NFS 141-141L, HMGT 251 (or concurrently), HMGT 380. Corequisites: HMGT/NFS 381L-381L. Cross-Listed: NFS 381-381L.

Hospitality Facilities Management and Design Credits: 3

Application of various systems, procedures, and controls associated with the maintenance and engineering departments of lodging and foodservice operations. The course will include the decision-making process used in the planning and designing of hospitality facilities. Prerequisites: Junior standing.

Travel Studies Credits: 1-5

This travel-study course is designed to provide extra-curricular 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.

Hospitality Marketing Credits: 3

Applied marketing covering case studies in the hotel and restaurant industry. Emphasis on implementing marketing strategies including: demographics, image development, advertising, sales promotion, public relations, administering and controlling a marketing plan. Prerequisites: Junior standing or consent.

Independent Study Credits: 1-3

Topics Credits: 1-3

Individual Research and Study Credits: 1-7

Thesis Credits: 1-7

HIST (History)

World Civilizations I * ** (COM) 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 or ** IGR #2.

World Civilizations H * ** (COM) (G) 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 or ** IGR #2.

Western Civilization I * ** (COM) Credits: 3

Surveys the evolution of western civilization from its beginnings into the Reformation and religious wars. Notes: * Course meets SGR #4 or ** IGR #2.

Western Civilization H * ** (COM) (G) Credits: 3

Surveys the development of western civilization from the Reformation era to the present. Notes: * Course meets SGR #4 or ** IGR #2.

United States History I * ** (COM) 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 or ** IGR #2.
HIST 152 - United States History II ** (COM) Credits: 3
Surveys development of the United States since the Civil War and Reconstruction. Notes: * Course meets SGR #3 or ** IGR #2.

HIST 280 - Writing History Credits: 3
Study and practice in the major types of historical writing, including research papers, critical book reviews, and essays.

HIST 311 - Chinese History 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 313 - History of the Middle East (COM) Credits: 3
Surveys the Middle East from Muhammad to the present, emphasizing the political development of the last 200 years.

HIST 314 - History of Modern Japan Credits: 3
Focuses on the history of modern Japan from 1853 to the present, with emphasis on economic, social, and political changes.

HIST 316 - Pre-Modern Japan Credits: 3
This course will cover the history and culture of Japan from ancient times to the coming of the Europeans in 1853.

HIST 322 - Ancient Greece and Rome (COM) Credits: 3
Examines the history, philosophy, and culture of Greece from the Minoan age through the Hellenistic period and the development of the Roman Republic and Empire. Prerequisites: HIST 121.

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 329 - French Revolution and Napoleon, 1789-1815 (COM) Credits: 3
A study of the major changes in the European political powers due to the French Revolution and the emergence of Napoleon. The effects of the Congress of Vienna will also be evaluated.

HIST 330 - Nineteenth Century European History (COM) Credits: 3
A study of developments in Western Europe from the Congress of Vienna to the outbreak of the Great War.

HIST 331 - Europe in the Age of Louis XIV, 1648-1789 Credits: 3
A study of the emergence of the modern nation-states of both Eastern and Western Europe, concentrating on the development of the French, English, and Russian nations. The role of absolutism, mercantilism and militarism will be considered.

HIST 341 - English History to 1688 (COM) Credits: 3
Presents English History from the earliest times through the Glorious Revolution of 1688.

HIST 345 - History of Russia Credits: 3
From the earliest times to present. Treats cultural and social as well as political aspects.

HIST 346 - Canada: History and Geography (COM) Credits: 3
Examines the impact of the physical geography of Canada upon the nation's exploration, settlement, and development from the earliest inhabitants to modern times, and emphasizes the economic and cultural relations between Canada and the United States.

HIST 349 - Women in American History 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: WMST 349.

HIST 350 - Women in World History Credits: 3
This course will investigate the role of women in the history of the world beyond the US. It will attempt to discover what impact women had on the course of events. Selected women and their careers will be highlighted. Cross-Listed: WMST 350.

HIST 352 - Revolution and Early National United States 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 354 - Jefferson and Jackson 1800-1840 Credits: 3
Early Presidential administrations through the Mexican War of 1846-48.

HIST 356 - Gilded Age America and American Empire Credits: 3
Examination of political, economic, social and cultural developments in the US from 1877-1914.

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. Notes: ** Course meets IGR #2. Fulfills teacher education requirement.

HIST 377 - Economic History of the U.S. (COM) Credits: 3
Examines major United States economic issues from the colonial period to the present, including the rise of big business, territorial expansion, agricultural issues, labor management relations, and finances and banking.

HIST 378 - Social and Cultural History of the US Credits: 3
Aspects of social development, with major emphasis on the period since the Civil War. Themes include gender, class, race, family, education, religion, leisure, music, arts, and values.

HIST 379 - 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 401 - History of Western Religious Thought I Credits: 3
This course surveys important issues in western religious thought from first century Christian origins through the "great medieval synthesis" of the thirteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon emergence and growth of Christian doctrine and ecclesiology. Cross-Listed: REL 401.

HIST 402 - History of Western Religious Thought II Credits: 3
This course surveys important issues in western religious thought from the "great medieval synthesis" of the thirteenth century through the Reformation and Counter reformation of the sixteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian doctrine. Cross-Listed: REL 402.

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 418 - History of Latin America (COM) Credits: 3
Examines the political, social, and economic developments in Latin America for the pre-Columbian period to the present.

HIST 425 - Medieval Europe (COM) Credits: 3
Examines the history of Western Europe from the end of the Roman Empire to the beginning of the Renaissance and emphasizes religious, political, economic, and social developments. Prerequisites: HIST 121.

HIST 441 - History of Modern Britain (COM) Credits: 3
Examines the chief political, cultural, economic, and social developments of England, Scotland, Wales, and Ireland from 1688 to the present.
HIST 442 - Europe in the Age of Dictators 1914-1945 Credits: 3
Examines the political, social and cultural history of Europe from the outbreak of the Great War to the fall of the Third Reich.

HIST 445 - Cold War Europe Credits: 3
Examines the political, social and economic history of Europe from the end of the Second World War to the collapse of the Soviet Union.

HIST 447 - History of Modern Germany (COM) Credits: 3
Examines German history in the nineteenth and twentieth centuries, including the formation of the German nation, Bismarck, development of the German Empire, World War I, rise of Hitler, Nazi Germany and World War II.

HIST 448 - Nazi Germany (COM) Credits: 3
Presents Germany history from the establishment of the Weimar Republic after World War I through Adolf Hitler's Third Reich to 1945, including the political, social, economic, cultural, and military aspects of Germany under National Socialist rule.

HIST 450 - American Colonial History (COM) Credits: 3
Provides an in-depth look at the English colonies in America, emphasizing how and why they were founded, and tracing their growth and development through the revolutionary period. Prerequisites: HIST 151.

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 465 - Western Expansion of the U.S. (COM) Credits: 3
Examines the role of the West in American history from exploration and colonization to the closing of the frontier about 1900, emphasizing territorial expansion of the U.S. and various frontier developments, e.g., transportation, transformation of the wilderness into statehood, influence of the frontier in shaping the American character and the role of the West in shaping national policies.

HIST 469 - American Foreign Relations (COM) Credits: 3
Surveys American diplomatic history from colonial times to the present, emphasizing political, social and economic forces affecting diplomatic developments reflected in American foreign policies.

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) (AW) 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 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.

HIST 491 - Independent Study Credits: 1-3
HIST 492-592 - Topics Credits: 1-4
HIST 494 - Internship Credits: 1-12

HLTH (Health)

HLTH 200 - Complementary and Alternative Health Care Credits: 3
This interdisciplinary course introduces complementary and alternative health care (CAHC) practices. This course is designed to explore complementary methods utilized by health care professional and lay persons to provide culturally congruent care for individual patients and families. The role and responsibilities of the health care consumer related to disclosure of CAHC use will be described. The role of the healthcare professional as a consumer advocate will be discussed. This course explores definitions, backgrounds, examples, and on-going research of various therapies including the holistic approach to Mind/Body Medicine, Herbs, Traditional Chinese Medicine, Naturopathy, Homeopathy, Spiritual Healing, Acupuncture, Dietary and Nutritional Supplements, and Ayurvedic Medicine.

HLTH 212 - Contemporary Health Problems Credits: 2
Personal health education course which focuses on the health problems facing today's society from birth to death. Emphasis on the knowledge essential in maintaining a healthy lifestyle. Open to all students. Cross-Listed: HSC 212.

HLTH 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 autogenic. The course has both personal application and professional application for students working in any area of healthcare.

HLTH 250-250L - Pre-Professional First Aid and CPR and Lab (COM) Credits: 2
Instruction of those who are frequently in a position to provide first aid/CPR and emergency care. Provides essential knowledge and skills needed to develop the functional first aid/CPR capabilities required by a basic first responders, including nurses, teachers, athletic trainers, and other special interest groups. Lab accompanies HLTH 250.

HLTH 251 - First Aid and CPR (COM) Credits: 1
First aid instruction meeting the requirements of the American Red Cross. Corresponding to Emergencies Standard First Aid Course is given. Safety in everyday living is emphasized, with special consideration given to the kindergarten and elementary school levels.

HLTH 298 - Allied Health Technical Training Credits: 20-48
Designed to facilitate transfer of students who have completed a one or two year regionally or nationally accredited or certified program in an allied health area. The purpose is to provide transfer of previous work into an upward mobility option for students who have a commitment to an allied health profession.

HLTH 302 - Wellness and the Family Credits: 2

HLTH 315 - Human Nutrition 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 and CHEM 108 or CHEM 112 and CHEM 114.

HLTH 322 - 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.

294 Course Information
HNS 493-593 - Workshop Credits: 1-3
HNS 494-594 - Internship Credits: 1-6
HNS 495-595 - Practicum Credits: 1-3
HNS 496-596 - Field Experience Credits: 1-6
HNS 497-597 - Cooperative Education Credits: 1-6
HNS 498 - Undergraduate Research/Scholarship Credits: 1-3
HNS 783 - Research Methods in HNS Credits: 3
HNS 788 - Master's Research Problems/Project Credits: 1-7
HNS 790 - Seminar Credits: 1
HNS 791 - Independent Study Credits: 1-3
HNS 792 - Topics Credits: 1-3
HNS 793 - Workshop Credits: 1-3
HNS 794 - Internship Credits: 1-7
HNS 795 - Practicum Credits: 1-9
HNS 796 - Field Experience Credits: 1-9
HNS 798 - Thesis Credits: 1-7
HNS 890 - Seminar Credits: 1
HNS 898D - Dissertation Credits: 1-12

HO (Horticulture)

HO 111-111L - Introduction to Horticulture and Lab Credits: 2, 1
Connecting basic plant science to growing techniques and decision making relating to light, water, temperature, and soil. Introductory plant care, propagation and identification for a wide variety of horticultural crops. Corequisites: HO 111L-111.

HO 200-200L - Weed Management for Horticulture and Lab Credits: 2
An introduction to common weeds found in horticultural settings (Turf, nursery, food crops, etc.). The use of cultural, biological, chemical and physical methods of weed management will be discussed. Weed identification, control methods and related activities will be handled in the laboratory. Corequisites: HO 200L-200. Cross-Listed: PS 200-200L.

HO 222-222L - Fundamentals of Turf Management and Lab Credits: 3
Introduction to basic maintenance and culture of turfgrass for utility turf, home lawns, and commercial grounds. Prerequisites: HO 111-111L or PS 101-101L or consent. Corequisites: HO/PS 222L-222L. Cross-Listed: PS 222-222L.

HO 231 - Greenhouse Crop Production Credits: 2
Fundamentals of greenhouse crop production techniques: primary crops, establishment, irrigation, fertilization, growth management, pest control, and harvest. Lab format will provide students with practical growing experience of herbaceous ornamental horticultural crops.

HO 250-250L - Woody Plants: Trees and Lab Credits: 3
Nomenclature, identification and classification of hardy coniferous and deciduous trees. Landscape use as affected by inherent ornamental qualities, hardness, environmental factors, and pests. Prerequisites: HO 111 or BIOL 101. Corequisites: HO 250L-250.

HO 260 - Woody Plants: Shrubs and Vines Credits: 2
Nomenclature, identification, and classification of shrubs and vines hardy for the Northern Plains. Prerequisites: HO 250.

HO 290 - Professionalism in Horticulture Seminar Credits: 2
This course addresses the skills necessary to become a professional in the field of horticulture. Students will develop writing, speaking, presentation and organizational skills pertaining to their success in the industry as well as look at current ethical issues.

HO 303-303L - Forest Ecology and Management and Lab Credits: 3
The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed. Corequisites: HO 303L-303. Cross-Listed: BOT 303-303L.

HO 311-311L - Herbaceous Plants and Lab Credits: 3
Identification, description, landscape uses, propagation, culture and adaptability of selected non-woody ornamental plants with emphasis on annuals, perennials and indoor plants. Prerequisites: HO 111, BOT 201 or consent. Corequisites: HO 311L-311.

HO 312-312L - Plant Propagation and Lab Credits: 3
Fundamental anatomical and physiological principles and methods of reproducing herbaceous and woody plants by seeds, cuttings, grafts, layers
A survey of integrated pest management principles and practices on horticultural systems. The commodities covered include turfgrass, urban forestry, vegetables, fruits and ornamentals both in open and protected (e.g. greenhouse, high tunnel) systems. Cross-Listed: PS 324.

HO 325 - Horticulture Pests II: Diseases Credits: 2
A survey of abiotic and biotic diseases of horticultural systems. The commodities covered include turfgrass, urban forestry, vegetables, fruits and ornamentals both in open and protected (e.g. greenhouse, high tunnel) systems. Cross-Listed: PS 325.

HO 327-327L - Golf Course Design and Management and Lab Credits: 3
Principles and practices of golf course design, including site analysis, design process, construction specifications and techniques, and aesthetic/design elements and professional turf management of golf courses and athletic fields, including history, culture, equipment, diagnostics, case studies, and facilities management. Cross-Listed: LA 327-327L.

HO 330 – Arboriculture Credits: 2
The establishment and care of woody plants: vines, shrubs and trees. Prerequisites: BIOL 153-153L or BOT 201-201L.

HO 331 - Arboricultural Operations Credits: 1
The techniques used in the safe and efficient pruning, cabling and removal of woody plants. Prerequisites: IHO 330.

HO 350 - Environmental Stewardship in Horticulture Credits: 3
Concepts and principles of stewardship and sustainability relative to realized and potential impacts of horticultural practices on the environment.

HO 383-383L - Principles of Crop Improvement and Lab Credits: 2, 1
Evaluation of crop species, reproduction of crop plants, use of genetic variability, traits of interest, breeding programs, designs and management. Heritability, plant introduction, vegetative propagation, hands-on lab demonstrations. Prerequisites: PS 103-103L or HO 111-111L; and BIOL 103-103L, BOT 153-153L or BOT 201-201L. Corequisites: HO 383L-383L. Cross-Listed: PS 383L-383L.

HO 411-511 - Fruit Crop Systems Credits: 1-6
Studies in perennial fruit crop production and management systems. Credit earned will depend on the number of 1 credit modules taken. Course may be repeated as long as the topic module(s) are not repeated. Topic modules could include: tree fruit production systems; small fruit production systems; viticulture; perennial fruit; integrated pest management; native fruit production systems; fruit harvest, quality, and postharvest care; vines and wines; fruit value-added systems; pruning fruit crops; cover crop management, marketing specialty fruit crops.

HO 413-413L - Greenhouse Management and Lab Credits: 3
Greenhouse construction, environmental control, production and scheduling of major greenhouse crops, trips to commercial greenhouse operations and laboratory work in greenhouse crop production. Corequisites: HO 413L-413L. Cross-Listed: PS 413-413L.

HO 415 - 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.

HO 422 - Current Issues in Turfgrass Science Credits: 1
Presentation of selected topics not covered in other turfgrass management courses.

HO 423-523 - Turfgrass Stress Physiology Credits: 3
The focus of this course is the physiological response to abiotic stress in perennial grass systems, including environmental, cultural, and traffic stress. Prerequisites: Senior or graduate student status or consent. Cross-Listed: PS 423-523.
HON 299 - Text and Context of Human Thought Credits: 3
This course introduces students to a selection of seminal works of literature, history and philosophy and explores how the ideas expressed in them have influenced a range of thought traditions. Topics to be explored include: the public university, government, human perception and consciousness, wealth and poverty, nature, gender, culture, ethics and morality. Topics will be examined in multiple ways, through reading and writing, discussion, faculty lectures and guest speakers.

HON 303 - Honors Colloquium ** Credits: 1-4
The Social Sciences. Notes: May be repeated once. Honors Colloquium is an engaging, multidisciplinary examination of a societal issue, theme, or question. Colloquium is open to Honors College students from all majors. Students are required to take Colloquium at least once to fulfill requirements for graduation with Honors College distinction. There are no pre-requisites for the course but students must be Honors College eligible. Students are encouraged to take Colloquium when the topic is of interest and when it fits into the schedule of their academic program. Recent themes have included: Future of Medicine and Health; The Work of Creativity; Influences of Popular Culture; Numeracy; Agriculture, Food and Society; The Global Ecosystem: What is our role?; The Art and Adventure of Leadership; Food, Ethics and International Development. ** Course meets IGR #2.

HON 390 - Seminar Credits: 1-3

HON 399 - Introduction to Independent Study Credits: 1
An introduction to the Honors Independent Study experience, this course is designed to prepare students for successful execution of the Honors Independent Study project. Students will learn project parameters and requirements and be guided through the process of identifying a topic, connecting with a faculty member, interdisciplinary research methodologies and public presentation of their project in written, oral and poster formats. Credit may be used to fulfill a portion of students' upper division Honors requirements.

HON 490 - Independent Study Credits: 1-3
Notes: Honors College students work one-on-one with a faculty mentor on an original scholarly project related to their academic and professional goals. Projects may include laboratory, field, or social science research; design projects; historical analyses; or original creative pieces in literature and the arts. Students are encouraged to take Honors 390 to help prepare for their Independent Study. Deliverables include a scholarly paper and presentation at a public scholarly venue. Registration is by permission upon approval of the application for Independent Study form.

HON 492 - Topics Credits: 1-3
HON 493 - Workshop Credits: 1-3
HON 494 - Internship Credits: 1-12
HON 495 - Practicum Credits: 1-12
HON 496 - Field Experience Credits: 1-12
HON 498 - Undergraduate Research/Scholarship Credits: 1-12

HSC (Health Science)

HSC 100 - First Year Seminar for Health Professionals in the Learning Community Credits: 1
Instruction to introduce students to not only the college environment but also health related professions. The course will focus on engagement in the university experience. Topics covered will include setting goals, discovering campus resources, academic advising, academic requirements, community service, and time management. Includes group discussion, participation in tours of healthcare facilities and panel discussions.

HSC 120 - Community Health Credits: 2
Discussion based course with the goal of understanding the philosophy and principles of community health. Emphasis on knowledge, attitudes and behaviors utilized in solving community health problems. Cross-Listed: HLTH 120.

HSC 200 - Complementary and Alternative Health Care Credits: 3
This interdisciplinary course introduces complementary and alternative health care (CAHC) practices. This course is designed to explore complementary methods utilized by healthcare professional and lay persons to provide culturally congruent care for individuals and families. This course explores definitions, history, examples, and on-going research of various therapies including holistic approach to Mind/Body Medicine, Herbs, Traditional Chinese Medicine, Naturopathy, Homopathy, Ayurveda, Spiritual Healing, Acupuncture, Dietary and Nutritional supplements, and additional energy therapies.

HSC 212 - Contemporary Health Problems Credits: 2
Personal health education course which focuses on the health problems facing today's society from birth to death. Emphasis on the knowledge essential in maintaining a healthy lifestyle. Open to all students. Cross-Listed: HLTH 212.

HSC 230 - Stress Management for Life Credits: 3
Stress management course designed to expose students to a holistic approach to preventing and managing stress. Students learn both healthy cognitive (coping) skills and relaxation techniques with the intention of preventing and/or alleviating the symptoms of stress. Content includes the science of stress, the mind/body connection, stress prevention strategies such as perception, mindfulness, time management, and financial management, and a variety of stress management techniques including guided imagery, progressive muscle relaxation, yoga, meditation, and autogenics. The course has both personal application and professional application for students working in any area of healthcare.

HSC 235 - Disaster Preparedness Credits: 2
Basic philosophy, fundamental principles of civil defense; citizen's role in emergency planning for non-military national defense. Open to all students.

HSC 260 - Women's Health Issues Credits: 3
This interdisciplinary course critically examines issues in women's health. Biological, socio-cultural, psychological, historical and political processes that shape and define women's health and healthcare experiences are explored. Cross-Listed: WMST 260.

HSC 302 - Wellness and the Family Credits: 2
Overview of health promotion as applied to the family throughout all stages of development. Planning for promotion of family health. Cross-Listed: HLTH 302.

HSC 364-364L - Emergency Medical Technician and Lab (COM) Credits: 4
This course provides the knowledge and skill base for an individual to become a Nationally Registered EMT. The course follows the curriculum set by the National Emergency Medical Services Educational Standards. Students are expected to learn the skills necessary to recognize numerous medical and trauma related emergencies. Students will learn vital signs monitoring, Basic Life Support interventions and patient moving/packaging skills. Students will apply learned skills to patients in scenario-based training. 10 hours of in-hospital observation and training are required. Laboratory course to accompany HLTH/HSC 364. Prerequisites: Written consent (current CPR certification at the level of BLS Healthcare Provider (American Heart Association)). Corequisites: HCS/HLTH 364L-364. Cross-Listed: HLTH 364-364L. Notes: This course does not certify students as an EMT; they must pass the National Registry exams.

HSC 420-520 - Methods of Health Instruction Credits: 2
Curriculum content and methods in health education. Emphasis on elementary and secondary. Demonstration of teaching strategies. Organization of health/safety education. The course will present an overview of the need for health education in schools as well as the teacher's role in promoting health instruction. Included will be strategies for planning, implementing, and evaluating health education for grades K-12. Students will also be introduced to useful academic and community resources. Cross-Listed: HLTH 420-520.

HSC 433-533 - Occupational Health Credits: 3
Occupational Health is a survey course dealing with health concerns in the workplace and the scope, objectives, and functions of occupational programs. Work related injuries and diseases and the effects of harmful exposure to chemical and physical agents which cause discomfort, stress, inefficiency or disease are examined. Emphasis is placed on preventative measures and early intervention to assure a reasonable, healthful work environment.

HSC 443 - Public Health Science ** (G) Credits: 3
Study of organization and administration of public and voluntary health agencies. Principle functions and program development in vital statistics, maternal-child health, adult health, sanitation, health education, and special health programs. Introduces the student to public health by describing its...
history and its bases in sociology, economics, philosophy and government. The relationship of environmental factors to health and illness is examined. The course will provide the student with an understanding of administrative and political processes of operation of health agencies by examining traditional and new innovative programs of federal, state and local health agencies. Cost-benefit, cost-effectiveness, and risk assessment are addressed as in the relationship of public law and policies to the delivery of health care. Cross-Listed: HLTH 443. Notes: ** Course meets IGR #2.

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 populations. Prerequisites: Junior or senior standing or instructor consent. Cross-Listed: HLTH 445.

HSC 452 - Interprofessional Issues in Health Care Credits: 2
This interprofessional course will focus on the analysis of current issues and topics related to health care, including quality improvement, safety, patient- and family-centered care, and leadership. Health care students will engage in interprofessional discussion and collaboration utilizing resources such as the Institute for Healthcare Improvement Open School© modules. Cross-Listed: HLTH 452.

HSC 490 - Seminar Credits: 1-4
HSC 492 - Topics Credits: 1-4
HSC 493 - Workshop Credits: 1-4
HSC 494 - Internship Credits: 1-12

HSC 496 - Field Experience Credits: 1-12
Prerequisites: PE 400, PE 450 and HSC 494.

HSC 497 - Cooperative Education Credits: 1-12
HSC 631 - Biostatistics I Credits: 3
HSC 731 - Biostatistics II Credits: 3
HSC 733 - Environmental Health Credits: 3
HSC 760 - Program Evaluation Credits: 3
HSC 782 - Epidemiology Credits: 3
HSC 785 - Advanced Epidemiology Credits: 3

ID (Interior Design)

ID 150-150L - Introduction to Interior Design I and Lab Credits: 4
The lecture promotes and builds upon design awareness, design fundamentals and knowledge of human factors to develop new ways of perceiving the interior built environment. The studio teaches basic manual representation methods including drafting, modeling, and presentation layout; and introduces students to the fundamentals of design concept and critique. Corequisites: ID 150L-150.

ID 151-151L - Introduction to Interior Design II and Lab Credits: 4
The lecture introduces programming, design process, design thinking, behavioral factors, social and cultural issues as applied to the layout and planning of interior environments. Studio projects integrate and correspond to lecture content while exploring concept and spatial development. Two and three-dimensional representation techniques are introduced, including diagramming, sketching, one and two point constructed perspectives and supportive finishing methods. Prerequisites: ID 150. Corequisites: ID 151L-151.

ID 215-215L - Materials and Lab 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. Corequisites: ID 215L-215.

ID 222 - 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 151-151L. Notes: Interior Design majors and minors must achieve a "C" or better in ID 222 to progress to ID 223.

ID 223 - 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: "C" or better in ID 222.

ID 224 - History of Interior Design I Credits: 2
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 225 - History of Interior Design II Credits: 2
This course presents a History of Interior Design from the Industrial Revolution to the present; examining art, architecture, interior design, furniture, and the sociological and cultural context of various architectural movements. Prerequisites: ID 224.

ID 292 - Topics Credits: 1-3

ID 317 - 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 319-319L - Building Systems and Construction and Lab Credits: 2
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. Corequisites: ID 319L-319.

ID 320-320L - Lighting and Acoustics and Lab Credits: 2
This course reviews the methodology of designing with artificial and natural light. Assignments correspond with lecture content to assist in understanding the process and approach to integrated lighting design and building systems controls. In addition, the fundamentals of acoustics are introduced and explored. Corequisites: ID 320L-320.

ID 322 - Interior Design Studio III Credits: 4
This studio explores advanced commercial design through lenses of healthcare 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: "C" or better in ID 223.

ID 323 - Interior Design Studio IV Credits: 4
This studio explores branded commercial interior environments, varying largely in scale. Projects investigate the design process, with emphasis on programming, concept development, planning and spatial articulation that support and enhance client culture. Prerequisites: "C" or better in ID 322.

ID 329-329L - Building Codes and Regulations and Lab Credits: 2
This course focuses on an understanding and application of industry codes and regulations, including ADA standards, life safety standards, the International Building Code and various state, municipal and specialty codes. Integration of principles of universal design into built environment is further emphasized. Prerequisites: ID 319. Corequisites: ID 329L-329.

ID 377-377L - Portfolio and Lab Credits: 1
This course focuses on the content and graphics for cover letter, resume and portfolio development, necessary for internships and job seeking. Prerequisites: ID 223. Corequisites: ID 377L-377.

ID 422 - 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: "C" or better in ID 323, ID 329-329L and ID 495.

ID 423 - Interior Design Studio VI Credits: 4
This studio experience culminates the comprehensive independent research developed in ID 498 through the design and detailed development of an interior environment. 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 422 with a "C" or better and ID 498.

**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 Credits: 1-3**  
**ID 491 - Independent Study Credits: 1-3**  
**ID 492 - Topics Credits: 1-3**  
**ID 495 - Practicum Credits: 3**  
Prerequisites: ID 317, ID 323, 2.2 GPA and 90 credits.  
**ID 498 - Undergraduate Research/Scholarship (AW) Credits: 1-3**

**IDL (Interdisciplinary Studies)**

**IDL 100 - Concepts in Sustainability ** Credits: 3**

This course will provide an overview of what sustainability is and how to measure sustainable actions. Students will learn sustainability concepts, such as systems thinking, sustainable design principles, and resource utilization. Students will learn the complex interactions between social systems, environmental ethics, and ecological literacy. Applications of sustainability in the arts and humanities and social, physical, and natural sciences will be presented. Notes: ** Course meets IGR #2.

**IDL 262 - Foundations of Interdisciplinary Studies Credits: 3**

This course creates the foundation for interdisciplinary thinking, enabling students to study complex issues by integrating insights from a variety of disciplines. The course will also provide a broad historical and background of interdisciplinary studies. By developing interdisciplinary traits and skills, students will better understand themselves and their major through the multi-step process of self-reflection, self-assessment, and goal setting. Notes: "C" or higher is required to progress to IDL 362.

**IDL 362 - Interdisciplinary Inquiry and Integration Credits: 2**

This course builds on the foundational knowledge base of IDL 262 - Foundations of Interdisciplinary Studies through application and integration of interdisciplinary insights into complex problem-solving. Students will develop critical research and writing skills. Prerequisites: "C" or better in IDL 262.

**IDL 479 - Interdisciplinary Studies Capstone (AW) Credits: 2**

The Capstone course will be used as a culminating experience in which students synthesize subject-matter knowledge they have acquired, integrating cross-disciplinary knowledge, and connect theory and application in preparation for entry into a career. The course will be taken last in a sequence of courses in an Interdisciplinary Studies program. The capstone course will require students to integrate the student's plan of study into a final product (paper, portfolio, and presentation) that demonstrates their ability to make connections and apply their knowledge and skills. The nature of interdisciplinary studies will be examined along with emphasis on intellectual abilities such as writing, researching, thinking critically, and speaking. Prerequisites: "C" or better in IDL 362.

**INFO (Informatics)**

**INFO 101 - Introduction to Informatics * Credits: 3**

An introduction to informatics and basic computer programming. Other topics include the basic operation of hardware, software, servers, the Internet, intranets, networks, web browsers, and information security. Notes: * Course meets SGR #6.

**INFO 102 - Social and Ethical Aspects of Informatics * 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. Notes: * Course meets SGR #3.

**LA (Landscape Architecture)**

**LA 101 - Introduction to Landscape Architecture Credits: 3**

A survey of the field of Landscape Design and Environmental Planning. Introduction to conceptual aspects of the discipline with a focus on landscape appreciation, environmental problems of land use, conservation, landscape design and planning, and land ethics and stewardship.

**LA 120 - Fundamentals of Landscape Graphics Credits: 2**

Provides the foundation for landscape graphic communication through both technical and conceptual standards. Topics include: the principles of landscape drafting, free hand sketching and visualization, graphic symbol communication, and an introduction to the professional graphic production process.

**LA 184 - Landscape Graphics and Theory of Design Credits: 4**

Basic free hand graphic techniques and design theory for landscape design. Graphics used in landscape design (plan drawings, elevations, isometrics, perspective and models). Form and spatial relationships are stressed as applied to materials of landform, vegetation, water, and architecture. Prerequisites: LA 120 or consent.

**LA 214 - Residential Design Credits: 4**

Basic landscape design problem solving on smaller scale sites (residential, small commercial, rural and urban). Development of aesthetic sensitivity and awareness of site problems. Site analysis, programming, concept formation, master plan development and plan presentation. Prerequisites: LA 184.

**LA 231 - Computer Applications in Landscape Architecture I Credits: 2**

An introductory course in computer aided design and drafting with specific application to landscape design software applications. Emphasis is placed on the practical application of CAD to site analysis, design problem-solving, design management, and professional communication toward the creation of site plans, cost estimates and working drawings. Prerequisites: GE 123 and LA 214.

**LA 232 - Computer Applications in Landscape Architecture II 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. Prerequisites: LA 231.

**LA 241 - History of Landscape Architecture Credits: 3**

History from early Egyptian to contemporary times. Styles viewed from the standpoint of aesthetic thought, societal and technological influences. Works of major historical and contemporary designers will be stressed.

**LA 264 - Planting Design and Specifications 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 214 and HO 250-250L.

**LA 289 - Travel Studies in Landscape Architecture Credits: 2**

This course is a required class for landscape architecture majors in the spring semester of their sophomore year. Topics will cover landscape themes, design challenges, etc. of the sites to be visited in LA 289L. Students will take LA 289 during the spring semester in preparation for the travel trip (LA 289L) during the week following finals. Prerequisites: LA 214. Notes: May be repeated for credit twice.

**LA 289L - Travel Studies in Landscape Architecture Lab Credits: 1**

Travel experience in landscape architecture, intended to expose students to the breadth of the discipline of landscape architecture by making first hand site visits to regional and national cities and sites. In addition to site visits, tours, and presentations, students will have a chance to network with design professionals, experience different cultural impacts, and gain exposure to the types of landscape architecture projects not readily available in and around Brookings and the campus of SDSU. Prerequisites: LA 289. Notes: May be repeated for credit twice.

**LA 322 - Landscape Site Engineering Credits: 3**

Technical work in preparing grading plans, computerizing areas of cut and fill, site selection, topographic analysis, soil and exposure analysis, surface and
subsurface drainage, and pedestrian and vehicular circulation. Prerequisites:
LA 264 or consent.

LA 323 - Landscape Construction Credits: 3
Design and construction of walls, terraces, fences, walls, pools, and other
landscape structures and systems. Prerequisites: LA 214.

LA 324-324L - Planning Public Grounds and Lab Credits: 3
Contemporary problems in the design of public properties such as parks and
civic areas. Complexities of functional use, pedestrian and vehicular
circulation, and land use are addressed. Prerequisites: LA 214. Corequisites:
LA 324L-324.

LA 325-325L - City Planning and Lab Credits: 3
City planning in the United States, planning practice and theory, urban design,
and land use planning. Local planning efforts observed. Prerequisites: LA
324-324L. Corequisites: LA 325L-325.

LA 327-327L - Golf Course Design and Management and Lab Credits: 3
Principles and practices of golf course design, including site analysis, design
process, construction specifications and techniques, and aesthetic/design
elements and professional turf management of golf courses and athletic fields,
including history, culture, equipment, diagnostics, case studies, and facilities

LA 423-423L - Construction Documentation and Practicum and Lab
Credits: 2,1
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 323.
Corequisites: LA 423L-423.

LA 424-424L - Recreational Facilities Design and Lab Credits: 3
Design of public and private recreational facilities including parks, resorts,
golf courses, trails, and ecosystems. Planning and design of facilities, and
their function, operation, and maintenance will be emphasized. Prerequisites:

LA 440-440L - Restoration Ecology and Lab Credits: 4
Scientific principles involved in restoration of natural ecosystems on degraded
and disturbed lands. An understanding of ecological principles is
recommended prior to enrollment. Laboratory to accompany LA 440

LA 464 - Landscape Professional Practicum 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:
Senior standing.

LA 491 - Independent Study Credits: 1-3
Notes: Requires Junior class standing.

LA 492 - Topics Credits: 1-4
LA 494 - Internship Credits: 1-12
LA 498 - Undergraduate Research/Scholarship Credits: 1-3

LAKL (Lakota)

LAKL 101 - Introductory Lakota I (COM) 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. Emphasis is placed 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.

LAKL 202 - Intermediate Lakota II (COM) 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
202.

LAS (Latin American Studies)

LAS 301 - Latin American Cultures Credits: 2-3
A broad view of a country, region, epoch or theme concerning Latin America.
A multidisciplinary and multimedia approach. Prerequisites: Sophomore
standing or consent. Notes: May be repeated with consent of the coordinator
of the LAS program.

LAS 302 - Latin American Societies Credits: 3
A broad view of the society of a country, region, epoch or theme concerning
Latin America. A multidisciplinary and multimedia approach. Prerequisites:
Sophomore standing or consent. Notes: May be repeated for credit with
consent of the LAS Coordinator.

LAS 491 - Independent Study Credits: 1-3
Notes: Requires Junior class standing.

LEAD (Leadership)

LEAD 210 - Foundations of Leadership ** Credits: 3
Foundations of Leadership is designed to sharpen fundamental leadership
skills, develop core competencies and advance the goals of the University.
The goal for the Foundations of Leadership course is to equip students with
the knowledge, skills, and networks needed to achieve their goals within the
classroom and in relation to their own personal development and future
careers. Notes: ** Course meets IGR #2.

LEAD 310 - Leadership in Context 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.

LEAD 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.

LEAD 435 - Organizational Leadership & Team Development Credits: 3
This course focuses on leadership and team development in organizational
structures. Students will study organizations and teams through the lens of
leadership to better apply theory to practice in different organizations
including nonprofit organizations. Topics include leadership intelligence,
organizational alignment and vision, leadership values, creating a civil work
culture, leading teams, organizational culture, conflict resolution techniques,
follower engagement, personality and skills performance management, and
leadership change. Cross-Listed: LMNO 435.

LEAD 494 - Internship Credits: 3

LEAD 496 - Field Experience: Leadership in Action Credits: 2
Students will work independently in a guided 'leadership in action' experience. They will reflect upon and apply principles learned in previous
leadership courses to a real world leadership setting (e.g. work setting, student
organization, etc.). Students will gather at important intervals throughout the
semester, present on their experience, and develop a senior portfolio documenting their development as leaders.

LING (Linguistics)

LING 203 - English Grammar Credits: 3
Instruction in the theory and practice of traditional grammar including the study of parts of speech, parsing, and practical problems in usage. Prerequisites: ENGL 101.

LING 420-520 - The New English Credits: 3
Diverse new theories and applications in English linguistics: lexicography, pragmatics, stylistics, socio-semantics, semiotics, and discourse theory. Prerequisites: ENGL 101 and ENGL 201 (undergraduates only).

LING 425 - Modern Grammar (COM) Credits: 3
Structures of modern English through analyses that are primarily traditional, structural, and transformational. Prerequisites: ENGL 201 is a recommended prerequisite.

LING 443-543 - Development of the English Language Credits: 3
Historical survey of phonology, grammar, syntax, and lexicology of English leading to an understanding of the present state of the language and future developments. Prerequisites: ENGL 201 is a recommended prerequisite.

LING 452-552 - General Semantics Credits: 3
Relationships between symbols; human behavior in reaction to symbols including unconscious attitudes, linguistic assumptions; and the objective systematization of language. Prerequisites: ENGL 101 and ENGL 201.

LING 525 - The Structure of English Credits: 3

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 Credits: 1-3

LMNO 435 - Organizational Leadership and Team Development Credits: 3
This course focuses on leadership and team development in organizational structures. Students will study organizations and teams through the lens of leadership to better apply theory to practice in different organizations including nonprofit organizations. Topics include leadership intelligence, organizational alignment and vision, leadership values, creating a civil work climate, leading teams, organizational culture, conflict resolution techniques, follower engagement, personality and skills performance management, and leadership change. Cross-Listed: LEAD 435.

LMNO 486-586 - Service Learning Credits: 1-3

LMNO 491 - Independent Study Credits: 1-3
LMNO 492 - Topics Credits: 1-3
LMNO 495 - Practicum Credits: 1-8

MATH (Mathematics)

MATH 091 - Algebra for Statistics Credits: 1
This course provides supplemental instruction in algebra to students co-enrolled in an introductory college level statistics course. Algebraic topics are sequenced in a manner that supports the needs of the co-requisite statistics course. Prerequisites: Placement. Corequisites: STAT 281. Notes: This is a remedial level course. No credit will be granted towards graduation.

MATH 092L - College Algebra Laboratory (COM) Credits: 2
This course provides supplemental instruction in algebra 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 102.

MATH 093 - Algebra for Quantitative Literacy (COM) Credits: 1-2
This course provides supplemental instruction in algebra to students co-enrolled in a quantitative literacy course. Algebraic topics are sequenced in a manner that supports the needs of the co-requisite quantitative literacy course. Prerequisites: Placement. Corequisites: MATH 103. Notes: This is remedial level course. No credit for MATH 093 will be granted for graduation.

MATH 095 - Pre-College Algebra (COM) Credits: 3
This course prepares students for college level mathematics. Topics include basic properties of real numbers, exponents & radicals, rectangular coordinate geometry, solutions to linear and quadratic equations, systems of equations, inequalities, polynomials, factoring, rational expressions and equations, and an introduction to functions such as polynomial, exponential and logarithmic functions. Prerequisites: Placement. Notes: This is a remedial level course. No credit for MATH 095 will be granted for graduation.

MATH 099 - Enhanced Pre-College Algebra Credits: 5
This course prepares students for college level mathematics. Topics include basic properties of real numbers, exponents & radicals, rectangular coordinate geometry, solutions to linear and quadratic equations, systems of equations, inequalities, polynomials, factoring, rational expressions and equations, and an introduction to functions such as polynomial, exponential and logarithmic functions. Additional topics will include effective methods for studying and learning mathematics. Prerequisites: Placement. Notes: This is a remedial level course. No credit for MATH 099 will be granted for graduation.

MATH 101 - Intermediate Algebra (COM) Credits: 3
Basic properties of real numbers, linear equations and inequalities, quadratic equations, systems of equations, polynomials and factoring, rational expressions and equations, and an introduction to functions such as polynomial, exponential and logarithmic functions. Credit for MATH 101 will not be granted to anyone who has previously received credit for MATH 102 or MATH 115. Prerequisites: Placement.

MATH 102 - College Algebra (COM) Credits: 3
Equations and inequalities; polynomial functions and graphs, exponents, radicals, binomial theorem, zeros of polynomials; systems of equations; exponential, logarithmic, and inverse functions, applications and graphs. Other topics selected from sequences, series, and complex numbers. Prerequisites: Placement, MATH 095 or MATH 101 (C or better). Notes: * Course meets SGR #5.

MATH 103 - Quantitative Literacy (COM) Credits: 3
This course is designed to provide the liberal arts student with practical number theory, logical thinking, and mathematical skills to be quantitatively literate. The student will develop critical thinking skills, interpret data, and reason quantitatively to solve authentic problems and increase confidence with mathematics while simultaneously building a cultural appreciation for the relevant and meaningful role that mathematics plays in many areas of life. Students will use information and knowledge from multiple areas to apply mathematics to new situations and dynamic processes. This course does not serve as a prerequisite for courses requiring MATH 102 (College Algebra). Prerequisites: Placement, MATH 095 or MATH 101. Notes: * Course meets SGR #5.

MATH 115 - Precalculus (COM) 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 102 or placement. Notes: * Course meets SGR #5.
MATH 120 - Trigonometry *(COM) Credits: 3
Topics include: trigonometric functions, equations, and identities; inverse trigonometric functions; exponential and logarithmic functions, and applications of these functions. Prerequisites: MATH 102 or placement. Notes: * Course meets SGR #5.

MATH 121-121L - Survey of Calculus and Lab* *(COM) Credits: 5
A survey of calculus including an intuitive approach to limits, continuity, differentiation, and integration with an emphasis on applications of the derivative and the integral as well as topics from multivariable calculus; A lab which supplements Math 121 and provides the opportunity to study applications in more detail. Prerequisites: MATH 102, MATH 115 or placement. Corequisites: MATH 121L-121. Notes: * Course meets SGR #5.

MATH 123 - Calculus I *(COM) 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 123: MATH 115 with grade of A or B or placement. or MATH 123-123L: MATH 115 with grade of C or D or placement. Notes: * Course meets SGR #5.

MATH 123L - Calculus I Lab *(COM) Credits: 1
A lab which supplements MATH 123 and provides the opportunity to study applications in more detail. Corequisites: MATH 123.

MATH 125 - Calculus II *(COM) 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 141 - Survey of Mathematics Credits: 3
To give the students in social science and liberal arts an appreciation of the nature of mathematics. An introduction to the logical structure of mathematics and its application to modern life, including such topics as logic, number systems, geometry, probability, statistics, and consumer mathematics.

MATH 198 - The Mathematics Profession 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. 1 credit, fall semester only, S/U grading, may not be used to satisfy System Goal #5.

MATH 202 - Applied Informatics * Credits: 3
An introduction to discipline-specific applications of informatics including basic mathematical/statistical models, algorithms, and problem-solving with software. Students complete an informatics project that is strongly related to their major. Prerequisites: MATH 102 and INFO 101. Notes: * Course meets SGR #5.

MATH 215 - Matrix Algebra Credits: 2
An introduction to systems of linear equations, matrices, and determinants with applications to linear mathematical problems. Prerequisites: MATH 115, MATH 123 or consent.

MATH 225 - Calculus III *(COM) 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 253 - Logic, Sets, and Proof Credits: 3
Topics include logical connectives, quantifiers, and arguments; set operations, index sets, relations, functions, cardinality, and proof techniques. These topics will be introduced with a emphasis on using them to read, understand, evaluate, and create Mathematical Proofs. Prerequisites: MATH 123. Corequisites: MATH 125.

MATH 261 - Geometry for Teachers Credits: 3
Axiomatic development of Euclidean and other geometries, coordinate geometry in two or three dimensions, transformational geometry, and informal non-Euclidean geometry. Required of majors and minors planning to teach. Prerequisites: MATH 125 and EDFN 338.

MATH 291 - Independent Study Credits: 1-4
MATH 292 - Topics Credits: 1-5

MATH 315 - Linear Algebra *(COM) Credits: 4
Course topics include: the theory and applications of systems of linear equations, matrices, determinants, vector spaces, linear transformations and applications. Prerequisites: MATH 253.

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 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 Credits: 3
Fourier series, vector analysis, matrices, determinants, and topics selected from: complex variables, partial differential equations, numerical methods. Prerequisites: MATH 321.

MATH 355-355L - Methods of Teaching Mathematics and Lab Credits: 3, 1
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 338. Corequisites: MATH 355L-355.

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 125.

MATH 371 - Technology for Mathematics Educators Credits: 3
Students pursuing the BS in Mathematics with Teacher Education Specialization will gain experience with mathematics instructional technology devices commonly used in K12 mathematics classrooms. Prerequisite: permission of instructor.

MATH 373 - Introduction to Numerical Analysis *(COM) Credits: 3
This course is an introduction to numerical methods. Topics include elementary discussion of errors, polynomial interpolation, quadrature, nonlinear equations, and systems of linear equations. The algorithmic approach and efficient use of the computer will be emphasized. Prerequisites: MATH 125, and CSC 150 or CSC 213.

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, MATH 125 and either MATH 215 or MATH 315; or CSC 218, MATH 125 and either MATH 215 or MATH 315.

MATH 392 - Topics Credits: 1-5

MATH 401 - Senior Capstone and Advanced Writing *(AW) Credits: 1
Two semester course: In the first semester, students will carry out activities which are designed to refresh mathematics skills and develop skills such as research, writing, and presenting which will prepare them for the second semester in which they will write a major paper under faculty supervision and give a presentation based on that paper.

MATH 411-511 - Theory of Numbers *(COM) Credits: 3
Properties of integers, divisibility, primes, congruences, Diophantine equations, quadratic residues, continued fractions and the distribution of primes. Prerequisites: MATH 125.

MATH 413 - Abstract Algebra I *(COM) Credits: 3
Introduction to the theory and applications of algebraic structures including groups, rings, and fields. Prerequisites: MATH 315.

MATH 414 - Abstract Algebra II *(COM) Credits: 3
This is a continuation of topics from MATH 413. Prerequisites: MATH 413.
MATH 425 - Real Analysis I (COM) Credits: 3
Properties of real numbers, sequences, and series of real numbers, limits of functions, uniform continuity, differentiation, sequences and series of functions, uniform convergence, and theories of integration. Extensions of R^n may be considered. Prerequisites: MATH 125 and MATH 315.

MATH 426 - Real Analysis II (COM) Credits: 3
This is continuation of MATH 425. Prerequisites: MATH 425.

MATH 433 - Capstone: Mathematics Education Credits: 3
In this course, prospective teachers examine high school mathematics topics from an advanced point of view. The topics include, but are not limited to: real and complex numbers, functions, equations, mathematical induction, and trigonometry. Required of majors planning to teach. May not be used for upper division math elective for majors not pursuing Secondary Teaching Option. Prerequisites: MATH 125, MATH 315 and EDFN 338.

MATH 435 - Complex Variables I Credits: 3
Algebra of complex numbers, classifications of functions, differentiation, integration, mapping, transformations, infinite series. Prerequisites: MATH 225.

MATH 440-540 - Mathematics of Finance (COM) Credits: 3
Topics include, but are not limited to: exponential, binomial and Poisson distributions. Applications to discrete stochastic processes such as Markov chains and queuing theory are covered in some detail. Prerequisites: STAT 381 or consent.

MATH 441-541 - Applied Probability Theory Credits: 3
Prerequisites: STAT 381.

MATH 444-541 - Applied Probability Theory II Credits: 3
Topics in probability including an introduction to the axiomatic development of probability, random variable and distributions with emphasis on the exponential, binomial and Poisson distributions. Applications to discrete stochastic processes such as Markov chains and queuing theory are covered in some detail. Prerequisites: STAT 381 or consent.

MATH 450 - History of Mathematics (COM) Credits: 3
A general presentation of historical topics in mathematics including contributions to mathematics from ancient civilizations; developments leading to the creation of modern geometries, calculus and modern algebra; and contributions of outstanding mathematicians. Prerequisites: MATH 125.

MATH 471-571 - Numerical Analysis I (COM) Credits: 3
Analysis of rounding errors, numerical solutions of nonlinear equations, numerical differentiation, numerical integration, interpolation and approximation, numerical methods for solving linear systems. Prerequisites: MATH 225.

MATH 475-575 - Operations Research (COM) Credits: 3
An introductory overview of the field of operations research including topics from linear programming, simplex methods, network models, nonlinear programming, game theory, Markov Chains, introduction to dynamic programming, queuing theory and simulation. Prerequisites: MATH 315 or MATH 281 and MATH 125.

MATH 491-591 - Independent Study Credits: 1-4
MATH 492-592 - Topics Credits: 1-3
MATH 494 - Internship Credits: 1-3
MATH 495 - Undergraduate Research/Scholarship Credits: 1-3
MATH 498 - Applied Probability Theory Credits: 3
MATH 574 - Scientific Computation II Credits: 3
MATH 716 - Theory of Algebraic Structures I Credits: 3
MATH 717 - Theory of Algebraic Structures II Credits: 3
MATH 725 - Advanced Calculus I Credits: 3
MATH 732 - Ordinary Differential Equations Credits: 3
MATH 733 - Complex Variables I Credits: 3
MATH 741 - Measure and Probability Credits: 3
MATH 742 - Partial Differential Equations Credits: 3
MATH 771 - Numerical Analysis II Credits: 3
MATH 774 - Advanced Scientific Computation Credits: 3
MATH 775 - Operations Research II Credits: 3
MATH 788 - Research Paper Credits: 1-2
MATH 791 - Independent Study Credits: 1-3
MATH 792 - Topics Credits: 1-2
MATH 798 - Thesis Credits: 1-7

MCOM (Mass Communication)

MCOM 109 - 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. Notes: ** Course meets IGR #1.

MCOM 145 - Media Literacy and Ethics Credits: 3
Media Literacy is the ability to access, analyze, evaluate and communicate information in a variety of formats. This class explores how the mass media help construct social reality and how media use identifiable techniques to communicate messages. Topics include media theories, ethical principles associated with media programming and the roles of media producers and consumers. A key component for the course is to determine were social responsibility lies in relationship to the mass media.

MCOM 151 - Introduction to Mass Communication * (COM) 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 155 - Information Gathering Credits: 2
An introduction to the basics of gathering information ethically and legally from a variety of sources and analyzing and presenting information in a journalistic format.

MCOM 160 - Introduction to Film ** Credits: 3
Film as art; themes and inventions; films and society; introduction to the camera. Notes: ** Course meets SGR #4 or ** IGR #2.

MCOM 210-210L - Basic Newswriting and Studio (COM) Credits: 3
Introduces students to gathering, evaluating and writing news. Studio accompanies MCOM 210. Prerequisites: ENGL 101.

MCOM 215 – Sportswriting Credits: 3
Interviewing, reporting, writing, and editing sports stories combined with an exploration of sportswriting as a career.

MCOM 220-220L - Introduction to Digital Media and Lab Credits: 3
An introduction to the basics of digital imagery and design for the news media, and hands-on application of the basics of news media digital communication. Corequisites: MCOM 220L-220.

MCOM 225-225L - Introduction to Digital Production & Lab Credits: 3
Fundamental design principles, techniques, and technology of digital layout and production. Lab includes hands-on application of fundamental design principles, techniques, and technology of digital layout and production. Corequisites: MCOM 225L-225.

MCOM 265-265L - Basic Photography and Studio (COM) Credits: 2
Beginning camera and darkroom techniques, including processing, printing, and digitizing black and white photographs. Survey of the field of photography and its uses. Studio accompanies MCOM 265.

MCOM 266-266L - Photojournalism and Studio (COM) Credits: 2
Photography as it relates to the media and the public. Emphasis on the content and design of photo essays, legal and ethical aspects of photography. Studio accompanies MCOM 266. Prerequisites: MCOM 265, or MCOM 161 and MCOM 210.

MCOM 311-311L - News Editing and Editing Lab (COM) Credits: 3
The evaluation and editing of news stories, with an examination of editing problems, copy reading techniques, page makeup and design, headlines, picture usage, legal and ethical issues. Comprehensive experience in a laboratory setting with editing techniques. Students work with associated press wire service copy, electronic page design and layout techniques, picture editing and page composition. Prerequisites: MCOM 210. Corequisites: MCOM 311L-311.

Course Information 303

Students are advised to check for most current descriptions at: www.catalog.sdstate.edu
For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.
MCOM 316 - Magazine Writing and Editing (AW) Credits: 3
Includes overview of the magazine industry, how to write and submit freelance articles. Students write and submit articles for publication and edit a departmental magazine.

MCOM 317 - News Gathering Credits: 3
Builds on the skills and concepts introduced in Basic Newswriting by providing additional experience in beat coverage, initiating story ideas, news judgment, verifying and developing information, and writing stories for publication, broadcast or online delivery. Prerequisites: MCOM 210.

MCOM 331-331L - Video Production and Lab (COM) Credits: 3
Includes preparation and presentation of talks, interviews, discussion and extension and community services for broadcast. Lab accompanies MCOM 331.

MCOM 333-333L - Television News Reporting and Studio Credits: 3
TV news videography, reporting, writing and video editing. Lab practice with videotape. Prerequisites: MCOM 210 and MCOM 331. Corequisites: MCOM 333L-333.

MCOM 339-339L - Publication Design and Lab Credits: 3
This course covers the principles of page design including the editing of photos, typography and graphics for print and online publications. Prerequisites: MCOM 220 or MCOM 225 or MCOM 265. Corequisites: MCOM 339L-339.

MCOM 340-340L - Broadcast Announcing and Performance and Lab Credits: 3
Junior-level required course that emphasizes presentations before cameras and microphones. This includes the fundamentals of voice and articulation for effective on-air performance on both radio and television. Other topics addressed are audience perception, delivery styles and on-camera appearance. Corequisites: MCOM 340L-340.

MCOM 359-359L - Advanced Digital Production and Lab Credits: 3
This course applies effective digital production principles to a series of increasingly complex projects. Prerequisites: MCOM 220 or MCOM 225. Corequisites: MCOM 359L-359.

MCOM 365-365L - Advanced Photography & Studio (COM) Credits: 2-3
Exploration of photojournalism and electronic photojournalism. Emphasis on putting together a professional photojournalism portfolio including black and white and color. Studio accompanies MCOM 365. Prerequisites: MCOM 265.

MCOM 366 - Film Narrative Credits: 3
Myths, values and beliefs as expressed in selected films; forms, styles, and directors.

MCOM 410 - Advanced Reporting (COM) Credits: 3
Political, scientific, and social issues in in-depth reporting for magazines and newspapers.

MCOM 413-513 - International Media (COM) (G) 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 415 - Opinion Writing Credits: 3
Opinion function of periodicals; great editorials and editorial writers; writing editorials; shaping policy.

MCOM 416-516 - Mass Media in Society (G) Credits: 3
Rights and responsibilities of the press; relation of the media to individuals and society; role of media in a free society.

MCOM 417-517 - History of Journalism Credits: 3
Development, impact and importance of individual journalists and media in U.S.

MCOM 419-519 - Women in Media Credits: 3
This course examines contributions of women to the mass media from colonial era to present. It also studies the portrayal of women by the news media and by advertising, and it studies the roles currently played by women in the media and in supporting areas of advertising and public relations. Cross-Listed: WMST 419-519.

MCOM 430-530 - Media Law (COM) Credits: 3
Study of the sources, processes, content and application of law and regulation in the mass communication context and of the ethics of communications practitioners.

MCOM 431-431L - Advanced Media Production and Lab Credits: 3
Capstone of Media Production specialization. Integrates multiple aspects of media production and online delivery of media content. Prerequisites: MCOM 331. Corequisites: MCOM 431L-431.

MCOM 433-433L - Advanced TV News Reporting and Lab (AW) Credits: 3
In-depth analysis of television news reporting, writing, videography and video editing techniques. Major emphasis on out of class assignments. Prerequisites: MCOM 331 and MCOM 333. Corequisites: MCOM 433L-433.

MCOM 438-438L - Public Affairs Reporting and Studio (COM) (AW) Credits: 3

MCOM 453 - Mass Communication Teaching Methods Credits: 3
Techniques, materials and resources for teaching mass communication in the classroom and supervising student media for secondary school or college instructors and publication advisors.

MCOM 474-574 - Media Administration and Management (COM) Credits: 3
Business practices, newspaper, magazine, and broadcast management.

MCOM 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 hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

MCOM 485-585 - Science Writing 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 Credits: 1
MCOM 491 - Independent Study Credits: 1-4
MCOM 492-592 – Topics Credits: 1-5
MCOM 494 – Internship Credits: 1-12
MCOM 615 - Opinion Writing Credits: 3
MCOM 653 - Mass Communication Teaching Methods Credits: 1-4
MCOM 682 - Travel Studies Credits: 3
MCOM 691 - Independent Study Credits: 1-3
MCOM 692 - Topics Credits: 1-3
MCOM 693 - Workshop Credits: 1-4
MCOM 705 - Introduction to Master of Mass Communication Credits: 3
MCOM 710 - Cross-Platform Storytelling Credits: 3
MCOM 730 - Media Law Case Studies Credits: 3
MCOM 742 - Health Campaigns Credits: 3
MCOM 746 - Cross-Platform Campaigns Credits: 3
MCOM 760 - Social Marketing Credits: 3
MCOM 785 - Health Journalism Credits: 3
MCOM 786 - Conducting Professional Research Credits: 3
MCOM 787 - Research Methods in Communications Credits: 3
MCOM 788 - Master's Research Problems/Projects Credits: 2-3
MCOM 791 - Independent Study Credits: 1-3
MCOM 794 – Internship Credits: 3
MCOM 798 – Thesis Credits: 1-6

ME (Mechanical Engineering)

ME 240 - Introduction of Mechanical Design Credits: 3
ME 241 - Engineering Materials Credits: 3
Structure of materials, including atoms, perfect and imperfect crystals and phases. Diffusion mechanisms. Mechanical properties, dislocations and strengthening mechanisms. Failure theory. Phase diagrams and phase transformations in metals, including development of microstructure and alteration of mechanical properties. Applications and processing of metal alloys, ceramics, polymers and composites. Prerequisites: MATH 123 and CHEM 112.

ME 311 - Thermodynamics I Credits: 3

ME 312 - Thermodynamics II (COM) Credits: 3

ME 314 - Thermodynamics Credits: 3

ME 321 - Fundamentals of Machine Design Credits: 3

ME 323 - Vibrations Credits: 3

ME 341-341L - Metallurgy and Lab Credits: 3
Crystalline structure and physical properties of metals, phase transformation diagrams, effect of mechanical or thermal treatment on grain structure of ferrous and non-ferrous alloys. Laboratory demonstrates fundamental principles and presents necessary techniques of metallography. Prerequisites: ME 241. Corequisites: ME 341L-341.

ME 362 - Industrial Engineering Credits: 3
Modern industrial engineering. Planning, organizing and directing industrial enterprises. Quantitative analysis of management problems in production planning and control, quality control, reliability, facility planning, project economics and PERT. Applications and examples from realistic situations. Prerequisites: STAT 381 or consent.

ME 376-376L - Measurement and Instrumentation and Lab Credits: 2

ME 410 - Principles of HVAC Engineering Credits: 3

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 414-514 - Air Pollution Control Credits: 3
Control of particulates and gaseous pollutants. Design and operating characteristics of gravity settlers, cyclones, electrostatic precipitators, fabric filters, scrubbers, incinerators, adsorption beds and absorption towers. Prerequisites: ME 311.

ME 415 - Heat Transfer Credits: 3
Basic principles of steady and unsteady conduction, convection of heat and mass transfer and thermal radiation. Computational methods of heat transfer. Prerequisites: ME 311, EM 331 and MATH 321 or consent.

ME 416-516 - Renewable Energy Systems Credits: 3
Students will learn to apply the principles of energy conversion, energy conservation, and value engineering to the analysis of energy conversion systems, renewable energy generation equipment and systems. Students will become familiar with energy consumption requirements for conventional systems and the applications of renewable energy systems to provide alternative energy sources. Energy efficiency and global environmental sustainability are emphasized. A background in basic thermodynamics is assumed. Prerequisites: ME 311, ME 314 or PHYS 341.

ME 417-417L/517-517L - Computer-Aided Engineering and Lab Credits: 3
Introduction to applied structural and thermal design and analysis using the ANSYS finite element software package. One-, two- and three-dimensional static structural problems modeled using the direct generation method as well as solid modeling techniques. Steady-state and transient thermal analysis are performed. Thermally-induced stressed and displacements that occur in non-uniform temperature structures, solutions of two- or three-dimensional fluid mechanics problems, and optimization techniques are discussed. Corequisites: ME 417L-417.

ME 418 - 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

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 433-433L/533-533L - Non-Destructive Testing and Evaluation and Lab Credits: 3
Various non-destructive testing techniques will be introduced with emphasis on ultrasound techniques. For ultrasound, physical principles of acoustic waves in solid media will be introduced, and acoustic sensor design and properties will be discussed. For other techniques, including eddy current techniques, X-ray techniques, acoustic emission, etc., basic physics of the method and modern applications will be introduced. Experiments and demonstrations will be conducted to enhance students' understanding of the concepts and applications. Prerequisites: EM 215, EM 321 and MATH 321.

ME 437-537 - Gas Dynamics I Credits: 3

ME 438-438L - Machine Design-Case Studies and Lab Credits: 3

ME 439-439L - HVAC System Design and Lab Credits: 3
Analysis of heating, ventilating and air conditioning requirements. Design of heating, ventilating and air conditioning systems. Economic, energy and environmental considerations. Use of computers as design aids. Prerequisites: ME 410 or consent. Corequisites: ME 439L-439.
ME 440-540 - Computer-Aided 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 442-542 - Applications of Computational Fluid Dynamics Credits: 3
This course provides a background in the 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 451 - Automatic Controls Credits: 3

ME 452 - Dynamic Systems Lab Credits: 1

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 - Thermo-Fluids Lab Credits: 1

ME 478 - Mechanical Systems Design I Credits: 2
A systems approach to design, covering need analysis, design phases, design processes, economics, optimization, and success criteria. Students will design, build, and test an independent project which must be different than any previous design they have attempted. Prerequisites: ME 421; and MATH 331 or MATH 471.

ME 479-479L - Mechanical Systems Design II and Lab (COM) (AW) Credits: 2
The second semester continuation of Mechanical Systems Design. Integrates concepts from all areas in Mechanical Engineering into a practical design project. Detailed design and analysis, manufacturing, and assembly will be the focus. Prerequisites: ME 323 or ME 478.

ME 490-590 - Seminar Credits: 1-2
ME 491 - Independent Study Credits: 1-5
ME 492-592 - Topics Credits: 1-5
ME 493 - Workshop Credits: 1-3
ME 494 - Internship Credits: 1-3
ME 496 - Field Experience Credits: 1-3
ME 497 - Cooperative Education Credits: 1-3
ME 498 - Undergraduate Scholarship/Research Credits: 1-3
ME 691 - Independent Study Credits: 1-5
ME 692 - Topics Credits: 1-3
ME 700 - Graduate Colloquium Credits: 0
ME 703 - Thermo-Fluid Energy Systems Credits: 3
ME 711 - Advanced Heat Transfer I Credits: 3
ME 712 - Convection Heat Transfer Credits: 3
ME 721 - Viscous Flow I Credits: 3
ME 731 - Advanced Analytical Methods Credits: 3
ME 735-735L - Modeling and Simulation and Lab Credits: 3
ME 739 - Advanced Metallurgy Credits: 3
ME 741 - Advanced Stress Analysis in Mechanical Design Credits: 3
ME 745 - Advanced Machine Design Credits: 3
ME 760 - Quality Control Credits: 3
ME 761 - Operations Research Credits: 3
ME 763 - Topics in Reliability Engineering Credits: 3
ME 765 - Systems Analysis Credits: 3
ME 767 - Decision Theory Credits: 3
ME 787 - Research Credits: 1-9
ME 788 - Research or Design Paper Credits: 1-2
ME 790 - Seminar Credits: 1
ME 791 - Independent Study Credits: 1-3
ME 792 - Topics Credits: 1-3
ME 798 - Thesis Credits: 1-7

MGMT (Management)

MGMT 310 - Business Finance (COM) Credits: 3
Business finance is an overview of financial theory including the time value of money, capital budgeting, capital structure theory, dividend policies, asset pricing, risk and return, the efficient markets hypothesis, bond and stock valuation, business performance evaluation and other financial topics. Prerequisites: ACCT 211. Cross-Listed: BADM 310.

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 360 - Organization and Management (COM) Credits: 3
This course is a study of management, including the planning, direction, controlling and coordinating of the various activities involved in operating a business enterprise. Cross-Listed: BADM 360.

MGMT 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. Cross-Listed: BADM 460.

MGMT 464 - Organizational Behavior (COM) Credits: 3
This course is a study of individuals and groups. Traditional organization theory and concepts are presented and study is given to motivation, group dynamics, and methods of coordination, change and adaptation within an organization. Prerequisites: BADM 360. Cross-Listed: BADM 464.

MLS (Medical Laboratory Sciences)

MLS 199 - First Year Seminar - Medical Laboratory Science Credits: 2
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society.

MLS 201 - Understanding Medical Laboratory Science Credits: 2
Provides an overview of the allied health profession in Medical Laboratory Science including an introduction to the interdisciplinary emphasis in Hematology, Microbiology, Immunohematology, Chemistry, Urinalysis, Molecular, Hemostasis, Hematology and Laboratory Practice. Provides an introduction into the professional levels of practice within the medical laboratory science field. Prerequisites: Acceptance into MLS professional program. Notes: MLS professional program acceptance required.

MLS 301-301L - Hematology I and Lab Credits: 3
Normal maturation, morphology, and function of blood cells. Application of manual and automated methods/techniques in hematology. Corequisites: MLS 301L-301L. Notes: MLS professional program acceptance required.

MLS 311 - Clinical Chemistry I Credits: 4
Principles and theory of clinical chemistry including metabolism of biochemical molecules, metabolic disease/dysfunction, electrolyte balance, acid-base balance, instrumentation, quality control, and quality assurance.
Prerequisites: CHEM 108-108L or equivalent. Notes: MLS professional program acceptance required.

MLS 321 – Hemostasis Credits: 1
Mechanisms of hemostasis and clotting; hereditary and acquired defects of the hemostatic mechanism. Notes: MLS professional program acceptance required.

MLS 341-341L - Diagnostic Microbiology I and Lab Credits: 3, 2
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. 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. Prerequisites: MICR 231-231L or MICR 233-233L. Corequisites: MLS 341L-341. Notes: MLS professional program acceptance required.

MLS 368 - Medical Laboratory Science Technical Training Credits: 20-42
Designed to facilitate transfer of students who have completed a one or two year regionally or nationally accredited or certified program in medical laboratory science, clinical laboratory science and/or technician. The purpose is to provide transfer of previous work into an upward mobility option for students who have a commitment to medical laboratory science. Notes: MLS professional program acceptance required.

MLS 401 - Hematology II Credits: 2
Advanced study of the hematopoietic system and blood cells, including morphology an disease states, such as leukemias, lymphomas, and myeloproliferative disorders. Notes: MLS professional program acceptance required.

MLS 402L - Advanced Hematology and Hemostasis Lab Credits: 1

MLS 403-403L - Diagnostic Immunology Credits: 4
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, and supervised laboratory experience in the principles and methods for the study of the immune system, antigen-antibody reactions and associated clinical laboratory diagnostics. Notes: MLS professional program acceptance required.

MLS 411-411L - Clinical Chemistry II and Lab Credits: 3, 1

MLS 412-412L - Laboratory Methods and Lab Credits: 2, 1
Anatomy and physiology of vascular system; and techniques for obtaining blood specimens (phlebotomy) including drenal, syringe and vacutainer systems. In addition the course will include specimen processing, infection control, laboratory safety and instruction in good general laboratory practices required within the medical laboratory science field. Laboratory course to accompany MLS 412. Notes: MLS professional program acceptance required.

MLS 431-431L - Principles of Immunohematology and Laboratory Credits: 2, 1
The study of red blood cell antigens and their antibodies, including blood grouping and typing, antibody detection and compatibility testing, blood donor screening and cross matching, immunologically related diseases, transplantation, and principles of antigen-antibody based tests. 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. Prerequisites: MLS 403 or equivalent. Corequisites: MLS 431L-431. Notes: MLS professional program acceptance required.

MLS 441-441L - Diagnostic Microbiology II and Lab Credits: 3, 2
Focuses on the principles and methodologies for the recovery of bacteria, fungal, parasitic and viral agents from complex biological specimens, biochemical identification, and advanced principles in clinical sensitivity and specificity. 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. Corequisites: MLS 441L-441. Notes: MLS professional program acceptance required.

MLS 451-451L - Immunohematology II Credits: 2, 1
Advanced laboratory in immunohematology including complex incompatibilities, trouble shooting, transfusion medicine, clinical correlations and advanced laboratory methods in immunohematology. Notes: MLS professional program acceptance required. Students enrolled in MLS prior to Fall 2012 will take MLS 451 - Urine and Body Fluid Analysis.

MLS 461 - Introduction to Management and Education (AW) Credits: 2
Basic concepts in laboratory management and education. Building critical thinking, problem solving, and professional skills. Notes: MLS professional program acceptance required.

MLS 468 - Advanced Supervised Clinical Experience I Credits: 1-5
Off campus supervised clinical experiences administered in conjunction with clinical faculty in SDSU affiliated health care institutions. Emphasis will be on advanced hematology, hemostasis, phlebotomy and immunology. Prerequisites: Acceptance into the MLS upward mobility program or instructors permission.

MLS 469 - Advanced Supervised Clinical Experience II Credits: (1-5)
Off campus supervised clinical experiences administered in conjunction with clinical faculty in SDSU affiliated health care institutions. Emphasis will be on advanced hematology, hemostasis, phlebotomy and immunology. Prerequisites: Acceptance into the MLS Forward Mobility program or permission of the instructor. Notes: MLS professional program acceptance required.

MLS 471-471L - Advanced Medical Diagnostics Credits: 2, 1
Advanced laboratory including clinical correlations, total quality management, general operations, and analysis of patient samples in complex disease states utilizing a simulated laboratory experience. Notes: MLS professional program acceptance required. Students enrolled in the MLS program prior to Fall 2012 will take the course as MLS 471 - Molecular Diagnostics.

MLS 478 - Molecular Diagnostics Clinical Practice Credits: 1
Supervised clinical practice in molecular diagnostics to include nucleic acid purifications, amplifications and interpretation of clinical results. Notes: Senior status in the MLS professional program and clinical placement required.

MLS 481 - Chemistry, Urinalysis and Body Fluid Analysis Clinical Practice Credits: 4
Supervised clinical practice in chemistry, urinalysis and body fluid analysis. Notes: Senior status in the MLS professional program and clinical placement required.

MLS 482 - Hematology and Hemostasis Clinical Practice Credits: 4
Supervised clinical practice in hematology and coagulation. Notes: Senior status in the MLS professional program and clinical placement required.

MLS 483 - Senior Capstone Clinical Practice Credits: 2
Students will complete a formal analysis of patient data at the clinical affiliate site and submit in a clinical case study format as a comprehensive experience. In addition, students will be required to successfully complete an interdisciplinary comprehensive program exam. Notes: Senior status in the MLS professional program and clinical placement required.

MLS 484 - Clinical Immunohematology Clinical Practice Credits: 4
Supervised clinical practice in the blood bank. Prerequisites: MLS 431. Notes: Senior status in the MLS professional program and clinical placement required.
MLS 485 - Diagnostic Microbiology Clinical Practice Credits: 5
Supervised clinical practice in the clinical microbiology laboratory. Notes: Senior status in the MLS professional program and clinical placement required.

MLS 486 - Coagulation Clinical Practice Credits: 1
Supervised clinical practice in the coagulation laboratory. Prerequisites: MLS 321 and MLS 402L.

MLS 487 - Elective Clinical Practice Credits: 1-4
Supervised clinical experience in an area outside a large clinical laboratory (rural laboratory, research laboratory, or clinic laboratory). Notes: MLS professional program acceptance required.

MLS 488 - Urinalysis and Clinical Microscopy Clinical Practice Credits: 2
Supervised clinical practice in the analysis of urine and biological fluids. Prerequisites: MLS 411.

MLS 489 - Phlebotomy Clinical Practice Credits: 1
Supervised clinical practice in phlebotomy. Notes: Senior status in the MLS professional program and clinical placement required.

MLS 490 – Seminar Credits: 1
Senior Capstone Clinical Practice. Students will complete a formal analysis of patient data at the clinical affiliate site and submit in a clinical case study format as a comprehensive experience. In addition, students will be required to successfully complete an interdisciplinary comprehensive program exam.

MLS 494 - Internship Credits: 8-16
Students are to register for this course during the summer, fall and spring semesters of their internship year. Credit is given by SDSU for coursework completed at affiliated hospital programs. The course descriptions below are common to most hospital programs. Register for a total of 40 credits. Clinical Hematology/Coagulation-Lecture, supervised laboratory instruction, quality control, instrumentation, computer applications and experience in body fluids and urine in regard to chemical and cellular composition. Anatomy and physiology, theory of renal function in health and disease. Clinical Immunology/Laboratory -Lecture supervised laboratory instruction, quality control, instrumentation, computer applications and experience in the analysis of cellular elements of the blood and bone marrow, both normal and abnormal, and on the homeostatic mechanisms of the blood. Clinical Microbiology-Lecture, supervised laboratory instruction, quality control, instrumentation, computer applications and experience in the isolation and identification of pathogenic organisms and their susceptibility to antimicrobial agents. Includes Bacteriology, Mycology, Parasitology, and Virology. Clinical Serology/Immunology-Lecture on antigen/antibody structure-function-interactions, supervised laboratory instruction, quality control, instrumentation, computer applications and experience in applying the principles of immunology to serologic diagnosis. Clinical Chemistry/Radioisotope/Biofluids-I Lecture, supervised laboratory instruction, quality control, computer applications and instrumentation, and experience in medically oriented biochemistry as applied to normal and abnormal physiology and analysis of body constituents. Includes analyses of special body fluids such as amniotic, synovial, cerebrospinal, gastric and pleural fluids. Includes special procedures utilized for toxicology, endocrinology and radioisotope. Clinical Immunohematology-Lecture, supervised laboratory instruction, quality control, instrumentation, computer applications and experience in theory and practice of immunohematology as applied to blood transfusion, component therapy, autoimmune diseases, immunologic diagnostic procedures and blood component preparation and administration. Specialized Units Management/Research/Lectures and/or seminars on theory and techniques of laboratory oriented practice; principles of education and teaching methodologies; and research, scientific writing or projects in specialty areas of medical technology.

MFL (Modern Foreign Languages)

MFL 101 - Introduction to Foreign Language and Culture I (COM) 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.

MFL 102 - Introduction to Foreign Language and Culture II (COM) 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.

MFL 196 - Field Experience Credits: 1-3
MFL 292 - Topics Credits: 1-5
MFL 292L - Topics Lab Credits: 0
MFL 296 - Field Experience Credits: 1-12
MFL 396 - Field Experience Credits: 1-12
MFL 399 - Orientation for Study Abroad Credits: 1
This course will have the purpose to prepare students who plan to study abroad with an SDSU program or independently. The course will be country (or at least language)-specific and will cover: socio-historical background on the target country, cross-cultural communication issues, culture-shock, practical issues involved in travel abroad (such as what to pack, visa requirements etc), as well as safety rules and behavioral expectations for students as representatives of SDSU abroad.

MFL 420 - K-12 Foreign Language Methods (COM) Credits: 3
Methods and materials for teaching modern languages in high school.

MFL 460-480 - Topics in French, German, or Spanish Literature Credits: 1-4
An intensive examination of a significant writer(s), period or theme in French, German, or Spanish literature. This course may be repeated for credit if topic is different.

MFL 490 – Seminar Credits: 1-3
MFL 491-591 - Independent Study Credits: 1-3
MFL 492-592 – Topics Credits: 1-3
MFL 494 – Internship Credits: 1-12
MFL 495-595 - Field Experience Credits: 1-12
MFL 595 – Practicum Credits: 1-3

MICR (Microbiology)

MICR 231-231L - General Microbiology and Lab * (COM) Credits: 4
Principles of basic and applied microbiology. Laboratory experience that accompanies MICR 231. Prerequisites: CHEM 106 or CHEM 112. Corequisites: MICR 231L-231L. Notes: * Course meets SGR #6.

MICR 233-233L - Introductory Microbiology and Lab Credits: 4
Introductory microbiology course for biology, microbiology and biotechnology majors. Basics of microbial cell structure and function; viral structure; microbial diversity and evolution; interactions between microbes and plants/animals; biogeochemical cycling; microbial growth; and control of microorganisms. The laboratory will include aseptic technique; use of bright-field microscopes; common staining techniques; cultivation of various microbes; investigations of diversity; metabolic characteristics; microbial growth and control of microbial growth/metabolism. Prerequisites: Completion of BIOL 151 and 6 credits college chemistry. Corequisites: MICR 233L-233.

MICR 290 – Seminar Credits: 1
Cross-Listed: BIOL 290.

MICR 310-310L - Environmental Microbiology and Lab Credits: 4
Microbiology of water, air and surfaces in the environment. Standard methods for detecting and controlling pathogens and non pathogens. Laboratory experience that accompanies MICR 310. Prerequisites: MICR 231-231L or MICR 233-233L. Corequisites: MICR 310L-310.

MICR 311-311L - Food Microbiology and Lab Credits: 4
Microbiology of fresh and processed meats, dairy products, vegetables and modern convenience foods. Laboratory quality study of food preservation, processing and spoilage. Laboratory experience that accompanies MICR 311. Prerequisites: MICR 231-231L or MICR 233-233L. Corequisites: MICR 311L-311.

MICR 332 - Microbial Physiology Credits: 2
Cytology, nutrition, metabolism, and growth of microorganisms. Prerequisites: MICR 231-231L or MICR 233-233L.
DNA purification.
Media preparation, sterilization, microscopy, assay of microbial enzymes.

MICR 414-414L/514-514L - Anaerobic Microbiology and Lab Credits: 3

MICR 421-421L/521-521L - Soil Microbiology and Lab Credits: 3
Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms. Laboratory course to accompany MICR 421-521. Prerequisites: BIOL 151-151L and BIOL 153-153L, or BOT 201-201L. Corequisites: MICR 421L/MICR 521L-521L. Cross-Listed: PS 421-421L/521-521L.

MICR 424-524 - Medical and Veterinary Virology Credits: 3
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Prerequisites: MICR 433. Cross-Listed: VET 424-524.

MICR 433-533 - Medical Microbiology (COM) Credits: 3
Principles of medical microbiology including a survey of the most clinically significant bacterial, fungal, parasitic, and viral diseases in the world, with an emphasis on those most prevalent in North America. Case studies will address: morphology, physiology, and virulence of the microbes and the epidemiology, treatment, and prevention of the diseases they cause. Prerequisites: CHEM 106 or CHEM 112 and MICR 231-231L or MICR 233-233L.

MICR 436 - Molecular and Microbial Genetics Credits: 4
A basic course in molecular genetics. Examples to illustrate genetic principles are drawn from all forms of life. Prerequisites: BIOL 204 or BIOL 371.

MICR 438L - Techniques in Molecular Biology Laboratory Credits: 2
This laboratory course will provide hands-on experience for the students interested in basic molecular biology techniques, including gene amplification by polymerase chain reaction (PCR), DNA isolation and modification, bacterial transformation, protein expression and detection (Western Blot). Prerequisites: MICR 436 (completed or concurrent).

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/VET 424 or MICR 433 or MICR 439.

MICR 450 - Applied Microbiology and Biotechnology Credits: 3
The rapid development of biotechnology techniques and their commercial application continues to be a major economic driver in the twenty-first century. Biotechnology uses living cells or their enzymes to produce chemicals, biomaterials, pharmaceuticals, and energy from renewable biomass feedstocks. This interdisciplinary course will examine theoretical and practical aspects of cell metabolism, metabolic engineering, fermentation and fermentor design, product recovery, process control, energy balances, and economics as related to several current bioprocesses. This course will integrate principles from microbiology, biochemistry, and engineering to provide students with the skills needed to fill roles in research, operations and commercialization. Prerequisites: MICR 231-231L or MICR 233-233L.

MICR 490 - Seminar (AW) Credits: 1

MICR 491 - Independent Study Credits: 1-3

MICR 492L-592L - Topics Credits: 1-4

MICR 492L-592L - Topics Lab Credits: 0

MICR 494 - Internship Credits: 1-12

MICR 497 - Cooperative Education Credits: 1-12

MICR 498 - Undergraduate Research/Scholarship Credits: 1-4
Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

MICR 788 - Research Problems Credits: 1-3

MICR 791 - Independent Study Credits: 1-4

MICR 792 - Topics Credits: 1-4

MICR 798 - Thesis Credits: 1-7

MNET (Manufacturing Engineering Technology)

MNET 231-231L - Manufacturing Processes I and Lab Credits: 3
The topics in this course cover the fundamentals of traditional and nontraditional manufacturing processes including mass reducing, mass conserving, joining, material treatment, and surface treatment processes. Hands-on experiences in laboratories provide the class participants with basic skills in machining and welding processes. Corequisites: MNET 231L-231L.

MNET 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 102 or higher and 1 course from PHYS. Cross-Listed: GE 241.

MNET 243-243L - Introduction to Materials Science and Lab Credits: 3
Basic concepts presented in relation to common engineering materials. Topics include physical and mechanical properties of materials. Laboratories utilize common materials science apparatus and relate to common industrial practices. Prerequisites: CHEM 106. Corequisites: MNET 243L-243L.

MNET 251-251L - Electricity and Electronics I and Lab Credits: 3
The course is designed to provide students with a background and understanding of the essential topics in AC/DC circuits, electrical circuit materials, electrical energy and sources of electricity, basic circuits and their analysis, magnetism, and applications of motors, generators, and power distribution. Lab for ET/MNET 251. Prerequisites: 1 course from subject MATH, except courses MATH 921, MATH 101, MATH 100T, or MATH 102. Corequisites: MNET 251L-251L.

MNET 252-252L - Electricity and Electronics II and Lab Credits: 3
This course is the continuation of 251 and is designed to provide students with a background and understanding of the essential topics in semiconductor devices, semiconductor power supply and technology, and semiconductor amplifiers and their applications. Other topics include digital logic, integrated circuits, oscillators, AM/FM communications, TV signal transmissions, and computer structure and operations. Prerequisites: MNET 251-251L. Corequisites: MNET 252L-252L.

MNET 260 - Principles of Production and Operations Management Credits: 3
A broad analytical 'systems' viewpoint is used to develop competency in management decision-making and problem solving in operations setting in various businesses and especially manufacturing. This course involves the study of the production end of business, where resources are transferred into goods and services, and the management of operations through effective planning, implementing, and monitoring for continuous improvement. Prerequisites: One Math course except 201, 095, 101, 100T. Cross-Listed: BADM 260.

MNET 320-320L - Computer Aided Design/Drawing and Lab Credits: 3
Major course emphasis will be on creating 3-Dimensional solid models using current design software. Course will include the basic concepts of a feature-based parametric design, and the generation of mass properties, part drawings, assembly drawings and documentation. Prerequisites: GE 123. Corequisites: MNET 320L-320L.

MNET 334-334L - CAM/CNC and Lab Credits: 3
This course focuses on Computer Numerical Control (CNC) machines programming and operations. Automatic programming of CNC machines using Computer Aided Manufacturing (CAM) software is also the focus of this course. Corequisites: MNET 334L-334L.
MNET 367-367L - Production Strategy and Lab Credits: 3
Analysis and design of facilities and material handling systems. Lean applications used to reduce waste and increase productivity. Prerequisites: MNET 231. Corequisites: MNET 367L-367.

MNET 436-436L - Production Tooling Methods and Measurement and Lab Credits: 3
An overview of machine tool design, application, manufacture and general measurement techniques. Subject includes jigs, fixtures, molds, tools and dies in various production settings. Also included are material selection, precision machining, related manufacturing processes, manufacturing inspection equipment and techniques, dimensional metrology and geometric conformance, and surface texture and integrity. Prerequisites: MNET 320 and MNET 334. Corequisites: MNET 436L-436.

MNET 451-451L - Industrial Electronics and Control and Lab Credits: 3
This course teaches industrial motion control (servomechanisms) and process control (instrumentation) systems. The course describes the concepts and the operation of electronic devices, circuits, systems, and applications used in industry. Prerequisites: MNET 252 or ET 320 and MATH 121 or MATH 123. Corequisites: MNET 451L-451.

MNET 453-453L - Manufacturing Automation and Lab Credits: 3
The course offers advanced topics in manufacturing automation including automation hardware/software, system design and integration, and management techniques for improving design and manufacturing operations. Hand-on lab activities provide the students the opportunity to develop and program automated systems. Prerequisites: MNET 451. Corequisites: MNET 453L-453L. Cross-Listed: ET 453-453L.

MNET 460-460L - Manufacturing Cost Analysis Credits: 3
Cost estimating for processes and products related to various manufacturing operations; engineering economics; analysis; evaluation; and budget justification for capital expenditures. Prerequisites: MNET 231.

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 and OM 463.

MNET 471-471L - Capstone Experience and Lab (AW) Credits: 1
Technical projects developed in Project Management are completed. Student teams present results in a public venue. Prerequisites: GE 469 or OM 469. Corequisites: OM/MNET/ET 471L-471. Cross-Listed: ET 471-471L/OM 471-471L.

MNET 491 - Independent Study Credits: 1-3
MNET 492 - Topics Credits: 1-3

MRCH (Merchandising)

MRCH 510 - Consumer Behavior in Merchandising Credits: 3
MRCH 520 - Professional Advancement in Merchandising Credits: 3
MRCH 530 - Product Design, Development, and Evaluation Credits: 3
MRCH 540 - Promotional Strategies in Merchandising Credits: 3
MRCH 550 - Retail Theory and Current Practice Credits: 3
MRCH 580 - Travel Studies Credits: 1-5
MRCH 591 - Independent Study Credits: 1-3
MRCH 592 - Topics Credits: 1-3
MRCH 610 - Historical and Contemporary Issues in Trade Credits: 3
MRCH 620 - International Merchandise Management Credits: 3
MRCH 630 - Research Methods in Merchandising Credits: 3
MRCH 640 - Financial Merchandising Implications Credits: 3
MRCH 650 - Strategic Planning in Merchandising Credits: 3
MRCH 690 - Seminar Credits: 1-2
MRCH 695 - Practicum Credits: 1-3
MRCH 788 - Master's Research Problems/Projects Credits: 1-3
MRCH 798 - Thesis Credits: 1-3

MSL (Military Science Leadership)

MSL 101 - Leadership and Personal Development (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 drill, 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 Tactical Leadership (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. Develop communication skills to improve individual performance and group interaction. Relate organizational ethical values to the effectiveness of a leader.

MSL 201 - Innovative Team Leadership (COM) Credits: 2
Learn/apply ethics-based leadership techniques 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 basic military tactics. Learn fundamentals of ROTC's leadership assessment program.

MSL 202 - Foundation of Tactical Leadership (COM) Credits: 2
Introduction to individual and team aspects of military tactics in small unit operations. Includes use of radio communications, making safety assessments, movement techniques, planning for team safety/security and methods of pre-execution checks. Practical exercises with upper-division ROTC students. Learn techniques for training others as an aspect of continued leadership development.

MSL 294 - ROTC Summer Leadership Internship (COM) Credits: 4
MSL 301-301L - Adaptive Team Leadership and Lab (COM) Credits: 4
Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead again in situations of increasing complexity. Uses small unit tactics and opportunities to plan and conduct training for lower division students both to develop such skills and as vehicles for practicing leadership. The lab provides the student with practical experience to supplement and reinforce classroom instruction. Subjects include drill and ceremonies, physical training, instruction techniques and leadership, which will complement the student's preparation for camp. Corequisites: MSL 301L-301.

MSL 302-302L - Leadership in Changing Environment and Lab (COM) Credits: 4
Continues methodology of MSL 301. Analyze tasks; prepare written or oral guidance for team members to accomplish tasks. Delegate tasks and supervise. Plan for and adapt to the unexpected in organizations under stress. Examine and apply lessons from leadership case studies. Examine importance of ethical decision making in setting a positive climate that enhances team performance. Corequisites: MSL 302L-302.

MSL 401-401L - Developing Adaptive Leaders & Lab (COM) Credits: 4
Introduces formal management skills including problem analysis, planning techniques, and the delegation and control of activities, providing an understanding of the command and staff organization used in the modern army and creating a forum for discussing professional and ethical decisions faced by commissioned officers. Lab designed to accompany MSL 401. Corequisites: MSL 401L-401.

MSL 402-402L - Leadership in a Complex World and Lab(COM) Credits: 4
Provides information for transition to active or reserve commissioned service, developing administrative and professional skills important in managing a military organization, introducing the management of financial and personal affairs, and allowing time for discussion and analysis of the ethical decision-making process. Lab designed to accompany MSL 402. Corequisites: MSL 402L-402L.

MSL 492 - Topics Credits: 1-3
MSL 494 - Leader Development & Assessment Course (COM) Credits: 4
MSL 495 - ROTC Nurse Summer Training Program (COM) Credits: 3

MUAP (Applied Music)

MUAP 100-101 - 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 102 - Class Instruction- Voice (COM) Credits: 1
MUAP 110-111 - Applied Music- Keyboard (COM) Credits: 1
MUAP 115-116 - Class Instruction- Keyboard (COM) Credits: 1
MUAP 120-121 - Applied Music- Woodwinds (COM) Credits: 1
MUAP 130-131 - Applied Music- Brass (COM) Credits: 1
MUAP 140-141 - Applied Music- Percussion (COM) Credits: 1
MUAP 150-151 - Applied Music- Strings (COM) Credits: 1
MUAP 181 - Piano Accompanying (COM) Credits: 1
MUAP 200-201 - 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 210-211 - Applied Music- Keyboard (COM) Credits: 1
MUAP 220-221 - Applied Music- Woodwinds (COM) Credits: 1
MUAP 230-231 - Applied Music- Brass (COM) Credits: 1
MUAP 240-241 - Applied Music- Percussion (COM) Credits: 1
MUAP 250-251 - Applied Music- Strings (COM) Credits: 1
MUAP 300-301 - Applied Music - Voice (COM) Credits: 1-4
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.
MUAP 310-311 - Applied Music- Keyboard (COM) Credits: 2
MUAP 320-321 - Applied Music- Woodwinds (COM) Credits: 2
MUAP 330-331 - Applied Music- Brass (COM) Credits: 2
MUAP 340-341 - Applied Music- Percussion (COM) Credits: 2
MUAP 350-351 - Applied Music- Strings (COM) Credits: 2
MUAP 355 - Class Instruction in Strings (COM) Credits: 2
MUAP 400-401 - Applied Music - Voice (COM) Credits: 1-4
One to two hours credit for private lessons is given for half-hour lesson per week. Music majors studying in the major performance area may elect two half-hour lessons per week for two to four hours of credit. Adequate preparation through practice is expected of all students.
MUAP 410-411 - Applied Music- Keyboard (COM) Credits: 2
MUAP 420-421 - Applied Music- Woodwinds (COM) Credits: 2
MUAP 430-431 - Applied Music- Brass (COM) Credits: 2
MUAP 440-441 - Applied Music- Percussion (COM) Credits: 2
MUAP 450-451 - Applied Music- Strings (COM) Credits: 2
MUAP 483 - Public Recital (COM) Credits: 0

**MUS (Music)**

MUS 100 - Music Appreciation * (COM) 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 109 - 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. Notes: ** Course meets IGR #1.

MUS 110 - Basic Music Theory I (COM) Credits: 4
An integrated study and application of tonality, melody, harmony, texture and form, from music notation through modulation. Includes sight singing, ear training and dictation. Introduction to composition and arranging, i.e. instrument ranges, transposition, tessitura and preliminary score analysis.

MUS 110L - Basic Music Theory I Lab (COM) Credits: 0
Students will be taught sight singing and dictation skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

MUS 111 - Basic Music Theory II (COM) Credits: 4
An integrated study and application of tonality, melody, harmony, texture and form, from music notation through modulation. Includes sight singing, ear training and dictation. Introduction to composition and arranging, i.e. instrument ranges, transposition, tessitura and preliminary score analysis. Prerequisites: MUS 110.

MUS 111L - Basic Music Theory II Lab (COM) Credits: 0
Students will be taught 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 130 - Music Literature and History I * (G) 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 * 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 * 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 202 - The Music Industry Credits: 3
This course examines the many facets of the music industry; songwriting, music publishing, copyright, licensing, unions and guilds, concert promotion, music and theatre, music product merchandising, arts management, and career options in music.

MUS 203 - Blues, Jazz, and Rock * 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 - Advanced Music Theory I (COM) Credits: 4
A more advanced continuation of MUS 110, 111 with similar objectives and organization. A continuation of vocal/instrumental arranging and composition. Prerequisites: MUS 111.

MUS 210L - Advanced Music Theory Lab I (COM) Credits: 0
Students will be taught sight singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

MUS 211 - Advanced Music Theory II (COM) Credits: 4
A more advanced continuation of MUS 110, 111 with similar objectives and organization. A continuation of vocal/instrumental arranging and composition. Prerequisites: MUS 210.

MUS 211L - Advanced Music Theory Lab II (COM) Credits: 0
Students will be taught sight singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

MUS 270 - Pedagogy I Credits: 1-2
Pedagogical considerations in teaching music. Methods and concepts in specialized areas: Section I: Voice; Section II: Strings; Section III: Keyboard; Section IV: Clarinet and Flute; Section V: Double Reeds and Saxophone; Section VI: High Brass; Section VII: Low Brass; Section VIII: Percussion; Section IX: General Instrument for Vocal Majors; Section X: General Voice for Instrument Majors. Section I offered even years only; Section 3 offered odd years only; Section 9 and 10 offered on demand.

MUS 271 - Pedagogy II Credits: 1-2
Continuation of MUS 270 sections 1-8 as in 270. Voice offered odd years only; Keyboard even years only.

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 280L - Explore Music in Western Europe Ensemble Credits: 0
Corequisites: MUS 280.

MUS 292 - Topics Credits: 1-5
MUS 302 - Introduction to Recording Industry Credits: 2
This course explores the music business system; the scope of the recording industry; record markets; artists' recording contracts; record production; promotion, distribution and retailing; studios and pictures and television and career options and development. Off-campus speakers will be utilized in their specialty areas.

MUS 313 - Form and Analysis (COM) Credits: 3
Analysis of music in the student's major performance area. The course is normally completed under the direction of the student's major applied teacher. Prerequisites: MUS 210 or MUS 211.

MUS 351 - Elementary School Music Methods (COM) Credits: 2-3
This course provides methods and materials for guiding elementary students' musical growth.

MUS 355 - Computer Based Technology and Learning for Music Educators Credits: 2
This course prepares music students to integrate computers into the curriculum by exploring the evolving uses and expectations of technology and learning tools. Course objectives are based on ISTE standards and the requirements of the discipline.

MUS 360-360L - Conducting (COM) Credits: 2
Genera conducting focuses on the basic fundamentals of instrumental and choral conducting. The techniques of interpretation, score reading, rehearsal techniques, and the art of developing basic conducting techniques are addressed in the course. Lab accompanies MUS 360. Prerequisites: MUS 111. Corequisites: MUS 360L-360.

MUS 361-361L - Music Education II: Conducting and Lab Credits: 2
Section 1: Instrumental music methods and materials. Emphasis on rehearsal. Prerequisites: Techniques, conducting and study of appropriate materials. Section 2: Choral music methods and materials. Emphasis on rehearsal and conducting techniques through study of appropriate materials. Corequisites: MUS 361L-361.

MUS 362-362L - Music Education III: Methods and Materials Credits: 2
Section 1: Instrumental Music Methods and Materials. Emphasis on lesson, solo and ensemble materials and pedagogy for the school instrumental music teacher. Teaching techniques for individual, class, small and large instrumental music ensembles are offered. Students participate in supervised on-site teaching experiences at the elementary instrumental music and general music class levels. Section 2: Vocal Music Methods and Materials. Emphasis on choral teaching materials and teaching concepts and techniques for individual, class and ensembles for the school vocal teacher. Students participate in supervised on-site teaching experiences in choral music and general music classes. Corequisites: MUS 362L-362.

MUS 365-365L - Music Education IV: Supervision and Administration of School Music and Lab Credits: 2
A goal and objective approach to developing student skills in managing the total school music program, including choral and instrumental at the elementary and high school levels. Organizational and administrative skills are offered with hands-on opportunities for practical application. Units are also offered in music education history and philosophy. Corequisites: MUS 365L-365.

MUS 370 - Pedagogy III Credits: 1-2
Continuation of MUS 271, section 1-8 as in 270. Voice offered odd years only; Keyboard even years only.

MUS 371 - Pedagogy IV Credits: 1-2
Continuation of MUS 370, sections 1-8 as in 270. Voice offered even years only; Keyboard odd years only.

MUS 391 - Independent Study Credits: 1-3
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 (AW) 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 465 - Music Education V: Practical Applications Credits: 2
Emphasis on in-depth development of skills required for teaching music in the secondary schools. Section I: Advanced rehearsal skills for leading bands, specific techniques for marching bands, jazz ensemble rehearsal and organization, and instrument repair. Section II: Advanced rehearsal skills for leading choirs, specific techniques for vocal ensembles other than choirs, and literature selection.

MUS 491-591 - Independent Study Credits: 1-3
MUS 492-592 - Topics Credits: 1-5
MUS 494 - Internship Credits: 1-12
Prerequisites: Consent of department program coordinator.

NE (Nuclear Engineering)
NE 337 - Foundations of Health Physics Credits: 3
Health Physics studies the risk to health from radiation and the measures to assess and reduce that risk. This course is an introduction to several aspects of health physics including radiation quantities, limits and risk assessment, external and internal dosimetry, biological effects of radiation, interactions of radiation with matter, radioactive decay, radiation detection, and various applications of radiation. Prerequisites: MATH 123 or MATH 121-121L and PHYS 113-113L or PHYS 213-213L. Cross-Listed: PHYS 337.

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 consent.

NE 494 - Internship Credits: 1-3
NE 498 - Undergraduate Research/Scholarship Credits: 1-3

NFS (Nutrition & Food Science)
NFS 111 - Food, People and the Environment ** (G) 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. Notes: ** Course meets IGR #2.

NFS 141-141L - Foods Principles and Lab Credits: 4
Scientific investigation of basic foods used to maintain optimum nutrition. Corequisites: NFS 141L-141.

NFS 220 - Health, Safety and Nutrition of Young Child Credits: 3
Exploration of school health, safety, first aid/CPR, disease control and nutrition; development of health and nutrition policies and standard in early childhood settings based on current public policy; creating a healthy and safe school environment for young children; exploration of materials and methods for teaching health, safety and nutrition in early childhood.

NFS 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.

NFS 251 - Food Safety and Technology Credits: 3
Fundamentals of food safety and the technology of conversion of agricultural raw material into finished food products suitable for food consumption. World and domestic food needs, chemical additives and current food safety issues will be discussed.

NFS 291 - Independent Study Credits: 1-3
NFS 292 - Topics Credits: 3
NFS 295 - Practicum Credits: 1-3
NFS 298 - Undergraduate Research/Scholarship Credits: 1-3

NFS 315 - Human Nutrition 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 and CHEM 108 or CHEM 112 and CHEM 114.

NFS 322-322L - Assessment and Counseling Skills in Nutrition and Lab Credits: 4
Study of the nutritional assessment, cultural and therapeutic dietary modifications, interviewing and counseling, documentation in the medical record, and quality assurance. Review of principles of dietetics and the role of the professional dietitian. Prerequisites: NFS 315. Corequisites: NFS 322L-322L

NFS 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: NFS 315.

NFS 341-341L - Food Science and Lab Credits: 4
Study of physical/chemical factors affecting food quality resulting from preparation and processing methods. Students will become familiar with techniques in sensory evaluation and basic principles of food analysis. Prerequisites: NFS 141 and CHEM 120. Corequisites: NFS 341L-341L

NFS 351-351L - Principles of Food Processing and Lab Credits: 3
Study of physical/chemical principles and approaches used in heat processing, freezing, dehydration, and fermentation of foods. Current processing methods will be considered in terms of preparation, processing, packaging, and quality control of food products. Prerequisites: NFS 251 and CHEM 106 or CHEM 114. Corequisites: NFS 351L-351L

NFS 360-360L - Food Chemistry and Lab Credits: 4
The study of chemical properties of basic food constituents and chemical changes occurring during storage and processing. Prerequisites: NFS 251 and CHEM 106 or CHEM 114. Corequisites: NFS 360L-360L

NFS 380 - Foodservice Operations & Purchasing Management Credits: 3

NFS 381-381L - Quantity Food Production & Service and Lab Credits: 4
Application of food service management principles in quantity food production, purchasing, and service. Lab to accompany NFS/HMG 381. Prerequisites: NFS 141-141L, HMG 251 (or concurrently), and HMG 380. Corequisites: NFS/HMG 381L-381L. Cross-Listed: HMG 381-381L

NFS 422-522 - Advanced Human Nutrition Credits: 4
Principles of physiological chemistry and physiology applied to nutrition. Prerequisites: NFS 315, BIOL 221, BIOL 325 and CHEM 108 or CHEM 112.

NFS 423-423L/523-523L - Medical Nutrition Therapy I & Lab Credits: 3
Continuation of NFS 423-523. Prerequisites: NFS 423-423L/523-523L.

NFS 424-424L/524-524L - Community Nutrition and Lab Credits: 3
Application of learning principles, teaching methods and knowledge of nutrition in community nutrition education programs and out-patient nutrition counseling. Prerequisites: NFS 315 and NFS 323. Corequisites: NFS 424L-424L/524L-524L

NFS 425-425L/525-525L - Medical Nutrition Therapy II & Lab Credits: 3
Continuation of NFS 423-523. Prerequisites: NFS 423-423L/523-523L. Corequisites: NFS 425L-425L/525L-525L.

NFS 450-450L-550-550L - Food Analysis and Lab Credits: 4
Principles and techniques of physical and chemical analysis of food products. It will include proximate analysis of moisture, protein, lipid, and carbohydrates and chemical or instrumental analysis of vitamins, minerals, and food additives. Prerequisites: NFS 360. Corequisites: NFS 450L-450L/550L-550L

NFS 451-451L/551-551L - New Food Prod. Development & Lab Credits: 4
This course is designed as a capstone course for undergraduate Food Science students and an introductory course for graduate students in food-related
majors. The principles and technologies of food storage, process and packaging will be discussed in depth. Emphasis will be placed in the development of new food products. Prerequisites: NFS 351 and MICR 311. Corequisites: NFS 451L-451L/551L-551L.

NFS 480-580 - Travel Studies Credits: 1-5
This travel-study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

NFS 481 - Food Science, Dietetics, & Hospitality Human Resources Management Credits: 3
This course is the capstone experience for students in Nutrition, Food Science and Hospitality. Course will integrate knowledge with breakout sessions for the different subject matter areas in NFSI. Professionalism and professional ethics, management and employment principles, diversity issues, leadership styles, networking and mentoring will be discussed.

NFS 487 - Transition to Professional World Credits: 1
Transition to the professional world will identify expectations for the world of work. Emphasis on effective written and verbal communication skills as related to work experiences, issue analysis, and goal setting for the future. Students will prepare for professional experiences such as internships, graduate school and professional positions upon graduation. Prerequisites: Dietetics major and junior or senior standing.

NFS 492 - Topics Credits: 1-3
NFS 493-593 - Workshop Credits: 1-3
NFS 494 - Internship Credits: 1-7
NFS 495 - Practicum Credits: 2
NFS 498 - Undergraduate Research/Scholarship Credits: 1-3
NFS 634 - Techniques in Food and Nutrition Research Credits: 3
NFS 634L - Techniques in Food and Nutrition Research Lab Credits: 0
NFS 660 - Maternal and Child Nutrition Credits: 3
NFS 662 - Sociocultural Aspects of Nutrition Credits: 2
NFS 702 - Macronutrients in Human Nutrition Credits: 3
NFS 704 - Phytochemicals Credits: 3
NFS 705 - Functional Foods for Chronic Disease Prevention Credits: 3
NFS 706 - Nutrition and Immunology Credits: 3
NFS 708 - Evidence Based Analysis Credits: 3
NFS 710 - Dietary and Herbal Supplements Credits: 3
NFS 723 - Nutrition Focus on Life Stages Credits: 3
NFS 724 - Nutrition Education in the Community Credits: 3
NFS 725 - Nutrition and Human Performance Credits: 3
NFS 726 - Nutrition and Wellness Credits: 3
NFS 727 - Obesity Across the Lifespan Credits: 3
NFS 728 - Pediatric Clinical Nutrition Credits: 3
NFS 729 - International Nutrition/World Hunger Credits: 3
NFS 730 - Nutritional Aspects of Oncology Credits: 3
NFS 734 - Research Methods in Dietetics Credits: 3
NFS 735 - Current Trends in Dietetics Credits: 3
NFS 741 - Grant Writing in Dietetics Credits: 3
NFS 750 - Transdisciplinary Childhood Obesity Prevention I Credits: 3
NFS 751 - Transdisciplinary Childhood Obesity Prevention II Credits: 3
NFS 760 - Vitamins and Minerals in Human Nutrition Credits: 3
NFS 761 - Nutrition of Aging Credits: 3
NFS 765 - Dietetic Accounting Concepts Credits: 3
NFS 769 - Healthcare Administration for Dietetics Credits: 3
NFS 770 - Food Writing for Professionals Credits: 3
NFS 775 - Nutrigenomics and Health Credits: 3
NFS 782 - Epidemiology Credits: 3
NFS 795 - Practicum Credits: 3

NRM (Natural Resource Management)
NRM 109-109L - First Year Seminar and Lab ** Credits: 1, 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. Laboratory course to accompany NRM 109. Corequisites: NRM 109L-109. Notes: ** Course meets IGR #1.

NRM 110 - Environmental Conservation ** 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: ** Course meets IGR #2.

NRM 305-350L - Insect Biology and Lab Credits: 3
An introduction to the general biology and classification of insects. Course emphasis placed on taxonomy, methods of identification, and ecological role of insects. Students will become familiar with basic insect anatomy and morphology, classification at the order level with exemplary families that include taxa of agricultural or environmental interest, and acquire an ability to sight recognize particular species that have agricultural, environmental, wildlife, and human and livestock health importance. Field trips and a collection are required. Corequisites: NRM 305L-350L. Cross-Listed: PS 305-300L.

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. Cross-Listed: BIOL 311.

NRM 311L - Principles of Ecology Lab (COM) Credits: 1
Laboratory experience that accompanies NRM 311. Cross-Listed: BIOL 311L.

NRM 440-440L - Restoration Ecology and Lab Credits: 4

NRM 457-557 - Ecological Modeling Credits: 3
An introduction to ecological modeling. Topics will include modeling methodology, auto-ecological models, population models, biotic communities, ecosystem level models, global modeling. Prerequisites: MATH 121 or MATH 123. Cross-Listed: MATH 457-557.

NRM 464-564 - Ecosystem Ecology Credits: 3
Study of energy and material flows through the living (plants, animals, microbes) and non-living (soils, atmosphere) components of ecological systems. Discussion of the major element cycles and patterns of energy flow through ecosystems, including how those fluxes and their controls differ for different ecosystems. Linkages between ecosystem structure and function will be emphasized. Prerequisites: BIOL 311/NRM 311.

NRM 466-566 - Environmental Toxicology and Contaminants 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. Cross-Listed: BIOL 466-566.

NURS 492-592 – Topics Credits: 1-3
NURS 706-706L - Landscape Ecology and Lab Credits: 3
NURS 790 – Seminar Credits: 1

NURS (Nursing)
NURS 109 - 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. Notes: ** Course meets IGR #1.
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 215 - Professional Nursing Credits: 2
Introduction to the profession of nursing within the context of a changing healthcare system. The professional nursing values of human dignity, altruism, integrity, autonomy, and social justice are explained with emphasis on human dignity. The professional nursing roles of provider of care, designer/manager/coordinator of care and member of the profession are described. Corequisites: NURS 265-265L, NURS 280-280L and NURS 323.

NURS 222 - Transition to BS in Nursing Credits: 1
Introduces the RN student to the nature of baccalaureate nursing education. Students participate in self-assessment of strengths within the various professional nursing roles. Includes an overview of the curriculum concepts as applied to RN education as well as an overview of The Essentials of Baccalaureate Education for Professional Nursing Practice document with related values and concepts. Includes an introduction to nursing informatics as a tool for lifelong learning.

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. Prerequisites: Admission to the nursing major. Corequisites: NURS 235, NURS 258-258L, NURS 272 and NURS 323.

NURS 235 - Clinical Application I Credits: 2
This clinical course provides opportunities at the novice nursing student level for the provision of nursing care to individuals/families with acute/chronic conditions across the lifespan in a variety of health care settings. Emphasis is on the role of nurse as member of profession and provider of care. Prerequisites: Admission to the nursing major. Corequisites: NURS 234, NURS 258-258L, NURS 272 and NURS 323.

NURS 258-258L - Nurse Principles and Application I: Assessment and Interventions Lab Credits: 3
This course introduces health assessment skills and selected nursing interventions. Prerequisites: Admission to the nursing major. Corequisites: NURS 258L-258, NURS 234, NURS 258L-258, NURS 272 and NURS 323.

NURS 265-265L - Health Assessment & Interventions & Lab Credits: 4
Introduces health assessment skills and selected nursing interventions at the novice nursing student level. Emphasis is on the role of nurse as provider of care and a member of the profession. Prerequisites: MICR 231 or MICR 233, BIOL 325, NFS 315, HDFS 210; and 3 credits from SOC 100, SOC 150, SOC 240, SOC 250 or SOC 440. Corequisites: NURS 265-265L, NURS 265L-265, NURS 280-280L, and NURS 323. Notes: This course has additional charges for student access to electronic health record system used in the program.

NURS 272 - Professional Nursing Concepts I Credits: 2
This course focuses on the profession of nursing at the novice nursing student level. Emphasis is on professional nursing concepts, including communication, which are used as a foundation throughout the curriculum. Prerequisites: Admission to the nursing major. Corequisites: NURS 234, NURS 235, NURS 258-258L and NURS 323.

NURS 280-280L - Professional Communication and Lab Credits: 3
Focus is on communication skills essential to the profession of nursing. Emphasis is placed on professional communication of the nurse with clients and colleagues. Prerequisites: PSYC 101. Corequisites: NURS 280L-280, NURS 215, NURS 265-265L and NURS 323.

NURS 293 - Workshop Credits: 1-3
NURS 310-310L - Introduction to Public Health & Population-Based Nursing & Lab Credits: 4

NURS 323 - Introduction to Pathophysiology Credits: 3
This course covers topics which will provide a current understanding of the major disease processes across the lifespan. The course will lay the foundation for the study of pharmacological mechanisms of action of drugs and their rational clinical use. Of interest will be the linkage of relevant modern biology to the different disease states, attention to gender differences, especially regarding epidemiology and pathological changes, and the integration of health promotion and disease prevention, by emphasizing risk factors, nutritional requirements, and other relevant therapeutic practices. Prerequisites: 3rd year Pharmacy standing or Nursing major; BIOL 325.

NURS 325-325L - Beginning Nursing Care of the Client with Health Problems and Lab Credits: 6
Focuses on nursing core knowledge and core competencies to provide beginning nursing care to clients with health problems. Clinical application occurs with clients across the life span experiencing health problems. Emphasis will be on the nursing care of the adult client. Prerequisites: NURS 215, NURS 265-265L, NURS 280-280L and NURS 323. Corequisites: NURS 310-310L, NURS 325L-325 and PHA 321.

NURS 334 - Patient-Centered Care Concepts II Credits: 5
This course focuses on patient-centered care concepts at the beginning nursing student level. Emphasis is on health and illness concepts with selected attribute and professional nursing concepts. Selected exemplars will be unique to pediatric and adult health. Prerequisites: NURS 234, NURS 235, NURS 258-258L and NURS 272. Corequisites: NURS 335, NURS 358 and PHA 321.

NURS 335 - Clinical Application II Credits: 4
This clinical course provides opportunities at the beginner nursing student level for the provision of nursing care to individuals/families with acute/chronic conditions in a variety of health care settings. Emphasis is on the role of nurse as member of profession and provider of care to children and adults. Prerequisites: NURS 234, NURS 235, NURS 258-258L and NURS 272. Corequisites: NURS 334, NURS 358 and PHA 321.

NURS 344 - Patient-Centered Care Concepts III Credits: 4
This course focuses on patient-centered care concepts at the advanced beginner nursing student level. Emphasis is on health and illness concepts with selected attribute and professional nursing concepts. Selected exemplars will be unique to gerontology and mental health. Prerequisites: NURS 334, NURS 335, NURS 358 and PHA 321. Corequisites: NURS 345, NURS 360 and NURS 372.

NURS 345 - Clinical Application III 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 health care settings. Emphasis is on the roles of nurse as member of profession, provider of care, and designer/manager/coordinator of care in gerontology and mental health. Prerequisites: NURS 334, NURS 335, NURS 358 and PHA 321. Corequisites: NURS 344, NURS 360 and NURS 372.

NURS 355 - Research: Appraisal and Utilization Credits: 2
Terminology and steps in the research process are reviewed and the role of theory and ethical issues involved in the conduct of research is explored. Research as a basis for evaluation of nursing and healthcare outcomes is appraised and research utilization related to essential knowledge for the practice of professional nursing is analyzed. Prerequisites: NURS 310-310L and NURS 325-325L. Corequisites: NURS 365-365L and NURS 380-380L.

NURS 358 - Nursing Principles and Applications II: Interventions Lab Credits: 3
This course introduces selected nursing interventions and related assessment skills. Prerequisites: NURS 234, NURS 235, NURS 258-258L and NURS 272. Corequisites: NURS 334, NURS 335 and PHA 321.

NURS 360 - Research and Evidence-Based Practice Credits: 3
This course provides an introduction to research. Emphasis is on locating and evaluating resources to solve clinical problems and ensure quality nursing care using evidence based practice. Prerequisites: NURS 334, NURS 335, NURS 358 and PHA 321. Corequisites: NURS 344, NURS 345 and NURS 372.

NURS 365-365L - Nursing Care of the Client with Health Problems and Lab Credits: 6
Focuses on the application of nursing core knowledge and core competencies to provide nursing care to clients with health problems. Clinical application occurs with clients across the life span experiencing health problems. Emphasis will be on the nursing care of the pediatric client. Prerequisites: NURS 310-310L, NURS 325-325L and PHA 321. Corequisites: NURS 365L-365L and NURS 380-380L.
NURS 372 - Professional Nursing Concepts II Credits: 2
This course focuses on the profession of nursing at the advanced beginner nursing student level. Emphasis is on professional nursing concepts, including collaboration and health care economics. Prerequisites: NURS 334, NURS 335, NURS 358 and PHA 321. Corequisites: NURS 344, NURS 345 and NURS 360.

NURS 380-380L - Nursing Care of the Childbearing Family and Lab Credits: 5
Focuses on the application of nursing knowledge and competencies regarding childbearing and family health to provide nursing care to individuals and families. Prerequisites: NURS 310-310L, NURS 325-325L and PHA 321. Corequisites: NURS 355, NURS 365-365L and NURS 380L-380L.

NURS 381 - Family and Communication Credits: 3
This course focuses on communication as an intervention with family as client. The student will be exposed to major family and communication theories. Emphasis is on holistic family assessment and interventions. The professional value of "Autonomy" or the patient's right to self-determination is the value-based behavior central to this course. Corequisites: NURS 222.

NURS 385 - Health Assessment, Clinical Decision-Making and Nursing Interventions Credits: 5
This course concentrates on the deliberative process utilized by the baccalaureate prepared nurse. The course will build upon the assessment intervention skills acquired in the student's previous education and will emphasize clinical decision making and use of research based interventions. Includes a practicum component in which the nursing process is applied to families and clients across the age continuum in the home setting. The professional value of "Human Dignity" or respect for the inherent worth and uniqueness of individuals and populations is value-based behavior central to this course. Prerequisites: NURS 222, NURS 381 and RN License.

NURS 410-410L - Advanced Nursing Care of the Client with Health Problems and Lab Credits: 6
Expands on previous knowledge and skills to provide advanced nursing care to clients with complex health problems. Prerequisites: NURS 355, NURS 365-365L and NURS 380-380L. Corequisites: NURS 410L-NURS 410, NURS 420-420L, HSC 445 and STAT 281.

NURS 416 - Community Health Nursing (AW) Credits: 5
Introduces the RN to the concept of community as client by examining community health issues and the role of nursing in providing care to populations. Emphasis is on community assessment, health education, program planning and evaluation. Practice experiences will include rural and/or urban community settings. The professional value of "Altruism" or concern for the welfare and well being of others is the value-based behavior central to this course. Prerequisites: NURS 222, NURS 381, NURS 385 and RN License.

NURS 420-420L - Nursing Care of the Client with Mental Health Problems and Lab Credits: 5

NURS 425 - Nursing Leadership Credits: 3
Emphasizes professional role synthesis through development of leadership and management skills. The professional value of social justice is integrated with leadership development. Prerequisites: NURS 410-410L, NURS 420-420L, HSC 445 and STAT 281. Corequisites: NURS 480-480L and NURS 495.

NURS 434 - Patient-Centered Care Concepts IV Credits: 4
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 reproductive health and complex patients. Prerequisites: NURS 334, NURS 345, NURS 360 and NURS 372. Corequisites: NURS 435, NURS 444-444L and HSC 452.

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 health care settings. Emphasis is on the roles of nurse as member of profession, provider of care, and designer/manager/coordinator of care for childbearing families and complex patients. Prerequisites: NURS 344, NURS 345, NURS 360 and NURS 372. Corequisites: NURS 434, NURS 444-444L and HSC 452.

NURS 444-444L - Population-Centered Care and Lab Credits: 1.5, 1.5
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. Prerequisites: NURS 344, NURS 345, NURS 360 and NURS 372. Corequisites: NURS 444L-444, NURS 443, NURS 435 and HSC 452.

NURS 454 - Leadership and Management Credits: 3
This course focuses on three areas: management theory, leadership theory and political and economic issues within professional nursing practice. Resource management, change theory, organization and other group behavior will be discussed. Conflict resolution, negotiation, and group process skills are also addressed. The professional value of "Social Justice" or upholding moral, legal, and humanistic principles is the value-based behavior central to this course. Prerequisites: NURS 222 and NURS 381.

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 465-565 - Introduction to the Clinical Academic Partner Role Credits: 3
This course will introduce registered nurses to a mentoring model to prepare them for clinical teaching-learning experiences with nursing students and/or new nursing employees.

NURS 472 - Professional Nursing Concepts III Credits: 5
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. Prerequisites: NURS 434, NURS 435, NURS 444-444L and HSC 452. Corequisites: NURS 495.

NURS 474 - Nursing Research and Nursing Theory Credits: 3
Prepares the baccalaureate nurse to analyze, critique, and apply nursing research in a practice environment and to utilize selected nursing theories. Various models of research utilization will also be presented and discussed. The professional value of "Integrity" or acting in accordance with an appropriate code of ethics and accepted standards of practice is the value-based behavior central to this course. Prerequisites: NURS 222, NURS 381, STAT 281 and HSC 445.

NURS 480-480L - Advanced Population Based Nursing Practice and Lab (G) Credits: 4
Apply multi-faceted, evidenced based, interdisciplinary systems thinking to solve public health problems in a variety of arenas. Prerequisites: NURS 222, NURS 381, STAT 281 and HSC 445. Corequisites: NURS 425, NURS 480L-480 and NURS 495.

NURS 491 - Independent Study Credits: 1-3
NURS 492 - Topics Credits: 1-4
NURS 495-495L - Practicum and Clinical Lab (AW) Credits: 6
Prerequisites: NURS 222, NURS 381, STAT 281 and HSC 445. Corequisites: NURS 425, NURS 480L-480L and NURS 495L-495L.
NURS 497 - Cooperative Education Credits: 1-4
NURS 615 - Adv. Nursing Practice: Intro. to Roles & Issues Credits: 3
NURS 623 - Pathophysiology Across the Lifespan - Appl. to Adv. Pract. Nursing Credits: 4
NURS 626 - Research Methods for Advanced Practice Nursing Credits: 3
NURS 631-631L - Advanced Assessment: Lifespan and Lab Credits: 3-4
NURS 635 - Dying, Death and Bereavement Credits: 2-3
NURS 641 - Appl. of Leadership Princ. in Clinical Settings Credits: 3
NURS 642 - Application of Adv. Concepts of Nursing Care Credits: 3
NURS 643 - Clinical Nurse Leader I Credits: 3
NURS 644 - Clinical Nurse Leader II Credits: 5
NURS 670 - Health Policy, Legislation, Economics and Ethics Credits: 3
NURS 675 - Cultural Competence in Health Care Credits: 3

Course Information
NURS 690 - Seminar Credits: 1-4
NURS 691 - Independent Study Credits: 1-3
NURS 692 - Topics Credits: 1-3
NURS 716 - Curr. Development & Instruction in Nursing Credits: 3
NURS 720 - Technology-Based Instr. for Nurse Educators Credits: 3
NURS 750 - Transformational Leadership Credits: 3
NURS 750-760L - Adv Conc in Hlth Prom & Disease Prvtn & Lab Credits: 3
NURS 765 - Family Nursing Practitioner: Practicum I Credits: 6
NURS 771 - Family Nursing Practitioner: Practicum II Credits: 7
NURS 774-774L - Nurse Administrator: Practicum and Lab Credits: 6
NURS 776 - Family Nursing Practitioner III: Small Group Instruction Credits: 3
NURS 777 - Family Nurse Practitioner: Practicum III Credits: 3-9
NURS 778-778L - Nursing Education: Practicum and Lab Credits: 5
NURS 788 - Problems in Nursing Research Credits: 1-2
NURS 790 - Seminar Credits: 1-3
NURS 798 - Thesis Credits: 1-7
NURS 810 - Doctoral Seminar Credits: 1
NURS 815 - Philosophical Basis for Nursing Credits: 3
NURS 820 - Theory Development in Nursing Credits: 3
NURS 825 - Qualitative Research Methods in Nursing Credits: 3
NURS 830 - Quantitative Methods in Nursing Research Credits: 3
NURS 835 - Ethical Issues Influencing Practice & Research in Health Disciplines Credits: 3
NURS 840 - Health Promotion Theory & Research in Underserved Populations Credits: 3
NURS 845 - Instrument Const. & Eval. with Underserved Populations Credits: 3
NURS 850 - Philosophical and Theoretical Foundations for Evidence-Based Care Credits: 3
NURS 860 - Health Operations and Financial Management for Nurse Managers Credits: 3
NURS 865 - DNP Capstone Credits: 6
NURS 870 - DNP Innovation Project Credits: 1-6
NURS 875 - DNP Practicum Credits: 1-8
NURS 880 - DNP Project Credits: 1-8
NURS 895 - Practicum Credits: 1-3
NURS 898 - Dissertation Research Credits: 1-24

OM (Operations Management)

OM 425 - Production/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.

OM 462-562 - Quality Management Credits: 3
Course focus is on managerial philosophies and techniques of quality planning and control. This includes quality improvement tools, reliability, cost of quality, and human factors that effect the quality initiatives. Prerequisites: STAT 281.

OM 463-563 - Supply Chain Management Credits: 3
Study and analysis of activities in the flow of materials from the supplier to the consumer. These include physical supply, operations planning and control, storage and warehousing, and physical distribution. Prerequisites: MNET 231.

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.

OM 469-569 - Project Management Credits: 2
Basic theory, application, and techniques 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 research. Prerequisites: Instructor consent. Cross-Listed: GE 469.

OM 471-471L - Capstone Experience and Lab (AW) Credits: 2

OM 494 - Internship Credits: 1-3
OM 660 - Operations Management Credits: 3
OM 665 - Quality Control Applications Credits: 3
OM 670 - Research Methods in Management Credits: 3
OM 690 - Seminar Credits: 1
OM 788 - Master's Research Problems/Projects Credits: 1-2
OM 789 - Thesis Credits: 1-7

PE (Physical Education)

PE 100 - Activity Courses (COM) Credits: 0.5-1
Activities stressing individual physical fitness and lifetime activities according to student needs and interest.

PE 170 - Fundamental Movement (COM) 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 192 - Topics Credits: 5-1.5

PE 200 - Professional Preparation: Fitness (COM) Credits: 1
Knowledge and skills necessary to enable students to lead, analyze, and prescribe improvements for skills and activities which are part of lifetime fitness development.

PE 201 - Professional Preparation: Gymnastics (COM) Credits: 1
Knowledge and skills necessary to enable students to lead, analyze, and prescribe improvements for skills and activities which are part of gymnastic and tumbling activities.

Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities involved in participating in individual and dual sport and game activities. Focus will be on activities appropriate for school settings, leading to personal skill development.

PE 203 - Professional Preparation: Team Activities (COM) Credits: 1
Knowledge and skills necessary to enable students to lead, analyze, and prescribe improvements for skills and activities associated with participating in team sports and game activities. Focus will be placed on activities appropriate for school settings, leading to person skill development.

PE 204 - Professional Preparation: Rhythm and Dance (COM) Credits: 1
Knowledge and skills necessary to enable students to lead, analyze, and prescribe improvements for skills and activities associated with participating in rhythm and lifetime dance activities. Focus will be placed on activities appropriate for school settings which contribute to personal development.

PE 252-252L - Fundamentals of Motor Learning and Development and Lab (COM) Credits: 2
Course content deals with characteristic motor development patterns in children with concentration on fundamental locomotor, non-locomotor, and manipulative skills and perceptual-motor development and practical applications of research and knowledge to physical education classroom teaching. Lab accompanies PE 252. Corequisites: PE 252L-252.

PE 300 - Applied Sport and Exercise Science Credits: 3
This course is an introduction to exercise and sport physiology, designed to allow health professionals to learn and understand the basic scientific foundations of exercise and sport. Special emphasis will be in understanding the basics of exercise physiology consistent with NASPE guidelines.

The course focuses on skills and knowledge to properly assume responsibilities of lifeguards at swimming pools and non-surf beaches. Corequisites: PE 320L-320 and PE 322.

PE 322 - Lifeguard Instructor (COM) Credits: 1
Certification as a lifeguard instructor will qualify an individual to teach basic water safety, emergency water safety and the lifeguard training course. Prerequisites: PE 320 or instructor consent.

PE 335 - Assisting Teaching Credits: 1
Application of movement analysis, prescription knowledge and skills to an activity setting in a basic physical activity course. Prerequisites: Consent and admission to PETE program.

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.

PE 350 - Exercise Physiology (COM) Credits: 2-3
Study of physiological responses and adaptations to exercise related to human performance limitations, training effects, and health-related benefits. Prerequisites: BIOL 221 and BIOL 325.

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 354-354L - Prevention and Care of Athletic Injuries and Lab (COM) Credits: 2
Course teaches general and emergency treatment of athletic injuries, competitive or noncompetitive. Emphasis is placed on practical preventive and rehabilitative exercises and taping/bandaging/wrapping. Lab accompanies PE 354. Corequisites: PE 354L-354.

PE 360-360L - K-8 Physical Education Methods and Lab (COM) Credits: 2, 0
Needs, characteristics, capacities of elementary- aged children (grades K-8); curriculum planning; methods and materials essential to program progression for developmentally appropriate activity in basic skills, games, rhythms, dance, and fitness activities; integrating movement activity on a school-wide basis as part of program efforts to enhance overall student wellness and academic readiness. Lab that accompanies PE 360. Corequisites: PE 360L-360.

PE 367 - Health and Human Performance Credits: 3
This course is designed to apply the concepts of exercise physiology for health, fitness and athletic performance. The course will give special emphasis to principles specific to resistance training and program design using a variety of methods for various populations. Prerequisites: PE 350.

PE 395 - Practicum Credits: 3

PE 400-400L - Exercise Test and Prescription and Lab (COM) Credits: 3
This course is designed to provide the student with the knowledge, skills, and abilities to assess different areas of physical fitness and prescribe individual exercise programs based on these objective measures. This course will provide hands-on experience in the laboratory to supplement the theoretical classroom discussion in PE 400 and will prepare the student to take entry-level certification such as the American College of Sports Medicine Health and Fitness Instructor Certification. Prerequisites: PE 350 and consent. Corequisites: PE 400L-400.

PE 440 - Organization and Administration of HIPER/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 450-450L - Clinical Exercise Physiology Credits: 3
This course is designed to provide the clinical exercise physiology student with assessment and prescription techniques appropriate to special populations. Prerequisites: PE 350.

PE 451-451L - Tests and Measurements and Lab (COM) Credits: 2
This course will include use of various tests and instruments used for measuring progress in physical education and how statistical concepts apply to testing in physical education. Development of the knowledge and ability to utilize both formative and summative assessments for psychomotor, cognitive, and affective domains. Additionally, techniques to evaluate one's own teaching performance and make adjustments to enhance subsequent teaching and program effectiveness will be discussed. Lab accompanies PE 451. Prerequisites: MATH 102, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125 or MATH 281. Corequisites: PE 451L-451.

PE 453 - Sport Psychology (COM) Credits: 2-3
This course examines the effects of psychological factors, such as personality, mood, group dynamics, psychomotor activity, and other psychological aspects of sports on participation and performance, as well as examining the effects of participation on the psychological make-up of the individual. Notes: May be taught on demand.

PE 454-454L - Biomechanics and Lab Credits: 3
This course emphasizes the mechanical principles of human movement (including muscular and skeletal principles) during physical education, wellness, and sport; This is a lecture course designed to facilitate hands-on application of the major biomechanical principles discussed in PE 454. Students will gain experience with various instrumentation and methodology techniques used in biomechanics laboratories and other career settings. Prerequisites: BIOL 221. Corequisites: PE 454L-454.

PE 455-555 - ECG and Clinical Stress Testing Credits: 3
This course is designed to fill the needs of students who desire the ability to interpret the normal and abnormal, resting and exercise ECG, as well as provide opportunities to learn and practice the basic components of maximal stress testing during a variety of exercise conditions. Since clinical stress testing and ECG interpretation is a vital component of the laboratory skills needed by today's exercise physiologist, emphasis in this course will be focused on understanding and interpreting ECG tracings and related pathophysiology, preparation of the exercise 12-lead ECG, and interpretation of maximal stress test results regarding exercise tolerance for various clinical populations and comparing them to normal individuals. In addition, an overview of other diagnostic procedures that involve the use of exercise will be given. Prerequisites: Instructor consent.

PE 469-469L - Coaching Baseball/Softball and Lab: Officiating (COM) Credits: 2
Course studies the theory and practice of individual skill fundamentals, team strategies, organization, and management principles. The students conduct an intensive analysis of game strategies and will execute playing skills. This laboratory experience accompanies PE 469 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate baseball/softball competition. Corequisites: PE 469L-469.

PE 470-470L - Coaching Basketball and Lab (COM) Credits: 2
Fundamental techniques and strategies with emphasis on offensive and defensive skills, developing and using player personnel for basketball. Focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate basketball competition. Corequisites: PE 470L-470.

PE 471-471L - Coaching Football and Lab: Officiating (COM) Credits: 2
Fundamental techniques and strategies with emphasis on offensive and defensive skills, developing and using player personnel for football. This laboratory experience accompanies PE 471 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate football competition. Corequisites: PE 471L-471.

PE 473-473L - Coaching Track and Field/Cross Country and Officiating Country (COM) Credits: 2
Study of the techniques of teaching fundamentals of track and field/cross country skills, scientific training methods, rules, and event techniques. This laboratory experience accompanies PE 473 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules).
necessary to accurately, fairly, and effectively officiate track and field and cross country competitions. Corequisites: PE 473L-473.

PE 474-474L - Coaching Wrestling and Officiating(COM) Credits: 2
The teaching of fundamental skills in competitive wrestling. Skills, fundamentals, and basic moves will be discussed and demonstrated with class participation. Strategy for individual wrestler on the mat and for team participation. This laboratory experience accompanies PE 474 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate wrestling competition. Corequisites: PE 474L-474.

PE 475-475L - Coaching Volleyball and Officiating (COM) Credits: 2
Fundamental techniques and strategy with emphasis on offensive and defensive skills, developing and using player personnel for volleyball. This laboratory experience accompanies PE 475 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate volleyball competition.

PE 480-480L - 7-12 Methods of Teaching PE Credits: 3
In this course, students develop an understanding of the tools of inquiry of 7-12 education, 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 physical education; the ability to assess student learning in 7-12 physical education; and to apply these knowledge, skills, and attitudes to real life situations and experiences. Lab that accompanies PE 480. Prerequisites: Consent. Corequisites: PE 480L-480.

PE 485-585 - Travel Studies Credits: 1-5
This travel course is designed to provide extra-curricular 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 490 - Seminar (AW) Credits: 1-3
Prerequisites: Consent.

PE 491 - Independent Study Credits: 1-4
Prerequisites: Consent.

PE 492 - Topics Credits: 1-3
Prerequisites: Consent.

PE 493-593 - Workshop Credits: 1-3
Prerequisites: Consent.

PE 496 - Field Experience Credits: 1-12
Prerequisites: Consent.

PE 705 - Sports Medicine Credits: 2
Prerequisites: Consent.

PE 706 - Motor Learning and Development Credits: 3
Prerequisites: Consent.

PE 730 - Physical Education Teacher Education Credits: 3
Prerequisites: Consent.

PE 732 - Analysis and Strategies of Teaching and Supervising Physical Education and Sports Credits: 3
Prerequisites: Consent.

PE 742 - Psychological Aspects of Sport and Exercise Credits: 3
Prerequisites: Consent.

PE 745 - Applied Biomechanics Credits: 3
Prerequisites: Consent.

PE 750 - Advanced Exercise Physiology Credits: 3
Prerequisites: Consent.

PE 751-751L - Lab Techniques in Exercise Physiology and Lab Credits: 2
Prerequisites: Consent.

PE 755 - Applied Exercise Physiology Credits: 3
Prerequisites: Consent.

PE 770 - Sport/Recreation Administration and Marketing Credits: 3
Prerequisites: Consent.

PE 771 - Curriculum Trends in HPER and Athletics Credits: 3
Prerequisites: Consent.

PE 772 - Financial Aspects of Sports Management Credits: 3
Prerequisites: Consent.

PE 780 - Introduction to Graduate Study and Research Credits: 1
Prerequisites: Consent.
PHI 442 - Pharmacology I Credits: 5
Principles of pharmacology leading to the clear understanding of pharmacotherapy. Prerequisites: PHA 442.

PHI 443 - Pharmacology II Credits: 4
Principles of pharmacology leading to the clear understanding of pharmacotherapy. Prerequisites: PHA 442.

PHI 444 - Toxicology Credits: 2
Basic principles of the understanding of poisoning and its prevention and treatment. Prerequisites: PHA 442. Corequisites: PHI 443.

PHI 445 - Pharmacotherapeutics I Credits: 2
Discussion of pharmacotherapeutic principles for the development of patient specific drug regimens in patients with acute and chronic disease states and conditions. Prerequisites: PHA 442.

PHI 446 - Pharmacotherapeutics II Credits: 3
This course is the continuation of PHI 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: PHI 445.

PHI 467-467L - Pharmacy Practice III and Lab (AW) Credits: 3
This is a continuation of Pharmacy Practice III. 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: P2 year standing (PHA 324, PHA 332, PHA 341, PHA 368 and STAT 281). Corequisites: PHI 467L-467.

PHI 468-468L - Pharmacy Practice IV and Lab (AW) Credits: 3
This is a continuation of Pharmacy Practice III. The concepts of pharmacy practice are further taught and developed. Practice skills developed in Pharmacy Practice I-III are expanded and reinforced. Topics in drug information evaluation and retrieval, as well as clinical research design and evaluation are further developed and reinforced. The principles of provision of pharmacy services in institutional and community settings are continued from Pharmacy Practice III. Prerequisites: P2 year standing (PHA 324, PHA 332, PHA 341, PHA 368 and STAT 281). Corequisites: PHI 468L-468.

PHIL 100 - Introduction to Philosophy * (COM) 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 200 - Introduction to Logic * (COM) 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 * 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) 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 of the major philosophers and their implication for the modern world. Notes: May be repeated for a total of 9 hours.

PHIL 320 - Professional Ethics 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 331 - Philosophy of Science Credits: 3
An investigation into the nature of science from the perspectives of the scientific disciplines themselves and from the study of the history of scientific development. Inquiry into the structure of scientific method, the scope and
PHYS (Physics)

PHYS 101-101L - Survey of Physics and Lab * (COM) Credits: 4
This is a one-semester conceptual course, designed to cover a broad range of physics topics. Critical thinking skills are developed as students apply topics to various problem situations. Students are encouraged to relate concepts learned to personal areas of interest. Topics include mechanics, states of matter, wave motion, sound and electricity magnetism. Credit will not be allowed in both PHYS 101 and PHYS 111-113 or PHYS 211-213. Corequisites: PHYS 101L-101. Notes: * Course meets SGR #6.

PHYS 109 - 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. Notes: ** Course meets IGR #1.

PHYS 111-111L - Introduction to Physics I and Lab * (COM) Credits: 4
This is the first course in a two semester algebra-level sequence, covering fundamental concepts of physics. The sequence is appropriate for preprofessional majors requiring two semesters of physics. Topics include classical mechanics, thermodynamics, and waves. Prerequisites: Take one of the following: MATH 102, MATH 115, MATH 120, MATH 121, MATH 123, MATH 125, MATH 281 or consent. Corequisites: PHYS 111L-111. Notes: * Course meets SGR #6.

PHYS 113-113L - Introduction to Physics II and Lab * (COM) Credits: 4
This course is the second course in a two semester algebra-level sequence, covering fundamental concepts of physics. Topics include electricity and magnetism, sound, light, optics, and some modern physics concepts. Prerequisites: PHYS 111. Corequisites: PHYS 113L-113. Notes: * Course meets SGR #6.

PHYS 185-185L - Introduction to Astronomy I and Lab * (COM) 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-113. Notes: * Course meets SGR #6.

PHYS 187-187L - Introduction to Astronomy II and Lab * (COM) Credits: 3
This course is a descriptive course that introduces stellar astronomy. Emphasis will be placed on stars, nebulae, galaxies, and cosmology. Corequisites: PHYS 187L-187. Notes: * Course meets SGR #6.

PHYS 199 - Astronomy: The First Science with First Nations' Perspectives Credits: 3
This course integrates laboratory and observational activities, mathematical problem solving, lecture and discussion to introduce and engage students in astronomy. Material will include perspectives and observations from many cultures, especially those of the First Nations people of North America. Emphasis is placed on sky observations and motions, the development of astronomy and science, application of scientific principles to observations, instrumentation (including telescope design and use), observational techniques and findings.

PHYS 211-211L - University Physics I and Lab * (COM) Credits: 4
This is the first course in a two semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students majoring in physical science or engineering. Topics include classical mechanics and thermodynamics. Prerequisites: MATH 123 or MATH 125 (completed or concurrent). Corequisites: PHYS 211L-211. Notes: * Course meets SGR #6.

PHYS 213-213L - University Physics II and Lab * (COM) Credits: 4
This course is the second course in a two semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students majoring in physical science or engineering. Topics include electricity and magnetism, sound, light, and optics. Prerequisites: PHYS 211 (completed) and MATH 125 (completed or concurrent). Corequisites: PHYS 213L-213. Notes: * Course meets SGR #6.

PHYS 291 - Independent Study Credits: 1-3
PHYS 292 - Topics Credits: 1-3

PHYS 316-316L - Measurement Theory and Experiment Design and Lab (AW) Credits: 2
This course looks at accuracy, precision and uncertainty and how these quantities propagate as experimental laboratory measurements are converted to experimental results. Laboratory portion of PHYS 316. Prerequisites: PHYS 113 or PHYS 213. Corequisites: PHYS 316L-316.

PHYS 318 - Advanced Laboratory I Credits: 1
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 and PHYS 331 or consent.

PHYS 331 - Introduction to Modern Physics (COM) Credits: 3
This course is designed to provide students with a in-depth understanding of modern physics and its applications. Topics covered include wave-particle duality, quantum mechanics, special and general relativity, and atomic and nuclear physics. Prerequisites: PHYS 213 or PHYS 113 or consent.

PHYS 337 - Foundations of Health Physics Credits: 3
Health Physics studies the risks of exposure to ionizing and non-ionizing radiation, and the implications of these risks for public health and well-being. This course is designed to provide students with a comprehensive understanding of the principles and methods used in health physics, including the physics of radiation, radiation dosimetry, and radiation protection. Prerequisites: PHYS 213 or PHYS 113 or consent.
PHYS 341 - Thermodynamics (COM) Credits: 2
This course is an intermediate level thermodynamics course dealing with systems from a macroscopic perspective. Topics include the first and second laws of thermodynamics, phase diagrams, and equilibria. Prerequisites: PHYS 213 and MATH 225.

PHYS 343 - Statistical Physics (COM) Credits: 2
This course provides a systematic introduction to the use of statistical principles applied to the study of thermodynamic systems. Prerequisites: PHYS 331, PHYS 341 and MATH 321 or consent.

PHYS 361 - Optics (COM) Credits: 3
This is an intermediate level study of geometrical and physical optics. Topics include analysis of refraction phenomena, thick lenses, wave nature of light, interference, diffraction, and polarization. Prerequisites: PHYS 113 or PHYS 213 and MATH 225.

PHYS 418 - Advanced Lab II Credits: 1
Students perform selected experiments in modern physics: gamma ray spectroscopy, half life, beta decay, positron annihilation, neutron capture, bubble chamber events, nuclear statistics, etc. Prerequisites: PHYS 316 or consent.

PHYS 421-521 - Electromagnetism (COM) Credits: 4
This is a course in the principles of electricity and magnetism, with applications to dielectric and magnetic materials. Topics include the development of Maxwell's equations, and applications. Prerequisites: PHYS 213 and MATH 321.

PHYS 433-533 - Nuclear and Elementary Particle Physics (COM) Credits: 3
This course covers fundamental topics in nuclear physics and elementary particles. Topics include radioactivity, nuclear spectra and structure, nuclear models, elementary particle theories and high energy physics. Prerequisites: PHYS 331 or PHYS 471.

PHYS 439-539 - Solid State Physics (COM) Credits: 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 and MATH 321.

PHYS 451-551 - Classical Mechanics (COM) Credits: 4
This is a systematic introduction to classical mechanics emphasizing motion in three dimensions. Topics include central forces, harmonic oscillations, non-inertial reference frames, rigid body motion, and Lagrangian and Hamiltonian Mechanics. Prerequisites: MATH 225 and MATH 321.

PHYS 464 - Senior Design I Credits: 1
This is the first course of the departmental capstone senior design sequence. The student will write the specifications for a design project and complete the initial design phase for this project addressing economic, environmental, social and success criteria. Prerequisites: Senior standing in the Physics Department.

PHYS 465-465L - Senior Design II and Lab Credits: 2
This course completes the departmental capstone senior design project. The student will construct, assemble, and test the project that they designed in PHYS 464. This is the laboratory portion of PHYS 465 where the design developed in PHYS 464 is built, tested, and made to work. Prerequisites: PHYS 464. Corequisites: PHYS 465L-465.

PHYS 471-571 - Quantum Mechanics (COM) Credits: 4
This is a systematic introduction to quantum mechanics, emphasizing the Schrodinger equation. Topics include simple soluble problems, the hydrogen atom, approximation methods and other aspects of quantum theory. Prerequisites: MATH 225, MATH 321 and PHYS 331.

PHYS 481-581 - Mathematical Physics (COM) Credits: 4
This course looks at mathematical methods used to formulate and solve problems in various fields of physics. Topics are chosen from: series solutions, special functions, computational methods, complex variables, multi-variate methods, transform methods, and other areas of mathematical applications to physics. Prerequisites: MATH 225 and MATH 321.

PHYS 490-590 – Seminar Credits: 1-3
PHYS 491-591 - Independent Study Credits: 1-4
PHYS 492-592 – Topics Credits: 1-4
PHYS 494 – Internship Credits: 1-4
PHYS 496 - Field Experience Credits: 1-4
PHYS 497 - Cooperative Education Credits: 1-4
PHYS 498 - Undergraduate Research/Scholarship Credits: 1-12
PHYS 683 - Mathematical Physics II Credits: 3
PHYS 691 - Independent Study Credits: 1-3
PHYS 721 - Electrodynamics I Credits: 3
PHYS 723 - Electrodynamics II Credits: 3
PHYS 739 - Condensed Matter Physics I Credits: 3
PHYS 743 - Statistical Mechanics Credits: 3
PHYS 749 - Condensed Matter Physics II Credits: 3
PHYS 751 - Theoretical Mechanics Credits: 3
PHYS 771 - Quantum Physics I Credits: 3
PHYS 773 - Quantum Physics II Credits: 3
PHYS 775 - Tensors and General Relativity Credits: 3
PHYS 779 - Group Theory in Quantum Mechanics Credits: 3
PHYS 781 - Nuclear and Particle Physics Credits: 3
PHYS 783 - Quantum Field Theory Credits: 3
PHYS 785 - Astrophysics and Cosmology Credits: 3
PHYS 787 - Research Credits: 1-9
PHYS 788 - Research or Design Paper Credits: 1-2
PHYS 791 - Independent Study Credits: 1-3
PHYS 792 – Topics Credits: 1-3
PHYS 798 – Thesis Credits: 1-7

PLAN (Planning)

PLAN 471-571 - Principles of State, Regional and Community Planning Credits: 3
Purpose, structure, and dynamics of the planning process. Identification of different types of planning. Inter-dependencies among persons who contribute to the planning process and are trained in separate academic disciplines. Basic techniques employed within different phases of the planning process.

PLAN 472-572 - Techniques of State, Regional and Community Planning Credits: 3
Brief review of basic approaches, procedures and methods employed within different phases of the planning process. Coordination required among persons trained in separate academic disciplines in order to carry out these basic techniques. Exercises in the practical application of selected techniques and review of their applications in ongoing to completed planning efforts. Prerequisites: PLAN 471-571.

POLS (Political Science)

POLS 100 - American Government * (COM) Credits: 3
A study of the basic principles of the American system of government with emphasis on problems relating to governmental structure and policies. Notes: * Course meets SGR #3.

POLS 102 - American Political Issues * (COM) 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) (G) 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 * Credits: 3
Ideas defending communism, fascism, and democracy, including variations such as democratic socialism, Christian democracy, capitalism, liberalism, New Left, neo-conservatism, liberalism theology. Practice of ideology. Concepts of comparative analysis. Notes: * Course meets SGR #3.
POLS 210 - State and Local Government ** (COM) 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 or ** IGR 2.

POLS 253 - Current World Problems ** (G) 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 or ** IGR 2.

POLS 280 - Political Inquiry Credits: 3
An investigation into the basic concepts, principles, and techniques employed to study politics.

POLS 305 - Women and Politics 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 316 - South Dakota Legislative Issues (COM) Credits: 1-3
An analysis of the issues confronting the state legislature, with attention to political, economic, and sociological dimensions, emphasizing the role of party leaders, interest groups, and communication media.

POLS 320 - Public Administration (COM) Credits: 3
This course uses simulations and public management cases, as well as contemporary public administration literature, to introduce students to the theory and practice of public administration. Students work in teams to resolve issues and problems common to the public service environment.

POLS 330 - Civil Rights and Liberties Credits: 3
Individual First Amendment guarantees, constitutional rights of the accused in the criminal process and equal protection of the law as interpreted through U.S. Supreme Court decisions. Cross-Listed: CJUS 330.

POLS 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 343 - Russian Politics Credits: 3
Study of government, politics, and some aspects of society in Russia and the region; emphasis on current politics.

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 352 - European Union Credits: 3
An interdisciplinary offering which examines integration theory and the structures and politics of the European Union. The theme of the course's content will vary from offering to offering in order to accommodate the availability of cooperating instructors from other disciplines.

POLS 391 - Independent Study Credits: 1-3
In this study of the manner in which the President and the Congress share political power in the formation of public policy, the origins and functions of executive and legislative institutions will be explored, as well as the conflictual state of presidential-congressional relations. Prerequisites: POLS 100.

POLS 417 - American Indian Government and Politics (COM) Credits: 3

POLS 430 - Constitutional Law (COM) Credits: 3
A study of the interpretation of the federal Constitution through leading decisions of the supreme court.

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 436 - The Mass Media and Politics Credits: 3
Perspectives on the relationship between the press and American politics, including the media as a political institution, press relations with Congress and the presidency, and media effects on public opinion. Both traditional media outlets (print and broadcast) and New Media sources (e.g., cable TV and the web) will be examined.

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 449 - Middle Eastern Politics (COM) Credits: 3
A study of the international relations of the region, with emphasis on Arab/Israeli politics and inter-Arab relations. External influences and recent wars will also be examined.

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 454 - International Law and Organization (COM) Credits: 3
This course examines the development and application of the rules and norms that govern the relations between countries. Special attention will be paid to international law on the use of force, the law of the sea, and jurisdiction. The course will also look at international tribunals beginning with Nuremberg and concluding with the International Criminal Court.

POLS 461 - Early Political Philosophy (COM) (AW) Credits: 3
Focus on classical Greek and Roman political thought. Basis on which these theories rest and the explanatory power of the various thought structures. Includes Plato, Aristotle. Cross-Listed: PHIL 462.

POLS 462 - Modern Political Philosophy (COM) (AW) Credits: 3
The course studies political philosophy since the Renaissance, including Locke, Rousseau, and others. Cross-Listed: PHIL 462.

POLS 482 - Travel Studies Credits: 1-5
This travel study course is designed to provide extra-curricular 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.

POLS 490 - Seminar Credits: 1-3
This seminar is designed to provide students with the opportunity to engage in advanced study of a specific topic. The seminar will involve reading, discussion, and research. Prerequisites: 482.

POLS 491-591 - Independent Study Credits: 1-3
PUBH (Public Health)

PUBH 720 - Public Health Practice (COM) Credits: 3
PUBH 730 - Public Health Project (COM) Credits: 6

PS (Plant Science)

PS 103-103L - Crop Production and Lab Credits: 3
Practices and principles; crop distribution; growth processes; response to environment. Grain and forage crops, including their distribution, use, improvement, growth, harvesting, and marketing. Corequisites: PS 103L-103.

PS 109 - First Year Seminar ** Credits: 2
First-year experience course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Notes: ** Course meets IGR #1.

PS 200-200L - Weed Management for Horticulture and Lab Credits: 2
An introduction to common weeds found in horticultural settings (Turf, nursery, food crops, etc.). The use of cultural, biological, chemical and...
Students are advised to check for most current descriptions at: www.catalog.sdstate.edu
For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.

physical methods of weed management will be discussed. Weed identification, control methods and related activities will be handled in the laboratory. Corequisites: PS 200L-200. Cross-Listed: HO 200-200L.

PS 213-213L - Soils and Lab *** Credits: 2, 1
Development and classification of soils; physical, biological, and chemical properties; management aspects, including water, fertility, and erosion; soils in the environment. Prerequisites: CHEM 106-106L or CHEM 112-112L. Corequisites: PS 213L-213L. Notes: * Course meets SGR #6 or ** IGR #2.

PS 222-222L - Fundamentals of Turf Management and Lab Credits: 3
Introduction to basic maintenance and culture of turfgrass for utility turf, home lawns, and commercial grounds. Prerequisites: HO 111-111L or PS 103-103L or consent. Corequisites: HO/PS 222L-222L. Cross-Listed: HO 222-222L.

PS 223-223L - Principles of Plant Pathology and Lab Credits: 3
Principles underlying cause, spread, symptomatology, diagnosis, and control of plant diseases. Principles exemplified by detailed study of specific diseases. Laboratory stresses diagnosis and experimental elucidation of principles. Prerequisites: BIOL 103-103L or BIOL 153-153L or BOT 201-201L. Corequisites: PS 223L-223L.

PS 243 - Principles of Geology * 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. Notes: * Course meets SGR #6.

PS 303-303L - Seed Technology and Lab Credits: 3
Seed testing; history, testing methods, and seed testing organizations. Seed development, maturation, anatomy, physiology, dormancy, and aging processes. Identification and classification of crop and weed seeds. Prerequisites: PS 103-103L or HO 111-111L. Corequisites: PS 303L-303L.

PS 305-305L - Insect Biology and Lab (COM) Credits: 3
An introduction to the general biology and classification of insects. Course emphasis placed on taxonomy, methods of identification, and ecological role of insects. Students will become familiar with basic insect anatomy and morphology, classification at the order level with exemplary families that include taxa of agricultural or environmental interest, and acquire an ability to sight recognize particular species that have agricultural, environmental, wildlife, and human and livestock health importance. Field trips and a collection are required. Prerequisites: MATH 102 or higher, and one of the following: BIOL 103-103L, BIOL 153-153L or BOT 201-201L. Corequisites: PS 305L-305L. Cross-Listed: NRM 305-305L.

PS 307-307L - Insect Pest Management and Lab Credits: 3
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. Prerequisites: BIOL 101-101L or BIOL 151-151L. Corequisites: PS 307L-307L.

PS 308-308L - Grain Grading and Lab Credits: 2
Grain grading, crop and weed seed identification. Grain market grading and quality determinations. Plant identification of field crops and weeds of major importance in the United States. Prerequisites: PS 103-103L. Corequisites: PS 308L-308L.

PS 310-310L - Soil Geography and Land Use Interpretation and Lab ** (G) Credits: 3
Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Studio to accompany PS/GEOG 310. Prerequisites: GEOG 152-152L or PS 213-213L or instructor consent.


PS 312 - Grain and Seed Production and Processing Credits: 3
Distribution, adaptation, and culture of grain crops. Production and harvesting of seed crops. Seed processing, cleaning, procedures, machinery, conditioning drying, storage, and marketing; production of certified and hybrid seed crops. Prerequisites: PS 103-103L or HO 111-111L.

PS 313 - Forage Crop and Pasture Management Credits: 3
Grasses and legumes; their establishment, management, and use for hay, pasture, and silage. Prerequisites: BIOL 101 or BIOL 151. Field trips required.

PS 320 - Crop Judging Credits: 1-2
Advanced course in seed and plant identification of crops and weeds, seed analysis and grain grading. Students are expected to enroll in Grain Grading (PS 308) the preceding spring semester and to enroll in PS 320 during the fall semester to compete in regional and national contests. Prerequisites: PS 103-103L and PS 308-308L.

PS 321 - Soil Judging Credits: 1
Practical experience in evaluating the physical and chemical properties of soils important in soil judging and in making land use decisions. Soil forming factors, soil classification, land use interpretations, and soil morphology. Participation in regional intercollegiate soil judging contests and field trips. Prerequisites: PS 213-213L. Notes: May be repeated for a maximum of 3 credits.

PS 323 - Soil Fertility and Plant Nutrient Management Credits: 3
Soil fertility management and its effects on the growth of crops, including evaluation, uptake, and utilization of specific ions by plants, use of fertilizer elements to alter soil fertility, importance of crop residue management to maintain and improve productivity, and chemical composition of fertilizers and their characteristics. Prerequisites: PS 213-213L.

PS 324 - Horticulture Pests I: Entomology Credits: 2
A survey of integrated pest management principles and practices on horticultural systems. The commodities covered include turfgrass, urban forestry, vegetables, fruits and ornamentals both in open and protected (e.g. greenhouse, high tunnel) systems. Cross-Listed: HO 324.

PS 325 - Horticulture Pests II: Diseases Credits: 2
A survey of abiotic and biotic diseases of horticultural systems. The commodities covered include turfgrass, urban forestry, vegetables, fruits and ornamentals both in open and protected (e.g. greenhouse, high tunnel) systems. Cross-Listed: HO 325.

PS 326 - Precision Ag Data Mapping Credits: 2
Mapping agronomic field data and generating management zones using appropriate industry software on the commercial market. Prerequisites: Junior or Senior standing, Agronomy, AST or Agricultural Science majors.

PS 333-333L - Diseases of Field Crops and Lab Credits: 3
Extensive survey of diseases affecting major food, fiber, and oilseed crops of the world. Emphasis is on diagnosis and disease management strategies. Prerequisites: PS 223-223L. Corequisites: PS 333L-333L.

PS 343-343L - Weed Science and Lab Credits: 3
Fundamentals of mechanical, cultural, biological and chemical weed control practices and factors affecting control. Herbicide classification and mechanism of action. Plant and seed identification of common weeds of North Central States and their interaction with desirable plants. Prerequisites: Take PS 103-103L or HO 111-111L, and CHEM 108-108L or CHEM 120-120L or CHEM 326-326L. Corequisites: PS 343L-343L.

PS 362-362L - Environmental Soil Management and Lab ** Credits: 3
Management systems designed to maintain soil productivity and environmental quality are examined. Soil problems important in production systems and environmental management including compaction, erosion, and nonpoint pollution are analyzed based on underlying environmental and agronomic principles. Computer simulation models are used and applied to soil problems. Prerequisites: PS 213-213L. Corequisites: PS 362L-362L. Notes: ** Course meets IGR #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 103-103L or HO 111-111L, and BIOL 102-102L or BIOL 153-153L or BOT 201-201L. Corequisites: PS 383L-383L. Cross-Listed: HO 383-383L.

**PS 390 – Seminar Credits: 1**

**PS 412-512 - Environmental Soil Chemistry Credits: 3**

Fundamentals of soil chemical properties and processes important for the sound management of soil resources. Topics include sorption/desorption of inorganic and organic compounds, bioavailability of nutrients and contaminants, oxidation/reduction, phase equilibria, soil organic matter, soil mineralogy, ion exchange, and saline/sodic soils. Prerequisites: PS 213-213L and CHEM 108-108L or CHEM 120-120L.

**PS 413-413L - Greenhouse Management and Lab Credits: 3**

Greenhouse construction, environmental control, production and scheduling of major greenhouse crops. Trips to commercial greenhouse operations and laboratory work in greenhouse crop production. Corequisites: PS 413L-413L. Cross-Listed: HO 413-413L.

**PS 415-415L/515-515L – Mycology and Lab (COM) Credits: 3**

Comprehensive taxonomic survey of the Kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship of fungi to human affairs. Laboratory experience that accompanies PS 415L-415L/515-515L Prerequisites: BIOL 101 or BIOL 151. Corequisites: PS 415L-415L/515-515L. Cross-Listed: BIOL 415L-415L/515-515L.

**PS 421-421L/521-521L - Soil Microbiology and Lab Credits: 3**

Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms. Laboratory course to accompany PS 421 Prerequisites: BIOL 151-151L and BIOL 153-153L or BOT 201-201L. Corequisites: PS 421L-421L/521L-521L. Cross-Listed: MICR 421-421L/521-521L.

**PS 423-523 - Turfgrass Stress Physiology Credits: 3**

The focus of this course is the physiological response to abiotic stress in perennial grass systems, including environmental, cultural, and traffic stress. Prerequisites: Senior or graduate student status or instructor consent. Cross-Listed: HO 423-523.

**PS 424-524 - Wheat Production Credits: 2**

Topics in this course address agronomic management for spring and winter wheat production. Topics covered in this course include determining wheat crop insurance; seeding rates; seed treatments; weed management; weed 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: Junior or Senior standing, Agronomy, AST or Agricultural Science majors.

**PS 425-525 - Soybean Production Credits: 2**

Soybean crop production and management across all growth stages. Among the topics addressed in this course include soybean crop insurance; variety selection; seedings rates; seed treatments and inoculations; weed, disease, and pest management; fertilizers and applications; crop maturity factors that impact harvest. Prerequisites: Junior or Senior standing, Agronomy or AST major.

**PS 426-526 - Corn Production Credits: 2**

The objective of this course is corn production management ranging across a year. Topics addressed in this course include corn crop insurance; variety selection; seedings rates; fertilizers and application methods; weed, disease and pest management; harvest issues; crop rotations and cover crops. Prerequisites: Junior or Senior standing, Agronomy or AST major.

**PS 431-531 - Insect Ecology and Biological Control Credits: 3**

This course will examine the ecological relationships between insects and their environment. Topics will include natural history, behavior, population dynamics, interactions between insects and their food plants, predators, and diseases; insect evolutionary ecology, and insect agroecology. These topics will also be explored in the context of the biological control of arthropod and weed pests by natural enemies.

**PS 434-534 - Local Food Production Credits: 2**

Topics include planning, planting, cultivation, harvest, season extension and marketing of fruits and vegetable crops. Experiential learning model. Cross-Listed: HO 434-534.

**PS 440-440L - Crop Management with Precision Farming and Lab Credits: 3**

Principles of precision farming for crop production will be the focus. An integrated approach to crop management based on global positioning, geographic information systems, soil testing and fertility recommendations, spatial data storage, and data interpretation for farming and land use decisions will be covered. The use of spatial statistics to make site specific management recommendations will be discussed. Prerequisites: PS 326. Corequisites: PS 440L-440L.

**PS 446-546 - Agroecology (G) Credits: 3**

Agroecology is the study of the ecological principles important in agricultural systems. Topics in this course will include energy flow and nutrient cycling, population and community ecology, weed and insect ecology, and water and nutrient conservation.

**PS 450-450L/550-550L - Field Study of Plant Disease Diagnosis and Lab Credits: 2**

Diagnosis of diseases in field and horticultural crops; observing and studying the relationships among hosts, pathogens, and their environments. Emphasis on field disease recognition and laboratory diagnostic techniques. Alternate years. Prerequisites: Instructor consent. Corequisites: PS 450L-450L/550L-550L.

**PS 453-553 - Advanced Genetics Credits: 3**

Procedures in genetic studies as they relate to molecular and classical genetic applications. Prerequisites: BIOL 202 or BIOL 204 or BIOL 371. Cross-Listed: BIOL 453-553.

**PS 473-473L/573-573L - Rural Real Estate Appraisal and Lab Credits: 2**


**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 213-213L and MATH 102 or MATH 115 or MATH 123.

**PS 490 – Seminar Credits: 5-1**

Students discuss their internship experience and present materials related to it. They learn techniques for creating, delivering, and evaluating professional presentations. Prerequisites: Registration in, enrollment in, or completion of PS 494. Notes: May be repeated for a total of 1 credit.

**PS 491 - Independent Study Credits: 1-5**

**PS 492 – Topics Credits: 1-3**

**PS 494 – Internship Credits: 0.5-2**

Prerequisites: Written consent. Notes: May repeat course for a total of 2 credits.

**PS 498 - Undergraduate Research/Scholarship Credits: 1-4**

**PS 543 - Bioenergy Feedstock Production Systems Credits: 3**

**PS 580 - Environmental Stress Physiology Credits: 3**

**PS 664 - Molecular Plant Physiology Credits: 6**

**PS 704-704L - Viral and Bacterial Diseases of Plants Credits: 4**

**PS 714-714L - Genetics of Disease Resistance & Host-Plant Pathogen Interaction & Lab Credits: 4**

**PS 721 - Advanced Integrated Crop Pest Management Credits: 3**

**PS 723 – Simul. Models in Research Management & Policy Credits: 3**

**PS 732 - Field Studies in Pedology Credits: 2**

**PS 733 - Advanced Soil Genesis Credits: 3**

**PS 741 - Crop Breeding Techniques Credits: 3**

**PS 743 - Physical Properties of Soil Credits: 3**

**PS 744 - Soil N, P, and K Credits: 3**

**PS 746 - Plant Breeding Credits: 3**

**PS 753 - Soil Water Qual. in Bioenergy Feedstock Prod. Sys. Credits: 3**

Course Information 325

Students are advised to check for most current descriptions at: www.catalog.sdstate.edu For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.
PSYC 101 - General Psychology ** (COM) 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
or ** IGR #2.

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 ** (COM) Credits: 3
This course surveys the empirical and theoretical work on the influence of the
physical environment on human behavior and experience. Topics include the
use of space, stressors and esthetics as related to human beings, the optimum
design of buildings, homes and institutions, and the effect of humans on the
natural environment. Designed for both psychology majors and non-majors.
Prerequisites: PSYC 101 or PSYC 102. Notes: ** Course meets IGR #2.

PSYC 267 - Psychology of Personal Adjustment (COM) Credits: 3
This course covers the dynamics of normal human personality and behavior
with an emphasis on the mechanisms used to promote effective personal and
interpersonal behavior.

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. Prerequisites: PSYC 101 or PSYC 102.

PSYC 301L - Sensation and Perception Lab (COM) Credits: 1
This course provides laboratory experience in evaluating sensory
function and activity as well as perceptual demonstrations. Prerequisites: PSYC 376. Corequisites: PSYC 301.

PSYC 305 - Learning and Conditioning (COM) 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 305L - Learning and Conditioning Lab Credits: 1
This course provides laboratory experience in the application of methods and
principles of learning and conditioning. Prerequisites: PSYC 376. Corequisites: PSYC 305.

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 ** (COM) Credits: 3
This course covers the physical, social, emotional and intellectual aspect of
child development. Prerequisites: PSYC 101 or PSYC 102. Notes: ** Course
meets IGR #2.

PSYC 331 - Industrial and Organizational Psychology (COM) Credits: 3
This course covers the application of psychological principles to such
problems as employee selection, supervision, job satisfaction, and work
efficiency. Prerequisites: PSYC 101 or PSYC 102.

PSYC 357 - Psychological Therapies Credits: 3
Traditional and contemporary methods of psychotherapy. Interviewing
techniques and the professional assistant's role. Prerequisites: PSYC 101 or
PSYC 102 and PSYC 451 or PSYC 461.

PSYC 358 - Behavior Modification Credits: 3
Principles of learning applied to human behavior modification. Prerequisites:
PSYC 101 or PSYC 102.

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. Notes: ** Course meets IGR #2.

PSYC 366 - 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, sex roles, stereotyping,
socialization, sexuality, and personality. Prerequisites: PSYC 101 or

PSYC 367L - Psychological Gender Issues Lab Credits: 1
This course provides laboratory experience in the application of methods and
principles in the development and impact of gender. Prerequisites: PSYC 376. Corequisites: PSYC 367.

PSYC 375-375L - Research Methods in Psychology and Lab Credits: 4
An introduction to the theory and practice of research methods in psychology
with an emphasis on descriptive designs. Topics include logic and philosophy
of psychological research, conceptualizing research questions, hypothesis
testing, data collection and analysis strategies used by researchers in
psychology, and introduction to using statistical software for data
analysis. This course provides laboratory experience in application of
methods and principles of psychological research and data analysis.
Prerequisites: MATH 102 (C or better) and PSYC 202 (C or better).
Corequisites: PSYC 375L-375L.

PSYC 376-376L - Research Methods II and Lab (AW) Credits: 4
This course provides further exploration of the theory and practice of research
methods in psychology with an emphasis on experimental designs and
inferential statistical procedures. Laboratory includes performance of
experiments, data analysis, and preparation of research reports. Prerequisites:
PSYC 375-375L. Corequisites: PSYC 376L-376L.
PSYC 390 - Seminar Credits: 1

PSYC 406 - Cognitive Psychology (COM) Credits: 3
This course is a survey of recent research and theory in cognitive process concerning the representation, storage, retrieval and interactions of units of thought. It considers adaptability, intelligence and knowledge from an experimental point of view. Prerequisites: PSYC 101 or PSYC 102.

PSYC 406L - Cognitive Psychology Laboratory Credits: 1
This course provides laboratory experience in the application of methods and principles in cognitive psychology. Prerequisites: PSYC 376. Corequisites: PSYC 406.

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 375.

PSYC 411 - Physiological Psychology Credits: 3
Role of physiological mechanisms in behavior. Nervous, biochemical and muscular systems that control or modify human and animal adjustment. Prerequisites: PSYC 101 or PSYC 102.

PSYC 414 - Drugs and Behavior (COM) Credits: 3
The psychobiological bases of the use/abuse of alcohol, drugs and other substances are covered in this course along with current theory, research approaches and findings. Prerequisites: PSYC 101 or PSYC 102.

PSYC 417 - Health Psychology ** (COM) Credits: 3
This course is an investigation of the psychological aspects of health and of physical disorders and disease processes. It will explore psychological interventions targeted at prevention as well as those focusing on the resolution or management of disorders. Prerequisites: PSYC 101 or PSYC 102. Notes: ** Course meets IGR #2.

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 or PSYC 102, and PSYC 327 and PSYC 451.

PSYC 440-540 - Forensic Psychology Credits: 3
Forensic Psychology is the application of the science and profession of psychology to questions and issues relating to law and the legal system. This course is a state-of-the-art survey of central topics at the interface of psychology, and the law. The field of forensic psychology encompasses contributions made in a number of different areas - research, clinical practice, public policy, and teaching/training - from a variety of orientations within the field of psychology, such as developmental, social, cognitive, industrial-organizational and clinical. Prerequisites: PSYC 101 or PSYC 102.

PSYC 441 - Social Psychology ** (COM) Credits: 3
This course covers basic principles of social psychology including concepts and methods utilized in analyzing individual and group interactions. Prerequisites: PSYC 101. Notes: ** Course meets IGR #2.

PSYC 441L - Social Psychology Lab Credits: 1
This course provides laboratory experience in the application of methods and principles in social psychology. Prerequisites: PSYC 376. Corequisites: PSYC 441.

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. Notes: ** Course meets IGR #2.

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 and STAT 281.

PSYC 477L - Psychology Testing & Measurement Laboratory Credits: 1
This course provides laboratory experience in the application of measurement theory and principles of construction and analysis of psychological tests. Prerequisites: PSYC 376. Corequisites: PSYC 477.

PSYC 482-582 - 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.

PSYC 491 - Independent Study Credits: 1-3
PSYC 492-592 - Topics Credits: 1-4
PSYC 494 - Internship Credits: 1-12
PSYC 496 - Field Experience Credits: 1-12
PSYC 498 - Undergraduate Research/Scholarship Credits: 1-12
PSYC 591 - Independent Study Credits: 1-4

RANG (Range Science)

RANG 105-105L - Introduction to Range Mgmt and Lab * Credits: 3
Basic principles and application of range science including ecosystem structure, function and management. Water and nutrient cycles, energy flow, plant physiology, grazing management and grazing systems will be discussed. Identification and management of important range plants in the Northern Great Plains are included. Range improvements such as seeding, fertilization, brush control and prescribed burning will be introduced. Corequisites: RANG 105L-105. Notes: * Course meets SQR #6.

RANG 210-210L - Range Plant Identification and Lab Credits: 2

RANG 215 - Introduction to Integrated Ranch Management Credits: 3
This course introduces the basic principles of ranching and the food and fiber systems. Students will be exposed to the complexities of modern agricultural production systems. Topics include: natural resources as the basis for successful ranching; the family as the major supplier of labor and capital; animal and agronomic production systems; economic and financial forces; risk and opportunity; agricultural policy and law; the decision making process; and stress as the driving force of change. Students will incorporate outside readings into discussions and practice planning exercises held during lab sessions. Cross-Listed: AS 215.

RANG 321 - Wildland Ecosystems Credits: 3
Structure, function and multiple-use management of the major wildland ecosystems of North America. Ecological concepts and renewable resource management strategies will be examined.

RANG 400 - Judging Teams Credits: 1
Section 4 - Range Plant ID: Instruction and practice in identification of important range plants of North America. Section 5 - URME Instruction and practice: in general range science knowledge and problem solving. Participation in the national Undergraduate Range Management Exam (URME) contest. Prerequisites: Instructor consent.

RANG 415-415L - Range Improvements and Grazing Management and Lab Credits: 4
Management of rangelands with fire, herbicides, biocontrol agents, mechanical treatment, and livestock grazing. Grazing systems and their
impact on vegetation management, weed control, livestock production, wildlife habitat improvement, soil protection and watershed improvement. Laboratory sessions to complement lecture material from RANG 415. Field trips to area range sites will be included. Corequisites: RANG 415L-415.

RANG 421-521 - Grassland Fire Ecology Credits: 3
The course is designed to describe the ecological effects of fire on grassland ecosystem components, from soil and vegetation to wildlife and cattle. It also provides insight into the history of fires, the people who use them and why, the parts of a fire, how fires behave in relation to fuel and weather, and the procedures for safely conducting prescribed burns. Cross-Listed: WL 421-521.

RANG 425-425L/525-525L - Rangeland Assessment and Monitoring Lab Credits: 3
Principles and practical application of the assessment and monitoring of rangeland plant communities. Course will be offered in a hybrid format. In the online portion of the course, students will learn how to set objectives, determine parameters to measure, select appropriate techniques, and analyze quantitative data. The laboratory portion is a 1-week intensive field session held in late summer, providing substantial field experiences including performing a wide variety of sampling techniques, collection and analysis of assessment and monitoring data, and learning how state and federal agencies assess and monitor rangelands. Students will also work in teams to develop a monitoring plan for a specific property, collect and analyze initial data, and present the plan and results to the landowner. Prerequisites: STAT 281. Corequisites: RANG 425L-425/525L-525.

RANG 485-485L - Advanced Integrated Ranch Management and Lab Credits: 3
A capstone course that requires students to integrate knowledge from previous coursework and experiences. Focus is on decision-making, analysis, and planning with respect to ranching enterprises. A key component of the course will be an extensive ranch planning exercise, which integrates the many factors influencing ranch sustainability and which incorporates the use of decision-support tools to evaluate management strategies. Prerequisites: RANG 215, senior standing or instructor consent. Corequisites: RANG 485L-485. Cross-Listed: AS 485-485L.

RANG 491-591 - Independent Study Credits: 1-3
RANG 492-592 - Topics Credits: 1-4
RANG 494 - Internship Credits: 1-12
RANG 497 - Cooperative Education Credits: 1-12
RANG 510 - Grassland Monitoring and Assessment Credits: 2
RANG 520 - Watershed Management Credits: 3
RANG 530 - Ecology of Invasive Species Credits: 3
RANG 540 - Grassland Plant Identification Credits: 2
RANG 710 - Principles of Forage Quality Credits: 3

READ (Reading)

READ 41 - Reading for College Success Credits: 3
This course provides students with reading strategies necessary for making the transition to collegiate level reading. The course will present students with multiple strategies to promote comprehension skills, develop vocabulary and enhance metacognition to become strategic readers. This course will be required for students with ACT score in Reading at 17 or below (or a comparable COMPASS score).

RECR (Recreation)

RECR 100 - Introduction to Park and Recreation Credits: 1
Introduction to the discipline and exploration of professional careers, historical development of the profession, expectations and opportunities in park and recreation services.

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 Recreation (COM) Credits: 3
To introduce the student to recreation and leisure literature, philosophies, theories, history, basic concepts and professional organizations. This course offers an introduction to leisure from the viewpoint of the individual as a consumer and of agencies as providers. You can expect to better understand and appreciate the importance of leisure to your own and society's well being. Also, because leisure is a major industry in the world, the course provides an overview of the management of valuable recreation, park, sport and tourism resources. Notes: May be taught on demand.

RECR 202-202L - Outdoor Recreation Resource Management and Lab Credits: 3
Development and management of outdoor recreation areas and resources including planning, administration, and management practices as they relate to parks, forests, land and water resources, wildlands, and private areas. analysis of participation trends, opportunities, and resource supply. Corequisites: RECR 202L-202.

RECR 260 - Fundamentals of Recreation Leadership Credits: 3
Philosophy and interpretations of leadership as it relates to recreational activities.

RECR 300-300L - Park and Recreation Facility Management and Lab Credits: 3
Principles and practices of park and recreation operations and facility management including planning, fiscal and personnel management, regulations, liability, visitor safety and control, and the maintenance and protection of natural resources, equipment, and related indoor and outdoor facilities. Students will gain experience and demonstrate proficiency in written, oral and interpersonal communication. Prerequisites: RECR 101 and RECR 202. Corequisites: RECR 300L-300.

RECR 302 - Commercial Recreation and Tourism Credits: 3
Exploration of the commercial recreation and tourism aspects which have become the world's number one industry. Areas of examination include the history, trends, supply, demand, relationships to tourism, management, development and technical assistance in this rapidly expanding industry. Prerequisites: RECR 101 and RECR 202.

RECR 330 - Therapeutic Recreation (COM) Credits: 3
Theoretical and philosophical foundations of therapeutic recreation, behavioral, therapeutic use of activity; recreative interaction-intervention techniques, survey of major services and agencies.

RECR 342 - Recreational Sports Programs and Administration (COM) Credits: 3
Organization and administration of intramural sports on elementary, secondary, college, and university levels. Program planning, facilities, equipment and financing of intramural sports program. Notes: May be taught on demand.

RECR 350 - Recreational Facilities and Area Design (COM) Credits: 3
An introduction to the principles and practices of planning, financing, management and maintenance of recreation facilities.

RECR 360 - Recreation and Outdoor Programming Credits: 3
Development of the various methods, fundamentals, and materials using modern techniques needed for planning, developing, implementing, and evaluating recreation and outdoor programs for diverse populations in representative service areas.

RECR 362 - Recreation Across the Lifespan Credits: 3
Exploration of relevant issues affecting the role of recreation and leisure on human development and its impact on healthy fetal development from conception until death. Examination of the diverse, multicultural perspectives on recreation and leisure, its centrality throughout history and influence on how civilizations define themselves.

RECR 395 – Practicum Credits: 1-3

RECR 410 - Current Issues in Recreation Credits: 3
Individual reports and group discussions on recent research and management developments in recreation employment opportunities and procedures for employment. Taken before the internship. Prerequisites: Senior class standing.

RECR 415-515 - Recreation and Sport Facility Management Credits: 3
Advanced study of recreation and sport operations and facility management including planning and design, fiscal and personnel management (including fundraising), legal considerations, safety and control, maintenance, and equipment, as these relate to indoor and outdoor recreation/sport facilities.
REL (Religion)

REL 213 - Introduction to Religion * Credits: 3
An introduction to the academic study of religion, focusing on the variety of methods which can be used to facilitate discussion about religion issues in public and pluralistic setting. Notes: * Course meets SGR #4.

REL 224 - Old Testament * (COM) Credits: 3
Surveys the sources and development of the peoples and literature of the Old Testament. Notes: * Course meets SGR #4.


REL 237 - Religion in American Culture * Credits: 3
Examines both the diversity of religious expression and tradition found within American culture (from Adventism to Zen) and the impact of American culture upon those traditions. Religious dimensions of selected features of the American enterprise: popular culture; politics; construction of the landscape; war and peace; social conflict; race, ethnicity, and gender. Notes: * Course meets SGR #3.

REL 238 - Native American Religions * Credits: 3

REL 250 - World Religions * (COM) (G) 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 331 - Women and Religion Credits: 3
The course examines what women have to say about religion and what religions have to say about women, including a critical examination of traditional theological perspectives from the perspective of feminist theologians. Areas covered include women in the Bible, church history, and the contemporary church. Cross-Listed: WMST 331.

REL 353 - Geography of Religion 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 & 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 401-501 - History of Western Religious Thought I Credits: 3
This course surveys important issues in western religious thought from first century Christian origins through the "great medieval synthesis" of the thirteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon emergence and growth of Christian doctrine and ecclesiology. Cross-Listed: HIST 401.

REL 402 - History of Western Religious Thought II Credits: 3
This course surveys important issues in western religious thought from "great medieval synthesis" of the thirteenth century through the Reformation and Counter reformation of the sixteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian doctrine. Cross-Listed: HIST 402.

REL 454-554 - Environmental Ethics ** Credits: 3
Develops a basic framework for understanding the relationship of humanity with 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 454-554. Notes: ** Course meets IGR #2.

RUS (Russian)

RUSS 101 - Introductory Russian I (COM) Credits: 4
Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage.

RUSS 102 - Introductory Russian II (COM) Credits: 4
Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage. Prerequisites: RUSS 101.

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 201.

SE (Software Engineering)

SE 305 - Foundation 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. Corequisites: 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 320 - Software Requirements and Formal Specifications Credits: 3
This course covers formal methods applicable to software development with an emphasis on methods such as transformational techniques, logic-based formalisms, algebraic and model-based specifications. Prerequisites: SE 305 and CSC 300.

SE 330 - Human Factors and User Interface Credits: 3
This course covers the major frameworks, methods, and approaches to designing, engineering, implementing, and testing user interfaces. It also covers human-machine interaction, design requirements, task analysis, and implementation of the user-interface. Prerequisites: SE 305.
The fundamental building blocks and patterns for construction 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: SE 320.

SE 440 - Embedded Systems Credits: 3
This course focuses on modern methods, techniques, and tools for specification, design, and implementation of embedded systems. An overview of the platforms, tools, and processes used in developing software for embedded systems. A hands-on approach experimenting with real-time embedded systems programming. Prerequisites: SE 306, EE 347 and EE 348.

SE 464 - Senior Design I Credits: 2
This is a capstone senior design team project. Students will work as part of a team to develop solutions to problems posed by customers. The project may require considerable software development or evolution and maintenance of existing software products. Students will write the specifications and complete the initial design. Oral and written reports are required. Prerequisites: SE 306 and senior standing.

SE 465 - Senior Design II Credits: 2
The objective of this course is to produce, test and present the design specified in Senior Design I. Each team will deliver a final working product, formal software development documentation, and give a final presentation on the project. Prerequisites: SE 464.

SE 491 - Independent Study Credits: 1-5
SE 492-592 - Topics Credits: 1-5
SE 494 - Internship Credits: 1-3
SE 497 - Cooperative Education Credits: 1-5

SEED (Secondary Education)

SEED 314 - Supervised Clinical/Field Experience Credits: 1
Supervised students will observe and practice various teaching strategies in lab setting, middle schools, and high schools. Prerequisites: EDFN 338 or SEED 287 and EDFN 475. Corequisites: EPSY 302 and SEED 450.

SEED 400 - Curriculum and Instruction in Middle and Secondary Schools Credits: 4
Planning units and semester plans for use in student teaching. Includes goal-setting and evaluation/measurement methods. Admission to Professional Semester III. Required for Certification. Prerequisites: EDFN 338 or SEED 287 and EDFN 475, EPSY 302, SEED 314 and SEED 450, Corequisites: SEED 410 and SEED 488.

SEED 410 - Social Foundations, Management and Law Credits: 2
Focus on management strategies and models as vehicles for maintaining an effective learning environment. Law and foundations relevant to the classroom teacher. Admission to Professional Semester III. Required for Certification. Prerequisites: EDFN 338 or SEED 287 and EDFN 475, EPSY 302, SEED 314 and SEED 450, Corequisites: SEED 400 and SEED 488.

SEED 411 - 7-12 Speech Methods (COM) Credits: 2-3
Students develop and understanding of the tools of inquiry of 7-12 speech; 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 speech; the ability to assess student learning in 7-12 speech; and to apply these knowledge, skills, and attitudes to real life situations and experiences. Cross-Listed: SPCM 476.

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 418 - 7-12 Mathematics Methods (COM) Credits: 2-3
Students develop an understanding of the tools of inquiry of 7-12 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 7-12 math; the ability to assess student learning in 7-12 math; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

SEED 418L - 7-12 Mathematics Methods Lab Credits: 0
Corequisites: SEED 418.

SEED 420-420L - 5-12 Teaching Methods and Lab (COM) Credits: 2
This course is designed to provide general teaching methods and strategies for effective middle level and secondary education to prepare professionals for the 21st century who are caring, competent, and confident. It prepares prospective teachers to plan and develop instruction respecting learner differences as well as preparing appropriate methods for assessing student achievement. The nature of this course creates opportunities for prospective teachers to individualize the course content and learning activities to be responsive to the different education majors. The learning projects are built around the integration of technology, media, other instructional aids, and various resources relevant to the uniqueness of each content major. Corequisites: SEED 420L-420.

SEED 424 - 7-12 Language Arts Methods (COM) (AW) 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 - 7-12 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 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 Credits: 1-9
SEED 492-592 - Topics Credits: 1-5
SEED 493-593 - Workshop Credits: 1-3
SEED 496 - Field Experience Credits: 3-12
SEED 748 - Secondary Curriculum Practicum Credits: 1
SOC (Sociology)

SOC 100 - Introduction to Sociology *(COM) (G)* 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) (G)* Credits: 3
A study of present day problems in contemporary societies, such as racism, sexism, ageism, alcoholism, drug addiction, physical and mental health, war and environmental issues – their significance and current policies and action. Notes: * Course meets SGR #3.

SOC 240 - The Sociology of Rural America *(COM) (G)* 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 - Energy, Environment and Society Credits: 3
Course will use a sociological perspective to explore domestic and global production and use of energy and environmental consequences. Course will examine how trends in demographics, attitudes, technology, and global politics influence energy production and usage. Students will gain energy literacy by measuring their own energy usage, analyzing impacts of energy production, and completing an applied research project that investigates local energy usage and/or production.

SOC 250 - Courtship and Marriage *(COM) 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 interpersonal skills. Prerequisites: SOC 270.

SOC 286 - Service Learning Credits: 1-3
Opportunity to gain service learning and/or mentoring experience. Credit will not count toward credits for major or minor. (Limit of 4 credit hours.) Prerequisites: Major or minor, minimum GPA of 2.0 to enroll, SOC 100. Notes: Graded S/U.

SOC 307 - Research Methods I 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 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 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) (AW) 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 (COM) 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 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 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 402-502 - Social Deviance (COM) Credits: 3
This course examines the nature of negatively evaluated behaviors and the process by which customs, rules and normative structure of society are constructed. Prerequisites: SOC 100 or SOC 150.

SOC 403 - Sociological Theory (COM) Credits: 3
This is an introduction to the classics in social theory, various schools of social thought, and modern developments in the discipline. It also covers the major ideas of the classical and modern theorists, the social environment in which they wrote, and the implications of their contributions. Prerequisites: SOC 100 or SOC 150.

SOC 433-533 - Leadership and Organizations (COM) 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) (G) 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 (G) Credits: 3
An investigation of industrial societies with attention given to social trends creating industrialization, the development of organizations, the evolution of work-roles, international relations between industrial and non-industrial nations, and the future of industrial societies.

SOC 455-555 - Juvenile Delinquency (COM) Credits: 3
A study of the youthful offender and the causes and consequences of delinquent behavior; preventive and rehabilitation programs are also discussed. Prerequisites: SOC 100 or SOC 150.

SOC 456-556 - Community Corrections (COM) Credits: 3
An examination of the history of adult and juvenile treatment and punishment. Emphasis is upon contemporary community based treatment as well as traditional prison-based incarceration. The process of sentencing, particularly the role of the pre-sentence investigation (PSI) is covered. Special attention is devoted to internship and career possibilities in the corrections arena. Prerequisites: SOC 351.

SOC 460-560 - Advanced Criminology (COM) Credits: 3
An extensive examination of major criminological issues and theories including sociological definitions of crime. Prerequisites: SOC 351.

SOC 462-562 - Population Studies ** (COM) Credits: 3
A study of human populations with respect to size, distribution, and structure, with emphasis on theories of population growth and decline, population policies, and impacts on the environment. Prerequisites: SOC 100 or SOC 150. Notes: ** Course meets IGR #2.

Course Information 331

Students are advised to check for most current descriptions at: www.catalog.sdstate.edu
For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.
SOC 483 - Sociology of Gender Roles (COM) (G) 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 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 ICFSR. 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. Corequisites: SOC 403.

SOC 490 - Seminar Credits: 1-3

SOC 491 - Independent Study Credits: 1-3
Prerequisites: Written permission.

SOC 492 - Topics Credits: 1-3

SOC 494 - Internship Credits: 1-12
Prerequisites: Written permission.

SOC 496 - Field Experience Credits: 1-12
Prerequisites: Written permission.

SOC 497 - Cooperative Education Credits: 1-12
Prerequisites: Written permission.

SOC 701 - The Research Process Credits: 3
SOC 702 - Sociological Inquiry Credits: 3
SOC 709 - Evaluation Research Credits: 3
SOC 710 - Research Methods Credits: 3
SOC 711 - Qualitative Research Methods Credits: 3
SOC 712 - Sociological Theory I Credits: 3
SOC 713 - Sociological Theory II Credits: 3
SOC 714 - Race, Class, Gender Intersections Credits: 3
SOC 720 - Scholarship of Teaching & Learning for Sociologists Credits: 3
SOC 721 - Social Stratification Credits: 3
SOC 725 - Social Organization Credits: 3
SOC 740 - Rural Community Development Credits: 3
SOC 762 - Applied Demography Credits: 3
SOC 764 - Modern Demographic Theory Credits: 3
SOC 766 - World Population Issues Credits: 3
SOC 788 - Master's Research Problem/Project Credits: 1-3
SOC 790 – Seminar Credits: 1-4
SOC 791 - Independent Study Credits: 1-3
SOC 792 - Topics Credits: 1-6
SOC 794 – Internship Credits: 1-3
SOC 798 – Thesis Credits: 1-7
SOC 888D - Dissertation-PhD Credits: 1-12

SPAN (Spanish)

SPAN 101 - Introductory Spanish I * (COM) (G) 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) (G) 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 201 - Intermediate Spanish I **(COM) (G) 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 and ** IGR #2.

SPAN 202 - Intermediate Spanish II *** (COM) (G) Credits: 3
Continuation of 201 with more emphasis on using grammar structures in an interactive way. Further study of the Hispanic world. Students planning to major or minor in Spanish are encouraged to take 212 concurrently. Prerequisites: SPAN 201. Notes: * Course meets SGR #4 and ** IGR #2.

SPAN 211 - Intermediate Oral Practice I (COM) Credits: 2
Conversational work, oral reports. May be taken concurrently with SPAN 201 or SPAN 202. Prerequisites: SPAN 102.

SPAN 212 - Intermediate Oral Practice II (COM) Credits: 2
Conversational work, oral reports. May be taken concurrently with SPAN 202. Prerequisites: SPAN 102.

SPAN 296 - Field Experience Credits: 1-6

SPAN 308 - Spanish for the Health Professions Credits: 2-3
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: This course will require two years of college Spanish or written permission from the Department.

SPAN 310 - Practical Language Skills 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 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 concurrent.

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 310 or concurrent.

SPAN 350 - Spanish for Business Communication (COM) Credits: 3

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 356 - Service Learning 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 359 - Field Experience Credits: 1-6

SPAN 415 - Extensive Reading in Spanish Credits: 1
This course will allow students to do extensive reading at their own level and according to individual interests. The course will include writing, conversation and grammar review.

SPAN 433 - Spanish Civilization and Culture (COM) (AW) Credits: 3
Geography, history, politics, and arts of Spain.
**SPCM 435 - Latin American Civilization and Culture (AW) Credits: 3**
Geography, history, politics, and arts of Latin America. Prerequisites: SPAN 310.

**SPCM 437 - Topies in Film Studies (COM) 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.

**SPCM 443 - 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 310, SPAN 330 and another upper level Spanish course.

**SPCM 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.

**SPCM 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.

**SPCM 484 - 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.

**SPCM 486 - 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.

**SPCM 491 - Independent Study Credits: 1-3**

**SPCM 492 - Topics Credits: 1-3**

**SPCM 496 - Field Experience Credits: 1-6**

**SPCM 592 - Topics Credits: 1-4**

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**SPCM (Speech Communication)**

**SPCM 101 - Fundamentals of Speech *(COM) 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 and SGR #7.

**SPCM 109 - First Year Seminar - Communication Studies and Theatre **Credits: 2**
First-year seminar course designed to introduce students to academic success strategies including the development of critical thinking and study skills, identification of campus resources, guidance in academic planning and engagement, time management and goal setting. Students will also investigate wellness topics, contemporary issues, diversity, and the land-grant mission of SDSU. In addition, this course is designed to expose students to the discipline-specific careers and their role in society. Notes: **Course meets IGR #1.

**SPCM 201 - Interpersonal Communication (COM) Credits: 3**
Studies modes of interpersonal communication through readings, and experiential discussions of the role of interpersonal communications in common situations within our society.

**SPCM 205 - Communication Studies Credits: 3**
An overview of the communication discipline, theory, and practice. Prerequisites: Advanced Placement in Speech or consent.

**SPCM 215 - Public Speaking (COM) * 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.

**SPCM 222 - Argumentation and Debate (COM) Credits: 3**
Explores arguments as a communication activity, construction sound arguments in a variety of venues and analyzing the contribution of argument to public dialogue on contemporary issues.

**SPCM 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.

**SPCM 305 - Communication Research (COM) (AW) 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.

**SPCM 320 - Communication in Interviewing (COM) Credits: 3**
Provides an in-depth study of the interviewing process, including information gathering, persuasion, appraisal, and employment interviews, emphasizing theoretical knowledge from the perspectives of both the interviewer and interviewee, as well as skill development in interviewing techniques.

**SPCM 340 - Oral Interpretation of Literature (COM) Credits: 3**
Examines the theory and practice of the performance of texts, the artistic, aesthetic, and carefully considered sharing of our personal understanding of literary selection, involving analysis, planning, rehearsing, and effective sharing of meaning with an audience.

**SPCM 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.

**SPCM 410-510 - Organizational Communication (COM) Credits: 3**
Explores communication processes in organizational contexts, theories of leadership, decision making and conflict, the application of principles that facilitate communication in organizations, and other selected topics.

**SPCM 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.

**SPCM 416-516 - Rhetorical Criticism (COM) Credits: 3**
Evaluates American speakers from colonial to contemporary times.

**SPCM 417 - Political Communication (COM) Credits: 3**
Studies the rhetoric of selected political figures, movements, and campaigns that have changed lives and culture. Students develop an understanding of rhetorical strategies and their cultural impact within public life.

**SPCM 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.

**SPCM 440-540 - Health Communication (COM) Credits: 3**
This course will examine the contexts and processes of communication about health, focusing on how professionals, patients, and practitioners interact in ways that constitute and influence health and medicine.

**SPCM 441-541 - Health Communication Research Methods Credits: 3**
Creation of evidence-based communication interventions to address the health needs of communities. The course requires students to identify contemporary health needs, select appropriate forms of health communication intervention, develop intervention messages and create a plan for assessing effectiveness of interventions. Students will also learn how to collect, analyze and interpret data using techniques such as surveying, interviewing, and moderating focus groups.

**SPCM 460 - Family Communication (COM) Credits: 3**
Studies systems of relational communication in a variety of family contexts, with particular emphasis on stability, continuity and change. The role of family in personal, social, cultural development is studied, as well as changing family dynamics of power, myth, ritual, and connection.

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Students are advised to check for most current descriptions at: www.catalog.sdstate.edu
For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.
An in-depth, cumulative study of the theory, research and methods in the
SPCM 465 - Capstone Course in Speech Communication Credits: 3
principles and practices of portfolio and resume building. 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.

SPCM 470 - Intercultural Communication (COM) (G) Credits: 3

SPCM 476 - 7-12 Speech Methods (COM) Credits: 3
This travel study course is designed to provide extra-mural educational
opportunities, approved and directed by a faculty member in Communication Studies. It may be in cooperation with faculty and administrators of
other institutions. Students will be involved in hands-on activities and design
educational activities for presentation at selected locations as well as SDSU. Includes pre-travel orientation, post travel self-evaluation, and a written report.

SPCM 491-591 - Independent Study Credits: 1-3
SPCM 492-592 - Topics Credits: 1-5
SPCM 494 - Internship Credits: 1-12
SPCM 501 - Advanced Interpersonal Communication Credits: 3
SPCM 605 - Current Approaches to Communication Credits: 3
SPCM 700 - Instructional Methods in Communications (COM) Credits: 3
SPCM 701 - Introduction to Graduate Studies (COM) Credits: 3
SPCM 787 - Research Methods in Speech Communication Credits: 3
SPCM 791 - Independent Study Credits: 1-2
SPCM 792 - Topics Credits: 1-3
SPCM 798 - Thesis Credits: 1-7

SPED (Special Education)

SPED 300 - Students With Exceptionalities (COM) Credits: 3
Characteristics and needs of exceptional individuals including review of
special education legislation and special methods focusing on elementary level students with special needs.

SPED 405 - Educating Secondary Students with Disabilities (COM) Credits: 2
An introduction to the entire field of education for children with exceptional
needs and is required by all middle school and secondary school majors. Students will identify etiology, classification, and educational programming
practices for individuals with any identified disabilities. Students will also
determine which local, state, and national administrative and legislative
provisions support children with these conditions. Computerized IEP forms
and other productivity tools will be reviewed.

STAT (Statistics)

STAT 281 - Introduction to Statistics * (COM) 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 102 or MATH 115 or MATH 120 or
MATH 121 or MATH 123 or MATH 125. Notes: * Course meets SGR #5.

STAT 284 - Biostatistics for the Health Sciences 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, all in the context of the health
sciences and practice. Prerequisites: MATH 121 and permission of instructor,
or MATH 123 and permission of instructor.

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 410-510 - SAS Programming I Credits: 3
Base SAS language and procedures for accessing data, manipulating data,
creating data structures, managing data, producing graphs, producing reports,
and error handling.

STAT 412 - SAS Programming II Credits: 3
Accessing data using SQL, macro processing, advanced programming
techniques including hash objects and array processing, and data simulation.
Prerequisites: STAT 410-510.

STAT 414-514 - 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, programming basics, and additional selected
advanced topics. Prerequisites: CSC 150 (required for undergraduates only).

STAT 435-535 - Applied Bioinformatics Credits: 3
This practical course is designed for students with biological background to
learn how to analyze and interpret genomics data. Topics include finding
online genomics resources, BLAST searches, manipulating/editing and
aligning DNA sequences, analyzing and interpreting DNA microarray data,
and other current techniques of bioinformatics analysis. Prerequisites: STAT 281 or STAT 381.

STAT 441-541 - Statistical Methods II Credits: 3
Analysis of variance, various types of regression, and other statistical
techniques and distributions. Prerequisites: STAT 281 or STAT 381.

STAT 445-545 - Nonparametric Statistics 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.

STAT 451-551 - Predictive Analytics I Credits: 3
Introduction to Predictive Analytics. This course will examine the
fundamental methodologies of predictive modeling used in financial and
predictive modeling such as credit scoring. Topics covered will include
logistic regression, tree algorithms, customer segmentation, cluster analysis,
model evaluation, and credit scoring. Prerequisites: STAT 482-582 or STAT 786.

STAT 460-560 - Time Series Analysis Credits: 3
Statistical methods for analyzing data collected sequentially in time where
successive observations are dependent. Includes smoothing techniques,
decomposition, trends and seasonal variation, forecasting methods, models for
time series: stationarity, autocorrelation, linear filters, ARMA processes, non-
stationary processes, model building, forecast errors and confidence intervals.
Prerequisites: STAT 482-582.

STAT 482-582 - Probability and Statistics II Credits: 3
Introduction to statistical design, one-way completely randomized design,
testing contrasts and multiple comparison procedures, simple and multiple
linear regression, factorial designs, fractional factorial designs and mixed
models. SAS software is used extensively. Prerequisites: MATH/STAT 381.

STAT 491-591 - Independent Study Credits: 1-3
STAT 492-592 - Topics Credits: 1-5
STAT 700 - Statistical Programming Credits: 3
STAT 701 - Modern Applied Statistics I Credits: 3
STAT 702 - Modern Applied Statistics II Credits: 3
STAT 715 - Multivariate Analysis I Credits: 3
STAT 721 - Statistical Computing and Stimulation Credits: 3
STAT 731 - Biostatistics Credits: 3
STAT 736 - Bioinformatics Credits: 3
STAT 742 - Spatial Statistics Credits: 3
STAT 751 - Predictive Analytics II Credits: 3
STAT 756 - Quantitative Genetics Credits: 3
STAT 760 - Quality Control Credits: 3
STAT 761 - Design of Experiments I Credits: 3
STAT 784 - Statistical Inference I Credits: 3
STAT 785 - Statistical Inference II Credits: 3
STAT 786 - Regression Analysis I Credits: 3
STAT 787 - Research Paper Credits: 1-2
STAT 791 - Independent Study Credits: 1-3
STAT 792 - Topics Credits: 1-3
STAT 798 - Thesis Credits: 1-7

THEA (Theatre)

THEA 100 - Introduction to Theatre * (COM) 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 131 - Introduction to Acting * (COM) Credits: 3
Designed for the non-major interested in exploring acting as a means of improving communication skills and self-expression. Includes specific process for role development, text analysis, and opportunities to practice the craft and art of acting. Notes: * Course meets SGR #4.

THEA 135 - Theatre Activities-Acting Credits: 1
Credit earned by active participation in acting roles. May be repeated for a total of 8 credits. Prerequisites: Consent.

THEA 145 - Theatre Activities-Technical Credits: 1
Credit earned by backstage and crew work. May be repeated for a total of 8 credits. Prerequisites: Consent.

THEA 191 - Independent Study Credits: 1
Prerequisites: Instructor and department chair consent.

THEA 240 - Stage Costuming (COM) Credits: 3
Introduction to the equipment, materials, and techniques of theatrical costuming. Includes practical projects in the use of stitching techniques, pattern making, fabric modification, and costume crafts.

THEA 241-241L - Stagecraft and Lab (COM) Credits: 3

THEA 243 - Make-Up (COM) Credits: 3
Principles of theatrical makeup techniques, including character analysis and practical application.

THEA 250 - Play Analysis Credits: 3
Study and application of principles of play analysis and production conceptualization.

THEA 351 - Directing (COM) Credits: 3
Introduction to the techniques and concerns of the stage director, including composition, movement, and tempo-rhythm. Script analysis and scene presentation form the core of the course.

THEA 355 - Children's Theatre (COM) Credits: 3
Children's theatre is an art form. Students become proficient in organization, design, and presentation of a children's theatre program.

THEA 361 - Literature and History of the Theatre I (COM) Credits: 3
Literature and History of the Theatre I is a comprehensive study of the patterns of development in theatre arts, and consideration of the social, political, and economic conditions in which theatre has functioned. Lectures and class discussions will concentrate on literature and history from primitive man through the Realistic period.

THEA 364 - Literature and History of the Theatre II (COM) (AW) Credits: 3
Literature and History of the Theatre II is a comprehensive study of the patterns of development in theatre arts, and consideration of the social, political, and economic conditions in which theatre has functioned. Lectures and class discussions will concentrate on literature and history from the Realistic period through Modern periods.

THEA 375 - Theatre Arts Management Credits: 3
Emphasis on theory and practice of Arts Management as an important feature of the Theatre Arts discipline. Students will become proficient in the organization, promotion, budgeting, and operation of a performing arts program.

THEA 435 - History of American Musical Theater (COM) Credits: 3
History and development of American musical theatre from 1866 to the present.

THEA 441 - Scene Design (COM) Credits: 3
Principles and practices of scenic design, including the scenic image, movement patterns, color, form, and rendering techniques.

THEA 443 - Costume Design Credits: 3
Principles and practices of costume design, including the fundamentals of play analysis as applied to character statement, historical research, and rendering technique.

THEA 445-445L - Lighting and Lab (COM) Credits: 3
Basic principles and practices of lighting design, including basic electricity, script analysis, color, and directionality. Lab accompanies THEA 445. Corequisites: THEA 445L-445.

THEA 452 - Stage Management (COM) Credits: 3
Study of the principles and systems of stage management, with particular emphasis placed upon developing effective organizational tools and communication techniques. Practical application of stage management skills in University Theatre productions.

THEA 455 - Advanced Acting (COM) Credits: 3
Textual analysis, movement and acting styles for the theatre.

THEA 470 - Portfolio and Resume Building Credits: 3
Principles and practices of portfolio and resume building for acting and technical theatre.

THEA 480 - Summer Theatre (COM) Credits: 1-5
Credit earned by participation with Prairie Repertory Theatre Company. May be repeated to a total of 10 credits, but only 5 may be applied to a minor. Prerequisites: Consent.

THEA 491 - Independent Study Credits: 1-3
Prerequisites: Instructor and department chair consent.

THEA 492 - Topics Credits: 1-5

THEA 494 - Internship Credits: 1-16
Prerequisites: Instructor consent.

THEA 791 - Independent Study Credits: 1-2

UC (University College)

UC 101 - Strategies for Academic Success Credits: 1
UC 101 is an early intervention course designed to assist students who have been readmitted following suspension to achieve greater success. Through utilization of strategies which strengthen skills required for academic, professional, and personal accomplishments, the course will empower students to become proactive, responsible self-advocates for their academic careers and personal goals.

UC 102-102L - Exploratory Studies and Lab Credits: 2
This course provides guidance and experiences in decision-making, self-assessment, academic exploration and career planning for students who are uncertain of their choice of major and are in the Exploratory Studies program. Both lecture and lab experiences are included with the goal of student selection of a major by the end of the first-year of study.

UC 109 - 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. Notes: ** Course meets IGR #1.
UC 143 - Mastering Lifetime Learning Skills Credits: 2
Instruction to enhance learning in a college environment and throughout life. Topics include organizational and time management skills, strategies to improve learning, a recognition of learning styles and creating positive learning environments.

UC 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.

UC 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 student 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).

UC 291 - Independent Study Credits: 1-3

UC 299 - Transition Year Seminar Credits: 2-3
Transition-year seminar course is designed to assist returning students (non-traditional, adult and transfer) with transitioning to the university. The course will address academic success strategies, identification of university resources, guidance in academic planning and engagement, on-going time management and goal-setting. Students will also further investigate wellness topics, contemporary issues, diversity and the land-grant mission of SDSU.

UC 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: UC 282 and written consent (must be employed as a tutor at SDSU).

UC 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 mentor and student responsibilities, confidentiality, leading tutoring sessions, communication skills, learning styles, tutoring diverse student populations, study skills, and tutoring skills. Prerequisites: UC 282 and written consent (must be employed as a tutor at SDSU).

UC 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.

**VET (Veterinary Science)**

VET 103 - 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.

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 199 - First Year Seminar - Pre-Veterinary Medicine 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, including academic and professional goals. 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 veterinary-related careers and their role in society, and the process of gaining entrance to colleges of veterinary medicine.

VET 223-223L - Anatomy and Physiology of Domestic Animals and Lab Credits: 4
This course will familiarize students with the anatomical structures and physiological functions of the organ systems of domestic animals. Similarities in the structure and function of organ systems of various domestic animals will be emphasized. Prerequisites: CHEM 108 or CHEM 120 or CHEM 326. Corequisites: VET 223L-223L.

VET 403-503 - 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.

VET 424-524 - Medical and Veterinary Virology Credits: 3
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Prerequisites: MICR 433. Cross-Listed: MICR 424-524.

VET 476-576 - Advanced Mammalian Physiology Credits: 4
An advanced study of the physiological mechanisms utilized by mammals to regulate body functions with the nervous and endocrine systems, to acquire and use chemical energy from their environment, and to integrate the functions of the organ systems to maintain the health of the animal. Emphasis is placed on applying physiological concepts and principles to solve problems. Previous courses in anatomy, physiology, and biochemistry are recommended. Prerequisites: BIOL 221 or VET 223 or instructor written consent. Cross-Listed: BIOL 476-576.

VET 491-591 - Independent Study Credits: 1-3

VET 492-592 - Topics Credits: 1-3

VET 493 - Workshop Credits: 1-4

VET 494 - Internship Credits: 1-12

VET 496 - Field Experience Credits: 1-12

VET 497 - Cooperative Education Credits: 1-12

VET 498 - Undergraduate Research/Scholarship Credits: 1-4

VET 788 - Master's Research Problems Credits: 1-3

VET 791 - Independent Study Credits: 1-4

VET 792 - Topics Credits: 1-3

VET 793 - Workshop Credits: 1-4

**WEL (Wellness)**

WEL 100-100L - Wellness for Life and Lab (COM) Credits: 2
This course introduces the importance and holistic nature of the six dimensions of personal wellness and fitness. The course will provide the necessary knowledge and skills to make informed decisions which will lead to the development of a healthy lifestyle. Various issues related to the dimensions of wellness will be discussed. Students will have the opportunity to assess their current health status and identify potential risk factors. This laboratory experience applies wellness concepts taught in WEL 100 lecture. Students will gain a level of understanding about one's personal fitness level as well as learn a variety of skills to enhance personal wellness. Corequisites: WEL 100L-100.

**WL (Wildlife & Fisheries Sciences)**

WL 190 - Seminar: Opportunities Credits: 1

WL 220 - Introduction to Wildlife and Fisheries Management Credits: 3
An introduction to the basic principles used in the management of wildlife and fish populations, their habitats, and their human users. The course is directed toward the presentation of general concepts that are integral to understanding the discipline.
WL 230 - Wildlife and Fisheries Techniques Credits: 3
Techniques involved with the collection and analysis of wildlife and fish population and habitat information and data analysis are the primary contents of the course. Prerequisites: WL 220.

WL 291 - Independent Study Credits: 1-3

WL 302 - Animal Behavior (COM) Credits: 3
Animal behavior from many aspects, including communication, social organization, orientation, imprinting, courtship and mating, agonistic behavior, control systems, and the evolution of behavioral patterns. Prerequisites: BIOL 101 or BIOL 151.

WL 355-355L - Mammalogy and Lab (COM) Credits: 3
Identification of game, fur bearing, and small mammals; taxonomy of these groups, life histories and habits, preparation of study skins and skeletons; special reference to those occurring in Northern Great Plains area. Laboratory experience that accompanies WL 355. Prerequisites: BIOL 101 or BIOL 151. Corequisites: WL 355L-355.

WL 361 - Survey of Amphibians and Reptiles Credits: 2
This course provides an overview of amphibians and reptiles; lecture topics will primarily focus on life history with some information provided on identification. Prerequisites: BIOL 101-101L or BIOL 151-151L.

WL 363-363L - Ornithology and Lab(COM) Credits: 4
Identification of bird species; life histories, ecology, habits, and special structural and physiological adaptations of various groups. Laboratory experience that accompanies WL 363. Prerequisites: BIOL 311/NRM 311. Corequisites: WL 363L-363.

WL 367-367L - Ichthyology and Lab Credits: 3
Characteristics and relationships of fishes; adaptations, behavior, ecology, evolution, systematics, and zoogeography of fishes; and, identification and life histories of fishes. Corequisites: WL 367L-367.

WL 400-400L - Habitat Conservation and Restoration/Lab Credits: 3
An introduction to major land-use practices, how these practices and conservation programs influence wildlife production, and alterations or manipulations of habitat to achieve specific wildlife conservation goals. Emphasis will be placed on how the management of other resources can be integrated with those of wildlife. Prerequisites: WL 220 and WL 230. Corequisites: WL 400L-400.

WL 411-411L - Principles of Wildlife Management and Lab Credits: 3
Application of ecological principles of the management of wild birds, mammals, and herps. History and development of wildlife management as a science; characteristics of and factors affecting wildlife populations; techniques and theories of management; and, wildlife conservation. Prerequisites: WL 363-363L and WL 355-355L. Corequisites: WL 411L-411.

WL 412-412L - Principles of Fisheries Management and Lab Credits: 3
Fisheries management as a science with an emphasis on freshwater fishes and ecosystems. Emphases include biota, habitat, and human management. Prerequisites: WL 220, WL 230, or department written consent. Corequisites: WL 412L-412.

WL 415-415L/515-515L - Upland Game Ecology & Mgmt & Lab Credits: 3
Upland game birds and mammals as components of ecosystems. Effects of farming; industry; social change; technology; and, federal, state, and private programs on game and non-game species. Techniques for individual species management. Prerequisites: WL 363-363L. Corequisites: WL 415L-415L/515L-515L.

WL 417-417L/517-517L - Large Mammal Ecology & Mgmt & Lab Credits: 3
Large mammal life histories and distributions. Relationships of nutrition, reproduction, interspecific competition, and predation to management of large mammal habitats and harvest. Techniques for research and management of large mammals. Prerequisites: WL 355-355L. Corequisites: WL 417L-417L/517L-517L.

WL 419-419L/519-519L - Waterfowl Ecology & Mgmt & Lab Credits: 3
Analysis of ecological and socio-economic factors affecting waterfowl habitats and populations. State and federal programs affecting wetland drainage and preservation. Field inspection of waterfowl habitats in the north-central states. Prerequisites: Department written consent for WL 419 only. Corequisites: WL 419L-419/519L-519L.

WL 420-420L - Wildlife Law & Enforcement & Lab Credits: 3
Evolution of laws relating to fish and wildlife, enforcement of wildlife law, federal versus state jurisdiction, types of violations, tribal fishing and hunting rights, and other topics. Guest speakers from state, federal, and local law enforcement agencies. Prerequisites: WL 220 and WL 230. Corequisites: WL 420L-420L. Notes: Offered Fall semester on even numbered years.

WL 421-521 - Grassland Fire Ecology Credits: 3
The course is designed to describe the ecological effects of fire on grassland ecosystem components, from soil and vegetation to wildlife and cattle. It also provides insight into the history of fires, the people who use them and why, the parts of a fire, how fires behave in relation to fuel and weather, and the procedures for safely conducting prescribed burns. Cross-Listed: RANG 421-521.

WL 425-525L/525-525L - Wildlife Nutrition & Disease & Lab Credits: 3
Emphasis is placed on nutrient requirements and acquisition, conditions and characteristics of important diseases, and their management implications. Focal areas include the biochemical, physiological, and ecological bases for studying nutrition and disease; nutrition and disease relationships to wildlife and habitat; protein, energy, vitamin, and mineral requirements and their relationships to diseases; and strategies for satisfying nutritional requirements. Prerequisites: Department written consent for WL 425 only. Corequisites: WL 425L-425L/525L-525L.

WL 427-427L/527-527L - Limnology of Lakes & Streams & Lab Credits: 4
Physical, chemical, and biological characteristics of lentic and lotic freshwater ecosystems. Analysis of and methods for quantifying processes that function in freshwater ecosystems. Prerequisites: Department written consent. Corequisites: WL 427L-427L/527L-527L.

WL 429-429L/529-529L - Fish Ecology and Lab Credits: 2
Study of fish as an organism and the interrelations of fish with other organisms and with the environment. Prerequisites: Department written consent. Corequisites: WL 429L-429L/529L-529L.

WL 430-430L - Human Dimensions in Wildlife & Fisheries & Lab (G) Credits: 3
Interactions among various stakeholders, resource management agencies, and the wildlife and fisheries resources are studied. Topics such as public attitudes and expectations; agency structure, administration, and policy; tangible and intangible values of fishes, wildlife, and their habitats; the concept of biophilia as motivation for resource use; public relations; the philosophy and ethics of resource use and management, and wildlife and fisheries law and its enforcement are included. Corequisites: WL 430L-430L.

WL 431-431L - Advanced Fisheries Management and Lab Credits: 2
Management of small, public, and private water bodies through manipulation of habitat, organisms, and human users. The course will address water body design and construction, limnology, water quality, biological production, fish management, troubleshooting, and pond opportunities. Prerequisites: WL 412. Corequisites: WL 431L-431L.

WL 440-440L - Fisheries and Wildlife Biometrics and Lab Credits: 2
Analysis and interpretation of fisheries and wildlife data that relate to assessment of research and management activities. Computer software application will be stressed. Prerequisites: STAT 281 or department written consent. Corequisites: WL 440L-440.

WL 490 - Seminar Credits: 1
WL 491 - Independent Study Credits: 1-3
WL 492-492L/592-592L - Topics and Lab Credits: 1-3
WL 494 - Internship Credits: 1-12
WL 496 - Field Experience Credits: 1-12
WL 497 - Cooperative Education Credits: 1-12
WL 712-712L - Wetland Ecology and Management and Lab Credits: 3
WL 713-713L - Animal Population Dynamics and Lab Credits: 3
WL 715-715L - Wildlife Research Design and Lab Credits: 3
WL 717-717L - Aquatic Trophic Ecology and Lab Credits: 3
WL 718-718L - Ecology of Aquatic Invertebrates and Lab Credits: 3
WL 719-719L - Stream Ecology and Management and Lab Credits: 3
WL 720-720L - Quantitative Fisheries Science and Lab Credits: 3
WL 722-722L - Natural Resource Policy & Admin. & Lab Credits: 3
WL 723-723L - Fisheries Ecology & Mgmt & Lab Credits: 3
WL 790 - Seminar Credits: 1
WL 791 - Independent Study Credits: 1-3
WL 792 - Topics Credits: 1-3

Course Information 337

Students are advised to check for most current descriptions at: www.catalog.sdstate.edu For x9x common course descriptions (for example 390, 490, 491, 492) see pages 246-247.
WMST (Women's Studies)

WMST 101 - Introduction to Women's Studies * ** Credits: 3
Exploration of women's issues in both historical and contemporary contexts, including introduction to feminist theory. Notes: * Course meets SGR #3 or ** IGR #2.

WMST 248 - Women in Literature * ** (COM) 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 or ** IGR #2.

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: AM 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 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 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 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 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 350 - Women in World History Credits: 3
This course will investigate the role of women in the history of the world beyond the US. 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 350.

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. Notes: ** Course meets IGR #2.

WMST 392 - Topics Credits: 3

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: SPCM 415.

WMST 419-519 - Women in Media Credits: 3
This course examines contributions of women to the mass media from colonial era to present. It also studies the portrayal of women by the news media and in advertising, and it studies the roles currently played by women in the media and in supporting areas of advertising and public relations. Cross-Listed: MCOM 419-519.

WMST 420 - International Women's Issues Credits: 3
A seminar on how the news media cover (or fail to cover) personal, social, political, and economic issues important to women across the world.

WMST 483 - Sociology of Gender Roles (G) 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 Credits: 1-4
Prerequisites: WMST 101.

WMST 492-592 - Topics Credits: 3

338 Course Information
Student Services and Campus Facilities

Agricultural Experiment Station
Alumni Association
Animal Disease Research & Diagnostic Laboratory
Extension
Crime Reports
Diversity, Equity, & Community Office
American Indian Education & Cultural Center
Endowed Chairs
Environmental Health & Safety Office
Facilities and Services
Fees
Tuition, Living, & Other Expenses
Refunds
Financial Assistance
Foundation, SDSU
Geographic Information Sciences Center of Excellence
Information Technology Office
Intercollegiate Athletics
International Affairs Office
Library, Hilton M. Briggs
Logos, Seals, Caricatures, Wordmarks
McCrory Gardens
Museums/Collections
Print Lab
Student Affairs
Admissions
Dean of Students
Dining Services
Enrollment Services
Multicultural Center & Student Support Services
Residential Life
The Union
Wellness Center
Teaching & Learning Center
University Marketing & Communications
Water & Environmental Engineering
Research Center
Water Resources Institute
Agricultural Experiment Station

The Agricultural Experiment Station is one of three activities at SDSU that define the Land-Grant University. The mission of the South Dakota Agricultural Experiment Station (SDAES) is to conduct research to enhance the quality of life in South Dakota through the beneficial use and development of human, economic, and natural resources.

Serving as South Dakota's Land-Grant Institution, SDSU is home to the premier research programs in the state. Research programs in SDAES directly support the teaching programs offered in the College of Agriculture and Biological Sciences and the educational programs delivered by the SD Cooperative Extension Service (SDCES). The SDAES extends the reach of the University through multi-state programs shared with other Land-Grant institutions that bring objective answers home to all South Dakotans. With an enduring mission of practical research, SDAES serves agriculture, enhances the quality of life, and brings economic development to South Dakota.

Research priorities are based in several theme areas relevant to South Dakota agriculture, including: biostress, agricultural production, natural resources and conservation, biotechnology, and biobased energy and industries.

SDAES provides a base of new knowledge and service to South Dakotans. This new knowledge is effectively used by farmers, ranchers, homemakers, industry, classroom instructors, and Extension educators throughout the state. Courses in the College of Agriculture and Biological Sciences and in the College of Education and Human Sciences are especially strengthened by this new knowledge.

Much of the SDAES research is done at Brookings; however, a considerable amount is conducted at several field stations and at the West River Agricultural Research Extension Station at Rapid City. The field stations are maintained to conduct research designed to solve local or special problems. Beyond this, research on farms and ranches, in wildlife areas, in watersheds and with cooperating businesses and institutions results in scientific investigation being conducted in nearly every county of the state.

Research may be grouped in the following subject matter areas: livestock, crops and soils, community and public affairs, animal health, fertilizers, garden and orchard, home and consumer, water resources and irrigation, forestry, insects, farm machinery, marketing, business management, farm buildings, pollution, range and forages, fisheries, wildlife, sociology, and stress in plants, animals, and humans. Much of the research is integrated through the Biostress Mission.

Research is financed by State and Federal appropriations, industry grants, and Federal and State grants. Research results are published in Agricultural Experiment Station or Extension bulletins, scientific journals, and a quarterly publication, Farm and Home Research. Many of these publications are available from Extension Offices or the Experiment Station Bulletin Room on campus.

For information contact the Director, Daniel Scholl, Agricultural Experiment Station, SDSU, Box 2207, Brookings, SD 57007-0291, phone 605-688-4149 or e-mail: sdsu.agexperimentstation@sdsstate.edu.

Alumni Association

The SDSU Alumni Association is an independent, not-for-profit corporation. This non-dues association welcomes all graduates, former students, faculty, staff, friends of South Dakota State, as well as students, as members. The Alumni Association strives to direct and/or participate in an organized cooperative effort for the advancement, development, achievement, and honor of both South Dakota State University and its more than 75,000 alumni. Each year the Alumni Association directs and/or participates in more than 125 events both on and off campus and publishes STATE Magazine which is distributed to their members at no cost. The Alumni Association can be reached at 605-697-5198, alumni@statealum.com or Box 515, Brookings, SD 57007. Or visit the web site at www.statealum.com.

Animal Disease Research and Diagnostic Laboratory

The South Dakota Animal Disease Research and Diagnostic Laboratory (ADRDL) is a public service laboratory that is totally integrated with the Veterinary and Biomedical Sciences Department. Career service personnel, professional diagnosticians and faculty operate the lab. The faculty is actively involved with the traditional roles of service (professional outreach), research and teaching/advising. State general funds and user fees pay for the Laboratory's operation. The Laboratory is a reference lab and only receives cases by referral from veterinarians or state officials. The ADRDL mission is to provide high quality veterinary diagnostic services and research as a means to promptly and accurately establish causes of animal health problems. Such diagnoses will aid attending veterinarians and health officials in the treatment, control, prevention, and surveillance of animal diseases to the benefit of the SD livestock industry, other animal owners, and society at large. The ADRDL is fully accredited by the American Association of Veterinary Laboratory Diagnosticians and is a member of the USDA National Animal Health Laboratory Network (NAHLN), as well as the Food Emergency Response Network (FERN). It is a select agent registered facility. The Director, Jane Christopher-Hennings, can be contacted at 605-688-5172 or by e-mail: jane.hennings@sdsstate.edu.

Extension

SDSU Extension provides an off campus informal educational function of SDSU and encompasses the following broad areas of programming: Agriculture, Family, Youth, and Communities. The mission of SDSU Extension is to disseminate and encourage the application of research-generated knowledge and leadership techniques to individuals, families, and communities in order to improve agriculture and strengthen the South Dakota family and community.

Through the work of field specialists, SDSU Extension disseminates the findings of research and encourages the application of knowledge for solutions of problems and for opportunities encountered in everyday living. Much of the economic progress of families and communities can be traced to this unique type of non-formal, out-of-classroom learning opportunity provided to them for nearly 100 years by SDSU in cooperation with the U.S. Department of Agriculture and county governments.

The Extension staff is dedicated to assisting individuals and groups meet the challenges of change in farming, ranching, marketing, the home, community, state, and nation. The press, radio, TV, satellite, interactive audio-visual, the Internet, educational publications, group methods and individual contacts are used to inform and teach. Students are encouraged to become acquainted with the staff on campus and take advantage of the information available in Extension publications to enrich their course of study. Extension also offers rewarding career opportunities for graduates in agriculture, family and consumer sciences, natural resources, and other social sciences.

340 Student Services & Campus Facilities
South Dakota State University publishes an annual security report each fall in compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crimes Statistics Act. The report which describes policies, enforcement, statistics, and prevention information programs is distributed to all staff and students by emailed link to www.sdstate.edu/safety. The crime report is also available upon request from the University Police Department.

**Office for Diversity, Equity and Community**

The purpose of the Office of Diversity Enhancement is to promote diversity in all its aspects by advising the university community, developing and implementing diversity enhancement programming, facilitating minority student recruitment and minority faculty and staff recruiting, and working to eliminate discrimination at SDSU. Diversity is defined as a stimulating environment generated by a variety of perspectives, opinions, values, knowledge, ideas, and personal histories represented on campus by people and programs. This variety is expressed through, but is not limited to, differences in ethnicity, race, gender, national origin, religion, sexual orientation, ability, class, and age.

South Dakota State University is committed to maintaining an environment which respects dignity and encourages members of the campus community to achieve their maximum potential, free from discrimination and harassment. Students and staff are encouraged to contact the Director of Diversity Enhancement with suggestions and recommendations for diversity programming and questions or concerns relating to diversity issues on campus. For more information contact the Office for Diversity, Equity and Community at 605-688-6556 or go online to http://www.sdstate.edu/ode/.

**The American Indian Education and Cultural Center**

Since its founding in 2010, the American Indian Education and Cultural Center (AIECC) at South Dakota State University (SDSU) houses the American Indian Student Services (AISS) and American Indian Studies (AIS) programs, and remains as the nexus of cultural programming, services and advocacy that supports the recruitment, transition, retention, persistence and graduation of American Indian students. Together, AISS and AIS actively promote access to higher education and community resources, seeks to increase cross cultural engagement, encourages the appreciation of cultural and human differences, and advocates for the respectful inclusion of Indigenous knowledge. Thus, AISS and AIS assists the University community in understanding the relevance, efficacy and the strength of the American Indian experience. The AIECC staff is comprised of scholars and student affairs professionals devoted to strengthening relationships with, and among, the students, staff, and faculty of SDSU, and the tribal nations of South Dakota.

**Endowed Chairs**

An endowed chair is a prestigious faculty position supported entirely by private contributions. Individuals appointed to serve in such positions will be renowned in their fields of expertise and will add a special dimension of quality to the academic environment at South Dakota State University.

**Nutrition**

An endowment fund established by the late Dr. Ethel Austin Martin, a 1916 SDSU graduate, has, for two decades, maintained an ongoing program of visiting professorships in human nutrition and now supports in perpetuity an endowed chair entitled the Ethel Austin Martin-Edward Moss Martin Chair of Human Nutrition.

The Chair of Human Nutrition was established at SDSU to ensure scholarly instruction in the broad aspects of the science of nutrition. This is a continuing campus position with faculty rank filled by a nutrition scientist selected for qualifications in the science of nutrition, and for understanding, skill and experience in advancing the multidisciplinary approach to nutrition education. This position is funded solely by the endowment.

The Visiting Professorships will continue to be conducted periodically as a major multidisciplinary function of the Chair Program. Typically, visiting professorships are for a period of days or weeks. Programs supported by the Ethel Austin Martin endowment have no administrative affiliation with any one college or department of SDSU.

The program is interdisciplinary and, therefore, is administered directly under the Vice President for Academic Affairs.

**Dairy Science**

The Alfred Chair in Cheese Chemistry and Technology in Dairy Science has been established in recognition and in memory of the late Alfred Gonzenbach and Alfred Nef for their contributions to the cheese industry and economic development through establishment of Valley Queen Cheese Factory, Inc., in Milbank.

The Alfred Chair was created on July 1, 1991, and is funded by the SA Education Foundation in Watertown.

The Alfred Chair will be a continuing campus position with faculty rank filled by a dairy/food scientist with experience in cheese chemistry and technology. The addition of the Alfred Chair, a prestigious faculty appointment, is expected to maintain national prominence of the SDSU Dairy Science Department in the dairy processing profession.

**Electrical Engineering**

The Hohbach Endowed Chair in Electrical Engineering was established through funds provided by Harold C. Hohbach, a Plarrkinton, SD, native and 1943 graduate of Electrical Engineering from SDSU. Mr. Hohbach is currently a patent attorney with offices in San Francisco and Palo Alto, California.

The purpose of the Hohbach Endowed Chair is to improve quality of education, research, and entrepreneurship. The primary focus is to develop applied research that will spur economic growth in the region, while supporting undergraduate and graduate teaching and promoting entrepreneurship among students.

The Hohbach Chair is a faculty rank position on campus within the Department of Electrical Engineering and is occupied by an individual with an established reputation in electrical engineering or a closely related field.
Economics
The Milton Nies Chair in Enterprise Economics was established by the late Milton Nies, who spent most of his professional life as a businessman in Bismarck, North Dakota. Mr. Nies was a native of Eureka, South Dakota and graduated from South Dakota State University with a degree in Economics in 1950. He had a strong interest in business planning and in assisting new business startups. He initially worked for United Accounts, a business he later owned. He was collaborating with the SDSU Foundation on the particulars of the Nies Chair prior to his death in 2003.

The purpose of the Nies Chair is to provide leadership in market research and analysis, business assistance, new enterprise development, and entrepreneurship. Regionally based products and industries will be emphasized through teaching, research, and outreach activities. This person will establish a close working relationship with the South Dakota Enterprise Institute at SDSU.

The Nies Chair is a faculty position that will be held by a nationally recognized leader in enterprise economics education and research who possesses skills in economics, business management and development, and entrepreneurship.

Environmental Health and Safety Office
The primary function of the Environmental Health and Safety office is to assist campus personnel in making SDSU a safe learning and working environment for faculty, staff, and students. The EHS office is responsible for enforcing federal, state and local safety and environmental rules and regulations, including radiation, chemical, and biological safety; management of hazardous materials and conditions; management of indoor air quality in cooperation with Facilities and Services; recycling of electronics, batteries, and heavy metal containing light bulbs; disposal of hazardous wastes and other functions relating to research, teaching and administrative duties. EHS provides training in the various areas listed above, not only to be in compliance with regulations, but to be sure that all SDSU students, staff and visitors, have an enjoyable and safe experience at SDSU. For staff and students with questions concerning any of these functions contact EHS at: Environmental Health & Safety Avera Science Center 143; Box 2202, Brookings, SD 57007 Phone: 605-688-4264 E-mail: EHS@sdstate.edu.

Facilities and Services
The Facilities and Services Department is a service department established for the purpose of providing necessary support to the teaching, research, and service missions of South Dakota State University. Facilities and Services works to ensure that the buildings and grounds are operated and maintained in an appropriate and safe manner. Facilities and Services must approve modifications in facilities and grounds, facilitating code interpretation.

Facilities and Services perform most building maintenance functions with in-house talents. South Dakota State University Electricians, Painters, Welders, Carpenters, Plumbers, and HVAC Technicians provide service every day to the campus. The Engineering Section provides project management, master planning support, and maintenance support. The Customer Service Center processes all incoming and outgoing mail for SDSU departments.

Faculty and Staff are encouraged to note problems or deficiencies of areas of campus they use at 605-688-4136, SDSU.FacilitiesAndServices@sdstate.edu. To find online service guides, customer forms, facilities information, maps, contact information for Facilities and Services personnel, please contact Facilities and Services at: http://www.sdstate.edu/facserv/. For additional questions, comments or concerns please contact the office at 605-688-4136.

Fees
Tuition and Fees listed below are approved for the 2014-2015 academic year - 2014 Summer, 2014 Fall and 2015 Spring terms. Minnesota Reciprocity tuition rates are effective for 2014 Fall, 2015 Spring and 2015 Summer terms. Rate schedules are subject to change without notice. For current information see the Web site: www.sdstate.edu/admissions/financing/undergrad/cost/index.cfm or http://www.sdbor.edu/students/documents/FY15TuitionFeesSchedule.pdf.

Application Fee
Non-refundable charge assessed to all degree-seeking applicants for initial admission unless you have previously attended South Dakota State University or another South Dakota public university. Students re-admitted after a lapse of three consecutive terms are assessed the non-refundable charge.

General Activity Fee
A fee of $28.00 per credit is charged to support student health, student union and student activity programs such as: admission to plays, athletic events, athletic facilities, and partially funds judging, music and forensic programs.

University Support Fee
A fee of $90.30 per credit is charged to Residents and a fee of $113.30 per credit is charged to Non-Residents to replace consumable supplies; defray cost of maintenance, repair, and replacement of equipment; provide testing and other instruction-related costs while providing additional services that benefit students, which are not funded from other sources. Fee is mandatory and is assessed to courses taught on-campus.

Late Fees
If you do not pay tuition and fees at the regular established due dates, you will be assessed a late fee. A late charge may be assessed each time you fail to satisfy your financial obligations within established due dates. Failure to pay in a timely manner could result in you being administratively withdrawn from the University.

Field Trip Charge
Students enrolled in selected courses that involve field trips may be assessed for transportation, group admission, and entry fees. The amount charged will vary per course.

Liability Insurance Charge
Students enrolled in selected courses that involve internship, cooperative education, practicum, field and other experiences where students have contact with third parties are assessed a charge for liability insurance.

Animal Science Fees
A fee of $44.25 per credit is charged for courses in animal, range and veterinary sciences.
Athletic Training Background Check Charge
Students enrolled in the Athletic Training program must pay for a background check before they can be placed at any of the clinical sites. Approximate cost of the background check is $75.00.

Architecture Fees
A fee of $293.30 per credit is charged for architecture courses. A fee of $2,120.75 is charged per semester for students enrolled in the studio experience portion of the undergraduate and graduate Architecture programs.

Aviation Flight Training Fees
Aviation students are assessed fees for flight training. This per hour fee is used to defray the costs of aircraft operations, maintenance, simulators, and individual instruction. Fee costs vary depending on type of aircraft and hourly operating costs.

Chemistry Fees
A fee of $22.05 per credit is charged for courses in chemistry.

Dairy Science Fees
A fee of $80.20 per credit is charged for courses in dairy science.

Economics Fees
A fee of $28.65 per credit is charged for undergraduate courses and a $51.40 per credit is charged for graduate courses related to Economics, Business and Entrepreneurship.

Education Fees
Education students enrolled in selected Education courses are assessed a fee of $164.35 per semester for Sophomore/Junior Field Experience, $328.95 per semester for Senior Student Teaching, and $164.35 for Master's Level Internships.

Engineering Fees
A fee of $66.85 per credit hour is charged for courses in the College of Engineering and designated courses in mathematics, statistics, computer science, and physics. A fee of $22.05 per credit hour is charged for remaining courses in mathematics, statistics, and computer science.

Equine Fees
$182.75 per designated course is charge to all equine experience classes. These funds are used for the care and maintenance of equine animals and equestrian equipment.

Health and Nutrition Fees
A fee of $18.40 per credit hour is charged for courses in Athletic Training; Dietetics; Health Education; Hospitality Management; Nutrition and Food Science; Physical Education Teacher Education, and Sport, Recreation and Park Management.

Engineering, Natural Sciences and Laboratory Fees
$56.40 per designated course is charged to all lab classes in engineering, mathematics, computer science, natural sciences and selected laboratory experience courses. These funds are used for supplies and materials and to purchase equipment.

Medical Laboratory Science Fees
A fee of $1,527.25 is charged per semester for students enrolled in the campus delivery of the professional portion of the Medical Laboratory Science program. Students enrolled in the MLS Upward Mobility program are assessed a fee of $922.90 per semester.

Nursing Fees
Uniforms must be purchased by second year nursing students. Transportation must be provided by the student in Community Health Nursing and selected independent experiences. Students enrolled in undergraduate NURS and HSC courses are assessed a fee of $95.70 per credit and graduate NURS and HSC courses are assessed a fee of $210.30 per credit.

Pharmacy Fees
A fee of $190.20 per credit hour or its equivalent is charged for courses in Pharmacy. Pharmacy courses within the PharmD curriculum are either charged the $190.20 per credit hour or a semester based fee of $3,212.00. Students enrolled in the PharmD program are assessed a $55.00 annual charge for an electronic reference and a $16.00 annual charge for malpractice insurance.

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

Tuition, Living, and Other Expenses

<table>
<thead>
<tr>
<th>Tuition and Fees</th>
<th>September 2014-May 2015</th>
<th>Resident</th>
<th>Non-Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition</td>
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<tr>
<td>Undergraduate on-campus per semester credit</td>
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<tr>
<td>Graduate on-campus per semester credit</td>
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</tr>
<tr>
<td>University Support Fee - per credit</td>
<td>$90.30</td>
<td>$113.30</td>
<td></td>
</tr>
</tbody>
</table>

Student Services & Campus Facilities 343
Activity Fee - per credit

$28.00 $28.00

See accompanying text for the descriptions of fees for Architecture, Business/Economics, Chemistry, Animal and Dairy Sciences, Engineering, Health and Nutrition, Nursing, Pharmacy, Medical Laboratory Science, Veterinary Science and other courses; Education students; and lab and equine experience courses. All charges and procedures listed are subject to change pending Board of Regents action. For current information see the web site: http://www.sdstate.edu/admissions/financing/undergrad/cost/index.cfm.

**Campus Room and Board Costs**

**Meal Plan**

Students have a choice of six Meal Plans ranging from $848.00 to $1,885.50 per semester. Visit the SDSU Dining Services website for more information regarding meal plans, http://www.campusdish.com/en-us/csmw/sdsu/mealplans/residentMealPlans.htm.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premier</td>
<td>$1,885.50</td>
</tr>
<tr>
<td>150 Block</td>
<td>$1,511.80</td>
</tr>
<tr>
<td>75 Block</td>
<td>$1,511.80</td>
</tr>
<tr>
<td>Gold Flex</td>
<td>$1,885.50</td>
</tr>
<tr>
<td>Silver Flex</td>
<td>$1,511.80</td>
</tr>
<tr>
<td>Bronze Flex</td>
<td>$1,325.80</td>
</tr>
<tr>
<td>West Flex</td>
<td>$848.00</td>
</tr>
</tbody>
</table>

**Residence Halls - per semester**

<table>
<thead>
<tr>
<th>Hall</th>
<th>Double</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown, Hansen, Waneta</td>
<td>$1,607.20</td>
<td>$2,312.05</td>
</tr>
<tr>
<td>Binnewies, Pierson, Young</td>
<td>$1,770.05</td>
<td>$2,361.75</td>
</tr>
<tr>
<td>Matthews</td>
<td>$1,892.60</td>
<td>$2,525.35</td>
</tr>
<tr>
<td>Abbott, Caldwell, Spencer, Thorne</td>
<td>$2,496.50</td>
<td>$3,120.40</td>
</tr>
<tr>
<td>Meadows North/South</td>
<td>$2,496.50</td>
<td>$2,496.50</td>
</tr>
<tr>
<td>Ben Reifel, Honors, Hyde, Schultz</td>
<td>$2,616.80</td>
<td>$3,091.05</td>
</tr>
</tbody>
</table>

**Typical Education Expenses for Fulltime Undergraduate for One Semester**

<table>
<thead>
<tr>
<th>Expense Description</th>
<th>Resident</th>
<th>Non-Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition - 15 credits</td>
<td>$2,085.00</td>
<td>$3,125.00</td>
</tr>
<tr>
<td>University Support and Activity Fees</td>
<td>$1,774.00</td>
<td>$2,120.00</td>
</tr>
<tr>
<td>Books (estimate)</td>
<td>$600.00</td>
<td>$600.00</td>
</tr>
<tr>
<td>Meal Plan (most popular Silver Flex Plan)</td>
<td>$1,511.00</td>
<td>$1,511.00</td>
</tr>
<tr>
<td>Residence hall cost (minimum)</td>
<td>$1,607.00</td>
<td>$1,607.00</td>
</tr>
<tr>
<td><strong>Expenses will be higher if a student takes coursework requiring course, program or lab fees. See accompanying text on FEES.</strong></td>
<td>$7,577.00**</td>
<td>$8,973.00**</td>
</tr>
</tbody>
</table>

**Online Billing and Payment of Tuition and Fees**

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

**Email Policy**

E-mail messages sent by SDSU to students through University-assigned, Jacks e-mail addresses will constitute an official means of communication. It is the student's responsibility and obligation to access official university e-mail messages in a timely manner. As other e-mail accounts may be blocked by the SDSU firewall, SDSU is only able to monitor student e-mails coming from University-assigned e-mail accounts.

**Payment Process**

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

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

**Campus Card Debit System-Hobo Dough**

The student identification card is used as a debit card to access prepaid accounts. In addition to its extensive use in the food service system, the ID card accesses prepaid accounts, called Hobo Dough, for bookstore, campus vending, laundry, photo copying and printing, and selected off campus businesses. Upon graduation or leaving the University, these funds will be returned in full upon request. No service charges are assessed for active accounts. However, accounts inactive for six months or more are assessed a monthly service charge. If the service charge exceeds the account balance, the account is automatically closed.

**Refunds**

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.
Food Service and Room Rent Refunds. Students with a room contract or food service contract will receive a refund based on the unused portion of the fee at the time of withdrawal up to the 60 percent point of the academic term.

Federal Financial Aid Recipients. The U.S. Department of Education requires institutions to use the Return of Title IV Funds policy for students withdrawing from school and who are receiving Federal Title IV student financial aid. Title IV funds refers to the federal financial aid programs authorized under the Higher Education Act of 1965 (as amended) and includes the following programs: Federal Stafford Direct Loan, Unsubsidized Stafford Direct Loans, Parent Loans for Undergraduate Students (PLUS), Federal Perkins Loans, Federal Pell Grants, and Federal Supplemental Grants. Also, the Federal Nursing Loans and Federal Health Professions Loans use the Return to Title IV Funds calculation.

A student's withdrawal date is 1) When the student began the withdrawal process or officially notified SDSU of intent to withdraw by contacting the SDSU Registrar's Office; or 2) The midpoint of the period for a student who leaves without notifying SDSU; or at SDSU's option, the student's last documented date of academically-related activity.

Return of Title IV Funds. When a student receiving federal financial Title IV financial aid withdraws from SDSU during the enrollment period, the amount of the Title IV funds (not including Federal Work Study) that the student earned during the enrollment period is calculated as of the student's withdrawal date. Title IV funds are earned at a fixed rate on a per day basis up to the 60 percent point in the enrollment period. Title IV funds are 100 percent earned if the withdrawal date is after the 60 percent point in that period.

A student's withdrawal date is 1) When the student began the withdrawal process or officially notified SDSU of intent to withdraw by contacting the SDSU Registrar's Office; or 2) The midpoint of the period for a student who leaves without notifying SDSU; or at SDSU's option, the student's last documented date of academically-related activity.

For students who fail to officially withdraw when they stop attending classes and are assigned an "F" grade for all courses for the semester, the Return to Title IV Funds policy requires SDSU to calculate the amount of the aid disbursed that was earned by the student before the withdrawal date. The unearned Title IV funds must be 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 based on attendance in the enrollment period.

Responsibilities of SDSU include providing information on the Return of Title IV Funds policy and procedure to students. This information is available at www.sdstate.edu and from the SDSU Financial Aid Office. SDSU is also responsible to complete calculations of the Return of Title IV Funds for federal financial aid recipients who are withdrawing from SDSU in order to return any Title IV funds to the respective Title IV funds account. The student is responsible to repay any Title IV funds that the student was determined to be ineligible for via the Return to Title IV funds calculation.

Financial Assistance

General Information

Approximately 88% of the SDSU students attending full-time receive some type of financial assistance to help pay their educational costs. Financial assistance includes both need-based financial aid (grants, loans, work) as determined by the Free Application for Federal Student Aid (FAFSA), and other financial aid (scholarship, agency assistance, etc.) not based on need. Financial need is defined as the portion of educational costs not covered by family contributions. Average educational costs are determined by the Financial Aid Office and family contribution is a federal calculation from the FAFSA.

The SDSU award policy gives priority for Federal Supplemental Grant, and Work Study to students completing the FAFSA before March 10. However, the largest financial aid programs, the Federal Pell Grant and the Federal Stafford (Direct) Loan, do not have priority processing dates. Students must reapply for federal financial aid every academic year. Please refer to the SDSU web page for eligibility, aid programs, consumer information, policies, and other financial aid related information: www.sdstate.edu (Keyword: financial aid).

Federal Financial Aid Programs

1. General eligibility requirements
   1. Enrolled as a regular student in a SDSU degree program.
   2. Enrolled as a full-time student to receive full award. Eligible students not enrolled full-time may be eligible for some aid programs based on a completed FAFSA.
   3. United States citizen or eligible non-citizen.
   4. Cannot be in default on a federal student loan or owe a refund to a federal student grant program.
   5. Selective Service laws require male students born after December 31, 1959, to be registered with Selective Service.
   6. Maintain Satisfactory Progress as described in detail in the SDSU Satisfactory Progress Standards (on SDSU financial aid web page). 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.

2. SDSU participates in all of the federal financial aid programs. Specific information, including other aid programs not listed below, is available at www.sdstate.edu. A SDSU Financial Aid award letter identifies the specific awards and other information is enclosed for the financial aid recipient.
   1. Grants are gift aid based on financial need.
      1. Federal Pell Grant awards are determined by a federal formula for the student's first bachelor degree.
      2. Federal Supplemental Educational Opportunity Grant awards are based on Pell Grant eligibility and available funds.
      3. TEACH Grant for teacher education in "high need" fields and who agree to teach at a Title I school as defined by the U.S. Department of Education.
   2. Loans provide an opportunity to borrow money for educational expenses. Loans must be repaid. First time loan recipients are required to complete Entrance Loan Counseling at www.studentloans.gov.
      1. The Federal Direct Loan Program is the largest financial need-based loan program for eligible students. The Direct Loan requires a completed Master Promissory Note. The federal government pays the interest while the student is in school and during deferment periods. Interest and repayment begin six months after half-time enrollment ends. The Unsubsidized Federal Direct Loan can be used by students who are not eligible for need-based loans as determined by the FAFSA. The interest is paid by the student or capitalized if not paid.
      2. The Federal PLUS (Parent Loan for Undergraduate Students): The SDSU PLUS Request Form is completed by a parent to start the process. A monthly payment may start beginning 60 days after the PLUS is disbursed. Interest rate is 6.41% and has loan fees (see MPN).
      3. The Federal Perkins Loan is an SDSU award based on financial need and SDSU award policy. Interest (5%) and repayment begin nine months after half-time enrollment ends.
Information Technology

The SDSU Foundation manages total assets valued at more than $180 million, including an endowment of $96 million, as of December 31, 2013. The work programs, and professional experiences. Center Scholars must have completed all Regental and University core classes with an undergraduate GPA of 3.0 in major and

development, and geographic information science (GISc), namely remote sensing, geographic information systems, digital mapping, and geostatistics, to document and understand the cycles, ecosystem function, and the state of human welfare. To study large area land cover dynamics, satellite-based earth observations are required. The Geographic Information Sciences Center of Excellence (GIScCE) is a unique collaboration between SDSU and the US Geological Survey Center for Earth Resources Observation and Science (EROS) with a focus on the science of earth observation and monitoring. EROS is the world’s largest repository of remotely sensed data sets and a renowned center of applied earth science studies. The GIScCE is a research partnership of SDSU faculty and EROS scientists that employs the capabilities of geographic information science (GISc), namely remote sensing, geographic information systems, digital mapping, and geostatistics, to document and understand the changing earth. To achieve this goal, an interdisciplinary center of study is required, one which utilizes engineering principles to efficiently and accurately process earth observation data, geographic principles to create meaningful thematic depictions of land cover and land use change, and applications that focus on the resultant effects the geosphere, biosphere, and hydrosphere. Through the combined resources of many disciplines, the GIScCE seeks to investigate important questions regarding the dynamic earth system.

Students play an integral role in the research performed by the center. Undergraduates can earn recognition as a Center Scholar by completing a combination of courses, programs, and professional experiences. Center Scholars must have completed all Regental and University core classes with an undergraduate GPA of 3.0 in major and GISc coursework at time of graduation. Undergraduates must also have a cumulative GPA of 2.75 for all coursework at time of graduation. All Center Scholars will participate in a Center Internship, which will include the development of a scholarly study. Results from this study must then be presented to an appropriate professional meeting or accepted by a peer-reviewed science journal. The Center also coordinates the Ph.D. program in Geospatial Science and Engineering. For more information call 605-688-6591 or e-mail geoffrey.henebry@sdstate.edu.

Information Technology

The study of the land surface and its modification over time is a major component of global change research. Land cover change impacts climate, biogeochemical cycles, ecosystem function, and the state of human welfare. To study large area land cover dynamics, satellite-based earth observations are required. The Geographic Information Science Center of Excellence (GIScCE) is a unique collaboration between SDSU and the US Geological Survey Center for Earth Resources Observation and Science (EROS) with a focus on the science of earth observation and monitoring. EROS is the world’s largest repository of remotely sensed data sets and a renowned center of applied earth science studies. The GIScCE is a research partnership of SDSU faculty and EROS scientists that employs the capabilities of geographic information science (GISc), namely remote sensing, geographic information systems, digital mapping, and geostatistics, to document and understand the changing earth. To achieve this goal, an interdisciplinary center of study is required, one which utilizes engineering principles to efficiently and accurately process earth observation data, geographic principles to create meaningful thematic depictions of land cover and land use change, and applications that focus on the resultant effects the geosphere, biosphere, and hydrosphere. Through the combined resources of many disciplines, the GIScCE seeks to investigate important questions regarding the dynamic earth system.

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Foundation, SDSU

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Donations to the SDSU Foundation come in many forms including cash, marketable securities, real estate, equipment, personal property, and estate gifts. A volunteer board governs the activities of the SDSU Foundation. Steve Erpenbach is the Foundation's president and CEO. For information on making a gift to SDSU, contact the SDSU Foundation at 1-888-747-SDSU (7378), steve.erpenbach@sdstatefoundation.org, or www.sdsstatefoundation.org.

Geographic Information Sciences Center of Excellence

4. The Nursing Student Loan is for nursing majors based on financial need and SDSU award policy. Interest (5%) and repayment begin nine months after half-time enrollment ends or ending the nursing degree program.

5. The Health Professions Student Loan is for pharmacy majors based on financial need and SDSU award policy. Interest (5%) and repayment begin 12 months after full-time enrollment ends or ending the pharmacy degree program.

3. Work opportunities may provide part-time employment for students.

1. The Federal Work Study financial aid awards are based on financial need, available funds, and SDSU award policy. Most jobs are on campus. There are some community service job opportunities.

2. Other employment opportunities may be available through the Career and Academic Planning Services and South Dakota Job Service.


1. South Dakota Opportunity Scholarship is for students who are South Dakota residents at the time of high school graduation who have a minimum ACT composite of 24 and met the Regents Scholar requirements.

2. Dakota Corps Scholarship 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.

3. South Dakota Need Based Grant Program is for South Dakota high school graduates who are enrolled at least part-time in an eligible program.

Scholarships The SDSU scholarship programs have increased yearly with additional scholarships for new, continuing, and transfer students. SDSU awards over 4,700 scholarships to undergraduate students. There are approximately 1,400 new-freshman student scholarships. A single scholarship application available from SDSU or from your high school needs to be completed and returned to the SDSU Scholarship Office before January 25 for priority consideration for the new student academic scholarships.

A. Selected new freshman scholarships.

1. Renewable scholarships, upon meeting academic standards, include: Briggs; Lohr; May; Nichols; and many named Foundation scholarships.

2. Jackrabbit Guarantee (JG) eligibility for new, first-time freshman students who score a 24 or higher ACT composite score. Scholarship is renewable when academic requirements as defined by the JG program are attained. The $1,000 minimum in scholarship assistance can be met by any academic SDSU scholarship award.

3. Many general, departmental, and talent awards are also available.

B. Upper class student scholarships are awarded by the college/ department based on a student’s academic record through an annual competitive scholarship application process.

C. Talent and participation scholarship awards are available by contacting the specific areas: 4-H: County Agents or Program Leader, SDSU Air Force ROTC: Professor of Aerospace Studies, SDSU Army ROTC: Professor of Military Science, SDSU Music: Music Department, SDSU Theatre: Theatre Department, SDSU

D. Local and national scholarship information and applications may be available through your high school, various organizations and groups.

4. Financial assistance may also be available through various agencies including Vocational Rehabilitation and other special services agencies.

5. SDSU is fully accredited for Veterans Assistance benefits for qualified students.

6. Please contact the SDSU Financial Aid Office, Enrollment Services Center, Brookings, SD 57007. Phone 605-688-4695, or e-mail: sdsu.finaid@sdstate.edu for specific applications, forms, and information. Additional information can be accessed on the SDSU Home Page: www.sdstate.edu.

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346 Student Services & Campus Facilities
Under the direction of Dr. Mike Adelaine, the Vice President for Information Technology and Security, programs, services, and support are provided to the university community.

Classroom Technology Services (CTS) - This unit is responsible for all technology-enhanced and DDN classrooms located on the University campus. This includes the initial installation of equipment, its maintenance, and upgrades. For more information, call 605-688-6312.

Information Security - This unit ensures University data security and establishes procedures to protect information, users, and the University. Questions or concerns should be reported to the Support Desk (688.6776) immediately. For more information, call 605-688-4988.

IT Support Desk - ITS serves as contact for students, faculty, and staff needing tech support through its operation of the Support Desk. Equipment loan, repair, and the maintenance of general use computer labs are also the responsibility of ITS. For more information, call 605-688-6776.

Instructional Design Services (IDS) - This unit offers faculty services in instructional design, distributed learning, and the use of integrated media in the classrooms. They also provide faculty with training in a wide variety of software programs and applications, as well as instruction in the use of equipment. For more information, call 605-688-6312.

Office of Web Development & Management - This division fosters excellence throughout the university’s web communication systems by ensuring their continual development, as well as providing leadership and direction for its web-related activities. The Office promotes, supports, and sustains the online distribution of the institution's academic, research, and Extension information and the conveyance of its messages to their respective audiences. For more information, call 605-688-6134.

University Networking Systems and Services and Research (UNSS) - UNSS provides the infrastructure upon which technology systems are built and assures Internet access to the campus community. In addition, they maintain the server farm, on which the majority of institutional software and applications are run. For more information, call 605-688-6498.

**Intercollegiate Athletics**

South Dakota State University is a Division I, National Collegiate Athletic Association member and offers competition in eleven sports for women and ten sports for men. The National Collegiate Athletic Association (NCAA) governs competition for both women and men. Women compete in cross country, equestrian, indoor and outdoor track and field, volleyball, basketball, swimming, golf, tennis, softball and soccer. Men compete in cross country, indoor and outdoor track and field, football, basketball, swimming, golf, tennis, wrestling and baseball. South Dakota State athletic teams have experienced broad based success. They are recognized regionally and nationally each year for the athletic accomplishments and academic achievements for their student-athletes and coaches.

Every undertaking within South Dakota State University’s Athletic Department is driven by a relentless commitment to excellence. We are committed to providing each and every student-athlete with a comprehensive collegiate experience. Academic achievement is important because it is the fundamental purpose of the student-athlete experience. Social responsibility is also a vital component. We expect to contribute to the well-being of our campus, community and state. Positive student-athlete experiences and competitive success also define our program because they are integral to the student-athlete's growth. Our vision is to be a premier student-centered collegiate athletic program. We are working tirelessly to create a special place where student-athletes can develop life skills that lead not only to athletic success, but pave the way for victories long into their lives. The important work of creating that setting is the heart of our mission: to passionately and relentlessly create an environment, rooted in sportsmanship and ethical conduct, where motivated student-athletes can develop into lifelong champions. We are guided by a stringent set of values that will not be compromised: honesty, equity, academic integrity, fiscal integrity and social responsibility with the expectation of competing at the highest level.

For general athletic department information call 605-688-5625, for athletic ticket information call 605-688-5422, 1-866-GoJacks (465-2257), or e-mail: sdsu.tickets@sdstate.edu.

**International Affairs**

The Office of International Affairs (OIA) is the comprehensive home for international student and scholar services, international undergraduate admission, study 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 help expand global engagement for all students, faculty and staff.

Formerly the Office of International Programs, the department was initially established in 1988 and was focused on creating a number of international education and research exchange partnerships. Today, OIA has educational partners on six continents and has expanded its focus to include international student services.

- Study abroad staff advise faculty in planning SDSU-based global educational options and advise students of their study abroad options.
- International student and scholars staff provide guidance and administrative support to hundreds of international students from over 60 countries.
- Staff members also support the International Relations Council and its events and outreach, as well as help connect the campus community with international students and global issues through its Connections programs.

OIA has a variety of partners and affiliates. For more information, refer to www.sdstate.edu/international-affairs.

**Library, Hilton M. Briggs**

Library services and collections are housed in the Briggs Library, which is named for President Hilton M. Briggs, who served the University from 1958 to 1975. Library collections consist of more than 667,000 bound volumes, 573,000 government documents, 18,000 e-books, 34,000 online journals and other electronic resources.

Briggs Library users have access to book, periodical, archives, map and government documents collections as well as wireless networking, laptop loans and more than 70 public computer workstations providing access to the Internet, to library databases, and to software such as MS Word, Excel, PowerPoint and statistical packages. Briggs Library contains group study/conference rooms for student use, informal lounge areas, and photocopiers and scanners. Special collections of congressional papers, archival, state and local history, and curriculum materials are available for students, faculty, and researchers. In addition, materials from thousands of other libraries worldwide are available through interlibrary loan. The Briggs Library building is also the home of International Affairs and Outreach, the Teaching Learning Center and the Writing Center.
The faculty and staff of Briggs Library are proud of the services they offer to the SDSU community, as well as to distance students and faculty at Sioux Falls, Rapid City, Pierre and other locations throughout South Dakota and the U.S. Each year they teach hundreds of classes on information literacy and the use of library resources. They respond to thousands of information requests annually through personal contacts, via telephone at 605-688-5107, and by means of e-mail, online chat and texting. Look for the "Ask Us" link on the library homepage: www.sdstate.edu/library.

Logos, Seals, Caricatures, Wordmarks (Official Symbols)

University Marketing and Communications approves the use of the name or logo of South Dakota State University (in any form) for printed publication or for any type of merchandise, i.e., hats, t-shirts, mugs, etc., to be distributed. The merchandise items must also carry a corresponding club or event name. All SDSU logos, seals, caricatures, or wordmarks are licensed and cannot be used without permission.

Official Name: South Dakota State University or SDSU (no periods)
Official School Colors: Blue (PMS 287), Athletic Blue (PMS 286) and Yellow (PMS 109)
Athletic Teams Nickname: Jackrabbits or Jacks
These names (or wordmarks) are registered:

South Dakota State University ®
SDSU ®
SDSU Jackrabbits ®
South Dakota State ®
Hobo Day ®
SDSU Jacks ®
Go Big. Go Blue. Go Jacks ®
SD State ®
Dirty Lil TM
Weary Willie TM

Jackrabbits ®
Jacks ®
Cereal Bowl ®
Oak Lake Field Station TM
Midwest Market Analysis TM
Garden Line TM
Go Jacks ®
On Call ®
Today's Ag ®
Be Great. Start Here. TM
Pride of the Dakotas ®

You can go anywhere from here! ®
Jackrabbit Guarantee ®
Be Great. Start Here. TM
The Campanile Line ®
Campusile Records ®

McCrory Gardens

McCrory Gardens is recognized as one of the top small ornamental display and botanical gardens in the United States. It is operated by the Department of Plant Science, with operations primarily supported through private gifts of visitors, Friends of McCrory Gardens, professional associations, and corporate donations. The gardens are used extensively for teaching, public education, and ornamental plant research. A new Education and Visitor's Center is a focal point for the gardens, offering information to visitors and a venue for educational programming and other functions. Each year student gardeners are hired to help plant and maintain the gardens. It is composed of approximately 25-acres of public display area and a 45-acre arboretum.

The Gardens are open daily from dawn until dusk; no entry fee is charged but donations from visitors are encouraged. Trees, shrubs, ground covers, annuals, and perennials are featured throughout the gardens. The straw bale house is another popular attraction, which features a living roof. For more information, call 605-688-6253 or e-mail: david.graper@sdstate.edu.

Museums/Collections

The South Dakota Art Museum's collection of over 6,000 objects consists of paintings, photographs, textiles, sculptures and Native American art and artifacts. The Museum has a dynamic exhibition schedule featuring our permanent collection of paintings by Harvey Dunn, children's book author/illustrator Paul Goble, the Marghab Linen Collection, Native American art, in addition to rotating exhibits from outside sources. The museum is located on the Medary Avenue at Harvey Dunn Street. The museum is open Free to the public Monday through Friday from 10:00am to 5:00pm, Saturdays from 10:00 to 4:00 and Sunday's from noon to 4 pm. The museum is closed on Sunday's January – March and on all state holidays. Visit the museum store to find unique handmade gifts, books and music by regional artists, and an outstanding collection of books on Native American history and culture. For more information or to schedule a group tour, call 866-805-7590 or 605-688-5423, email sdsu.sdam@sdstate.edu or visit www.southdakotaartmuseum.com.

The Agricultural Heritage Museum's collection of 100,000 objects interprets South Dakota agricultural history and rural heritage. The museum is concerned with human experiences that were shaped by the state's diverse environment. The museum is located on the northwest corner of Medary Avenue and 11th Street in the old Stock Judging Pavilion. The museum is open free to the public Monday through Saturday from 10:00 AM to 5:00 PM and Sundays from 1:00 to 5:00 PM. The museum is closed on Sundays January - March and on all state holidays. The museum gift shop is an excellent source of South Dakota history books, unique gifts, and the official SDSU Christmas ornaments. For further information or to schedule a group tour, call 605-688-6226, e-mail SDSU.agmuseum@sdstate.edu or visit http://www.agmuseum.com.

Print Lab

The SDSU Print Lab, located in Yeager Hall, provides complete printing solutions for the campus community and its affiliates. With excellent service at competitive prices, our experienced professionals are dedicated to providing quality work for the SDSU community. With the advent of desktop publishing programs, creating publications such as newsletters, brochures, posters, flyers, etc., has become much easier. Generally a publication designed in-house does not necessarily mean it is "print ready", nor does it mean it meets the graphic standards of university materials.

The Office of University Marketing and Communications is charged with overseeing logo usage and the consistent quality of publications, for both internal and external audiences. Other than reprint orders, business cards and variable data publishing, projects being produced at the Print Lab must first be routed through University Marketing and Communications to be approved or files prepared for printing.

While University Marketing and Communications can provide files for static printing projects, the SDSU Print Lab offers variable data design and publishing, and can be the design starting point for projects utilizing variable data or versioning.
Services include: Prepress; Variable Data Publishing; Offset Printing (1, 2, full color) and Digital Printing, 4C Envelope Printing, Wide Format Printing, display rental, Bindery Operation

For more information on how we can service your office, department or organization, visit us on the first floor of Yeager Hall or call us at 688-5111, or e-mail brenda.quam@sdstate.edu.

**Student Affairs**

The Division of Student Affairs provides services and activities that are designed to help students gain the greatest benefit from their University education. The following departments are included in Student Affairs: Admissions, New Student Orientation, Office of Enrollment Services (Financial Aid, Records and Registration, and Scholarships) Office of Student Conflict Prevention, Management, and Conduct Services, Residential Life, The Union, Office of Student Engagement (Student Organizations, Greek Life, Program Board, Career Center), Multicultural Center/Student Support Services (Disability Services, Upward Bound, TRiO Student Support Services, Veterans Resource Center, African American, Latino, and GLBT student support), University Dining Services, and Wellness (Intramurals and Club Sports, Recreation, and Student Health & Counseling). If you have questions or need information about any of these areas, contact the Vice President for Student Affairs office in SAD 312, phone 605-688-4493. The specific programs and services offered by the departments are listed in this section and elsewhere in this catalog.

**Admissions**

The Admissions Office assists students in attaining their educational goals by providing quality services and accurate information that will enable them to make an informed and appropriate college choice. In addition, the Admissions Office processes all applications for admission and determines residency status for entering students. Questions concerning enrollment information, admission and transfer evaluation should be directed to Admissions Office, SAD 200, South Dakota State University, Box 2201, Brookings, SD 57007-0649, phone 605-688-4121.

**Dean of Students**

The Dean of Students serves as the student Ombudsperson for the university, supervises the Student Conduct System, chairs the Clery Report Review Committee, and represents the division of Student Affairs on other university committees and special projects. 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. For students in need of assistance or guidance, the Dean of Students office is an important resource. The office is located in AD 312, phone 605-688-4493.

**Office of Student Conflict Prevention, Management, and Conduct Services**, has developed into a point of contact for both faculty and staff on a variety of Student Affairs matters. The functions of this office are of service to all students. Serving as ombuds, mediators, and hearing officers, this office helps students in all stages of adjustment and adaptation. Upon request, the office assists faculty and staff to more comfortably and effectively address minor student concerns. The office also provides "train the trainer" information for individuals and organizations on matters of conflict prevention and mediation to more broadly serve students. The office also hosts a Title IX deputy investigator for allegations of various forms of harassment and discrimination involving students.

**Dining Services**

Campus Dining is committed to providing a dining service program at SDSU that is of the highest quality at a reasonable cost. Students can choose from a variety of offerings including "all-you-care-to-eat" buffet meals, food courts, convenience stores, ice cream shops, delis, specialty coffee, salad and soup bars, grab and go areas, and much more. All SDSU students living on campus are required to purchase a meal plan. Weary Wil's and Einstein Bros. Bagels offer students special late night dining options.

**Enrollment Services**

The Office of Enrollment Services is comprised of the Scholarship Office, Registrar's Office, and Financial Aid. The mission of the Office of Enrollment Services is grounded in excellent customer service. These units provide the resources to assist students in achieving a successful college experience and also provide high quality services to current students, alumni, staff, faculty, and the general public. The Enrollment Services office strives to make all services available to students where, when and how they need them. These offices work closely with other university offices to ensure that current information is provided to students. Staff members are committed to providing exceptional service while exhibiting accuracy and efficiency in our work, and maintaining integrity, professionalism and respect. For further information contact the Registrar's Office at 605-688-6195.

**Financial Aid** - The Financial Aid Office administers student financial assistance programs, including federal and state financial aid, and governmental agency awards. The phone number for Financial Aid is 605-688-4695.

**Records and Registration** - The Registrar's Office assists students in meeting their academic goals through a variety of services that include on-line registration, adding and dropping classes, accessing final grades, academic transcripts, and coordinating the semester course schedule. Records and Registration staff are available to help students to understand the variety of policies, procedures, and deadlines that are in place. The phone number for Records and Registration is 605-688-6195.

**Scholarships** - Students receiving the Jackrabbit Guarantee or the South Dakota Opportunity Scholarship may find information and advising on continuing scholarship eligibility, renewal, and retention. The phone number for Scholarships is 605-688-5201.

**Multicultural Center and Student Support Services**

**Multicultural Center** - The Multicultural Center develops campus initiatives that demonstrate the valued practice and philosophy of multiculturalism within the University community. The office provides support to students of color by providing tutorial services, multicultural and diversity programming, advising cultural
Residential Life

Housing and Residential Life administers programs and facilities for all on-campus housing. Further information and policies are available in the on-line Residential Life Handbook and Family Student Housing Information found on the department's website. Housing and Residential Life is located on the first floor of Caldwell Hall. The phone number is 605-688-5148.

Residence Halls - Residence Halls at SDSU are living units where students can study, meet other students, and be challenged to develop as individuals. Students who are enrolled in the first two years of residence hall housing must live in a residence hall. All residence halls are co-educational. The University provides residence halls with the following services: laundry facilities, free Internet, student mailboxes, 24-hour security, and a university police department. The ultimate goal of SSS is to increase the number of students who are retained and graduated from SDSU. To be eligible for services, a participant must fit one of the following criteria: 1) a first generation student - neither parent finished a 4-year college degree, 2) an individual with a documented disability that impacts ability to succeed in an academic program, and/or 3) an individual from an economically disadvantaged family who needs financial assistance to attend and be successful in college. For more information on Student Support Services, visit the office in SSU 005. Phone: 605-688-6653.

TRIO Student Support Services - TRIO Student Support Services is a federally funded TRIO grant program designed to support students in achieving academic success. To assist students' success at SDSU the following support services are available through the SSS Program: 1) individualized support in managing academic pursuits; 2) personalized financial, career, and social support services to ease transitions through college; 2) tutorial services in a variety of course areas (including math, English, and basic sciences); 3) referral assistance to other campus support services; and 4) priority registration at the beginning of each academic semester. Since services to students are individualized, participation in the program may substantially increase participants' chances for success at SDSU.

TRIO Upward Bound - Upward Bound is a Federally Funded program designed to support high school students in their preparation for successful college graduation. Upward Bound provides support in areas of tutoring, mentoring, cultural enrichment, college tours, personal development, and academic preparation. To participate, students must be either first-generation college-bound or parents meet the federal income guidelines; and be enrolled in one of the five participating high schools located in Sioux Falls and Flandreau, SD. Phone: 605-688-6653.

The Union

The Union provides an opportunity for student involvement with the campus community and a connection to the University. The department manages and operates the University Student Union, which includes services such as the Information Exchange, Outback Jacks, Blue Print Design Center, Central Reservations and State Technical Services. Students can cash checks, send faxes, play billiards, rent outdoor recreational equipment, reserve sound and lighting services for programs, and dine at the Market, Jacks' Place, Einstein Bros. Bagels and Weary Wil's Sports Grill. A full-service coffee, espresso and smoothie bar are also available at Java City. The department also facilitates the advising and support for student organizations. The Office of Student Engagement works closely with the University Program Council (UPC), Greek Life, the recognition of student organizations, and career development/internships. The department also coordinates the New Student Orientation program for the summer, fall, and spring and is engaged in the Lead State and Meet State programs.
This Union is home to The Collegian student newspaper, Students’ Association, Student Legal Services, KSDJ 90.7 campus radio station, Greek Life, Multicultural Student Organizations, University Program Council, Dining Services: the Market and Jacks’, the Bookstore, Card Services/Hobo Dough, and fifteen meeting rooms including the Volstorff Ballroom which add to the already extensive list of student programs and services that work to build a great student experience at State. For more information regarding the Union call 605-688-4960.

Center for Student Engagement
The Center for Student Engagement is located in the Union and links students to a variety of programs and initiatives designed to promote their success at South Dakota State University. The center is home to career development and internship staff, as well as staff focused on serving student organizations, leadership development programs and campus wide engagement initiatives. The University Program Council, Greek Life, the Students’ Association and the New Student Orientation program also call the center home.

Career Development and Internship Services - Career Development staff promote student growth and development through a variety of programming and services that facilitate the transition from student to professional and help students and employers connect. Students from all colleges and majors are welcome to take advantage of the support offered by the Career Center. Uncovering the best career opportunities takes time and the effort begins with the foundation of experience developed as early as the freshman year. Career inventories are available to help students assess their interests and abilities and connect them to careers. Whether searching for part-time or summer jobs, internships, or full-time employment, the Career Development staff offer assistance in learning effective job searching techniques. Services include individual coaching on resume writing, developing job search strategies, and improving interviewing skills, as well as special events such as practice interviews with area employers. In addition, the Career Center works with SDSU colleges to facilitate job fairs and on-campus interviews for the numerous employers that recruit SDSU students.

Students may register with Campanile Connections, www.myinterface.com/capcenter/student/ the free online career management system to search job listings, post resumes, sign up for on-campus interviews, research employers, and receive email notices regarding job listings. SDSU hosts an on-campus branch of the South Dakota Department of Labor and Regulations for the convenience of students searching for part-time and summer jobs in Brookings and the around the state. The Career Center can be contacted at 605-688-4425, sdsu.careercenter@sdbor.edu, or for more information visit http://www.sdstate.edu/careercenter/.

New Student Orientation - NSO assists the transition process for students new to SDSU. NSO implements Orientation sessions for new, transfer, and readmit students throughout the year. At Orientation, students register for classes, attend informational sessions, and receive other important information about being a student at SDSU. After attending Orientation, students often feel much better prepared for life at SDSU.

Wellness Center
The Wellness Center is dedicated to supporting academic success and personal development by promoting and encouraging healthy lifestyle for the members of the SDSU community. The Wellness Center houses state of the art fitness equipment, a variety of recreational and intramural programs, effective wellness education, and a student health clinic and counseling center. Services and programs provided are detailed below. Further information about the Wellness Center is available at 605-697-WELL(9355), sdsu.wellnesscenter@sdstate.edu, or go online to www.sdstate.edu/wellness-center.

Fitness
We strive to provide current and diverse programming to enhance life-long health and well-being. Knowledgeable professionals serve the students, faculty and community to make appropriate decision about their fitness and nutritional desires. A varied menu of activities and programs are offered including: cardio and weight equipment; land, water and Spinning classes; walking/running track; pool; three gyms; a climbing pinnacle and bouldering wall. Staff provides personal orientation, personal fitness evaluations, and design a personal program to meet fitness goals. For further information regarding the Wellness Center, hours and its services, call 605-688-6415 or go online to www.sdstate.edu/wellness-center.

Nutrition Counseling
We believe that nutrition is an important aspect of being healthy. The Wellness Center offers nutrition counseling with a register dietitian for dietary lifestyle changes, college weight gain, specialized plans for specific health condition, and eating disorders. Appointments can be made through the Student Health Clinic by calling 605-688-4157.

Intramural Sports and Sport Clubs
Intramural Sports - The Intramural Program provides the opportunity for all activity-fee-paying students, both undergraduate and graduate, to participate in organized and informal sports as regularly as their time and interests permit. SDSU faculty and staff, that are members of the SDSU Wellness Center, are also encouraged to join a student intramural team and/or start their own faculty/staff team and compete in the intramural program. Activities are organized on an individual, team, and club basis. Leagues are established for women, men, and mixed (co-rec) competition activities. There are 30 recreational sports including flag football, 3-on-3 basketball, volleyball, basketball, softball and many more to choose from. Intramural registration is online at www.imleagures.com.

Sport Clubs - Sport clubs offer specialized participation ranging from a social setting on campus, to instructional programming, to competition with clubs from other universities within the region. Eight club sports such as hockey, rugby, men’s soccer, cricket, bowling, and ultimate Frisbee compete regionally giving SDSU students additional recreation opportunities.

For further information, contact the Intramural Staff at 605-688-6881.

Student Health Clinic and Counseling Services
The mission of Student Health Clinic and Counseling Services is to promote the health and wellness of the University Community, to enhance student retention, and to support academic and personal success. All SDSU students are eligible for services. Hours are Monday through Friday, 8 a.m.-5 p.m. when classes are in session. During summer and academic breaks limited appointments are available on Monday, Tuesday, Thursday and Friday. (No appointments on Wednesdays).

Student Health Clinic - The Health Clinic provides primary care for illnesses and injuries, laboratory diagnostics, reproductive health, physical examinations, immunizations, international travel health, and nutritional counseling to SDSU students. For further information or to make an appointment call 605-688-4157. For more information, visit www.sdstate.edu/wellness-center/clinic.

Jackrabbit Pharmacy - The Pharmacy serves all eligible SDSU students, faculty/staff, their family members, and Family Planning patients. The SDSU Jackrabbit Pharmacy accepts prescriptions from doctors outside of the student health clinic. We offer competitively priced over-the-counter and prescription medications along with discounted birth control. For more information, call 605-688-5410 or visit www.sdstate.edu/wellness-center/pharmacy.
Brookings Family Planning - The family planning services provide education, counseling, medical, & birth control services along with pregnancy testing and sexually transmitted infections (STI) screenings. Cost of services is based on family income and size. Anyone (student or non-student) is eligible to receive these services. For more information or to make an appointment, call 605-688-6622 or visit www.sdstate.edu/wellness-center/family.

Counseling Services - Counseling Services provide individual and group counseling to students with emotional, behavioral, and/or academic concerns to promote retention and success at SDSU. Common issues include mood disorders, substance use/abuse, relationship concerns, and personal and professional growth. Counselors are available for emergencies after hours during the school year by contacting UPD at 605-688-5117, who will then contact the counselor on-call. For further information, call 605-688-6146 or visit www.sdstate.edu/wellness-center/counseling.

Drug and Alcohol Abuse Prevention Programs - SDSU, through the Department of Student Health and Counseling Services, provides alcohol and drug abuse information and prevention programs to the campus community. Alcohol and drug abuse assessment is available on an individual basis. Counseling and medical services are available to students and referrals to other agencies are available to everyone on campus. For further information, call 605-688-6146 or 605-688-4157.

Teaching and Learning Center

The SDSU Teaching and Learning Center assists students and faculty in arranging service-learning courses utilizing any of a variety of service sites and varying lengths of service. Supplemental service-learning course credits can be provided in accordance with the amount of study/service, and grades are based on the learning that takes place. Special costs are involved. Study may focus on a particular culture, social system, agency, skill set, or other chosen topic.

Service Learning - South Dakota State University provides service-learning opportunities for students through the SDSU Teaching and Learning Center. Service-learning combines meaningful service in the community with a formal educational curriculum and structured time for participants to reflect on their service and educational experience. A variety of SDSU departments have established service-learning courses and students are encouraged to contact specific departments for information. Assistance with this can be obtained from the Teaching and Learning Center by calling 605-688-6413.

University Marketing and Communications

The role of the Office of University Marketing and Communications is to serve as a reliable communications and marketing link between the general public and the state's largest higher education institution: South Dakota State University. The numerous services and activities performed by the office are designed to inform key stakeholders and promote the areas of excellence at SDSU, ranging from faculty and student achievements, research-based initiatives, and alumni accomplishments. University Marketing and Communications assists and works with the University's administration, colleges and departments and numerous student organizations in providing strategic marketing and communications functions to showcase the University's commitment as a land-grant institution to teaching, research, and outreach. The office maintains five primary areas of operations: news service, creative services, marketing & brand management, photography and licensing & merchandise.

News Service - The News Service division is the official source for South Dakota State University news, information and expert sources and university-wide events. The division is committed to providing information to the public and university community about the quality and diversity of the learning environment at SDSU, the level of scholarship and research and the university's dedication to finding solutions to the challenges of today. The office responds to all media requests concerning issues, events and research happening at SDSU. Incoming reporter queries help determine experts who can most appropriately respond. University Marketing and Communications works closely with all branches of the news media to provide interview and information requests, University event publicity, news tips and advisories, distribution of University research information, and a wide variety of student-related announcements. South Dakota State University welcomes the media to campus and request they contact the office to schedule interviews and visits to campus. News Service representatives can be reached at 605-688-6161.

Creative Services - The creative services division serves a vital communications role at SDSU. Creative services manages eight magazines and newsletters, which showcase students, faculty, and alumni as they carry State's message of opportunity to various audiences, both on and off campus. The office produces the following magazines for the following colleges and organizations on campus:
- State Magazine (SDSU Alumni Association)
- Calling Home (magazine for parents)
- Impulse Magazine (College of Engineering)
- College of Nursing
- College of Pharmacy
- Rabbit Tracks (SDSU Athletics)
- College of Arts and Sciences
- College of Education and Human Sciences

Staff members regularly collaborate and consult with various campus departments and colleges about their communication needs. Professional and experienced staff make the various publications shine through the creative work of several graphic designers and writers. In addition to magazines and newsletters, the creative services unit designs brochures, display banners, posters, programs, invitations and just about anything else that clients request. A key goal is to ensure that SDSU's name and logo is properly used in printing projects. University Marketing and Communications maintains the University's Graphic Identity Manual and monitor University logo usage.

Marketing & Brand Management

The South Dakota State University marketing division provides strategic and tactical marketing services, including brand management, positioning and messaging and advertising. The division is also responsible for the development and implementation of the University's strategic marketing plan. The department aids the University in reaching its strategic and operational goals by building awareness, preference and loyalty among its current and prospective stakeholders.

Brand Management - University Marketing and Communications also carries the responsibility of ensuring that SDSU's name and logos are properly used in printing projects. The University currently has three main marks: The Campanile with SDSU underneath serves as the institutional logo and is to be used for most publications; the Jackrabbit is the mascot of the University and is used by Athletics, the SDSU Alumni Association and student organizations; and the stretch SD is used by Athletics and for external marketing purposes.

There are a few basic rules that apply to each mark:
- All marks must be used in its entirety. Using only a portion of the mark is not allowed.
- All marks must be used in the proper colors, with no color substitutions or embellishments.
• Marks cannot be altered in any way, for example, the jackrabbit cannot wear a cowboy hat or be dressed in scrubs.
• Marks cannot be overprinted, and a ring of 3/16 inch clear space must surround them at all times.

In order to use any of the marks on printed publications, prior approval must be obtained from University Marketing and Communications. Call 605-688-4537 for logo usage approval.

**Licensing** - The purpose of the South Dakota State University Trademark Licensing Program is to protect and promote the name, symbols, and other trademarks that are associated with the University on apparel and other merchandise for internal and external consumption.

The SDSU Trademark Licensing Program is charged with:
• Protecting and controlling use of the University name and marks;
• Developing cooperative relationships with licensees;
• Distribution and approval of artwork;
• Promotion of products and designs that are consistent with the University’s image, reputation, and goals;
• Supporting the University’s strategic brand development.

Any product bearing the logos, trademarks, word marks, or having an implied association with South Dakota State University must be licensed with the South Dakota State University Trademark Licensing Program, which approves all products and designs and ensures proper labeling as appropriate. In addition, the South Dakota State University Trademark and Licensing Program seeks to insure that all products and designs submitted for licensing are safe for consumers and project the proper image of the University. Contact the South Dakota State Trademark Licensing Office at 605-688-6161 with questions at sdsu.ur@sdstate.edu or 605-688-6161.

**Photographic Services** - University Marketing and Communications is home to SDSU’s photography services and is responsible for meeting photo requests across campus. Requests are varied ranging from the president’s office, campus events, conferences, SDSU’s web pages, college publications, promotional and marketing items to intercollegiate athletic competition. SDSU photography services provides the university with high-quality images at reasonable rates. To schedule photography services please call 605-688-5913.

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**Water and Environmental Engineering Research Center**

The Water and Environmental Engineering Research Center (WEERC) is located in the College of Engineering at SDSU. Formerly named the Northern Great Plains Water Resources Research Center (NGPWRRRC), WEERC conducts research, education and outreach activities through principal investigators who are faculty members in the Engineering College. WEERC projects are funded by governmental agencies, cities, and industry, and are focused on engineering solutions to water resources and environmental problems. Recent project topics include municipal and industrial water and wastewater treatment, water supply and wastewater disposal systems, environmental remediation, hydrological phenomena, and hydraulics of natural and engineered systems. These projects often involve collaboration with other SDSU departments or off-campus units. WEERC also maintains an environmental chemistry laboratory in Crothers Engineering Hall in conjunction with the Civil and Environmental Engineering Department. The laboratory supports research projects, environmental engineering courses, and outreach/service activities. For information, contact Director Chris Schmit, christopher.schmit@sdstate.edu, 605-688-6252, or WEERC, SDSU, Box 2219, Brookings, SD 57007-0096.

**Water Resources Institute (WRI)**

The SDSU Water Resources Institute (WRI) conducts research and outreach in agricultural and environmental water management for South Dakota and the North Central Region.

**Water Research** Ongoing research activities are solving problems related to water supply to crops, tile drainage systems, agricultural nutrient management and water quality. We make field measurements, use satellite imagery to map water resources, and utilize advanced computer software. The research is done in collaboration with agricultural producers, commodity groups, policy makers, water management agencies and organizations and the public.

**Water Outreach** The WRI hosts the annual Eastern South Dakota Water Conference where the public can attend at no cost. The WRI also co-sponsors the Big Sioux Water Festival in Brookings, SD, which has hosted more than 20,000 4th grade students since its beginning in 1993. The Institute helps homeowners and landowners by providing water quality analysis interpretations at no cost.

**Water Education** The WRI educates and trains students to be the water management decision-makers of tomorrow. WRI instructors bring real-life water related problems into the classroom. Students are directly involved in research projects, and they present their projects at conferences and meetings. The WRI also funds students to work on their water research projects and has student lab space available.

The Water Resources Institute is located in the Agricultural Engineering building and is associated with the College of Agriculture and Biological Sciences. For more information, please contact the Water Resources Institute by phone at 605-688-4910, by e-mail: sdsu.wri@sdstate.edu, or on the Web at http://www.sdstate.edu/abe/wri.
University Organization, Administration and Staff

University Organization

Accreditations & Affiliations

General Administration

Academic Deans

Regental Distinguished Professors

Distinguished Professors

Faculty, Staff

Emeriti Faculty, Staff

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Control of the educational institutions of the state is vested in the 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, 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.

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College of Public Health and Molecular Sciences

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Assistant Vice President for Business Affairs
Wendy L. Hammar, Ph.D.

Assistant Vice President for Human Resources
C. Patricia Morrisey, Ph.D.

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Kincheloe Doemer, Ph.D., Dean

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Kristi Tomquist, Ph.D., Chief University Librarian

Office for Student Affairs
Samuel A. Jennings, Ph.D., Dean of Students

Board of Regents
Directors
Academic Programs (College of AgBio)
Donald M. Marshall, Ph.D.
Admissions
Tracy Welsh, B.A.
Agricultural Experiment Station
Daniel Scholl, Ph.D.
Agricultural Heritage Museum
Gwen McCasland
Alumni Association
VACANT
Animal Disease Research and Diagnostic Laboratory (ADRDL)
Jane Christopher-Hennings, D.V.M.
Athletics
Justin Sell, M.S.
Bookstore, University
Derek Peterson, B.S.
Capitol University Center-Pierre
Janelle Toman, Ed.D.
Center for Infectious Disease Research and Vaccinology
David H. Francis, Ph.D.
Continuing and Distance Education
Lindsey Hamlin, M.B.A.
Dining Services
JoLee Frederiksen, B.S.
Disability Services
Nancy Crooks, M.S.
Diversity, Equity and Community
Jaime Nolan-Andrino, M.A.
English as a Second Language
Nathan Ziegler, Ph.D.
Enrollment Services and Registrar
Aaron Aune, Ph.D.
Environmental Health & Safety
Gary Yarrow, Ph.D.
Ethel Austin Martin Program in Human Nutrition
Bonny Specker, Ph.D.
Financial Aid
Carolyn Halgerson, M.B.A.
First Year Advising Center
Jody Owen, Ed.D.
Geographic Information Sciences Center of Excellence
Geoffrey Henebry, Ph.D.
Grants and Contracts Administration
Jacqueline Nelson, M.Ed., CRA
4-H Foundation
Nancy Swanson, M.A.
Institutional Research and Budget
Jacqueline Nelson, M.Ed., CRA
Marketing and Communications
Mike Lockrem, M.Ed.
McCory Gardens,
David Graper, Ph.D.
Multicultural Center and Student Support Services
C.D. Douglas, M.S.
North Central Regional Sun Grant Center
Vance Owens, Ph.D., Interim
Oak Lake Field Station
Nels Troelstrup, Ph.D.
Orientation
Adam Karnopp, M.S.
Residential Life
Jeffrey Hale, Ed.D.
South Dakota Art Museum
Lynn Verschoor, M.S.
SDSU Extension Service
Barry Dunn, Ph.D.
SDSU Foundation/Development
Steve Erpenbach, B.S., President
SD EPSCoR
James Rice, Ph.D.
Student Engagement
Nick Wendell, M.S.
Teaching and Learning Center
Kevin Sackreiter, Ed.D.
Technology Transfer Service
William Aylor, J.D.
University Student Union
Jennifer Novotny, M.S.
Water and Environmental Engineering Research Center
Chris Schmit, Ph.D.
Water Resources Institute
Van C. Kelley, Ph.D.
Wellness Center
Van C. Kelley, M.S.
West River Ag Center
Dan Oedekoven, M.Ed.

Department Heads (By College)
Agriculture and Biological Sciences
Agricultural and Biosystems Engineering
Van C. Kelley, Ph.D.
Animal Sciences
Joseph Cassidy, Ph.D.
Biology and Microbiology
Volker Brozel, Ph.D.
Dairy Science
Vikram V. Mistry, Ph.D.
Economics
Eluned Jones, Ph.D.
Natural Resource Management
Nels Troelstrup, Ph.D., Interim
Plant Science
David Wright, Ph.D.
Veterinary and Biomedical Science
Jane Christopher-Hennings, DVM
Water Resources
Van C. Kelley, Ph.D.

Arts and Sciences
Aerospace Studies
Col. William C. Pleasants
Architecture
Brian T. Rex, M.S.
Chemistry and Biochemistry
James A. Rice, Ph.D.
Communication Studies and Theatre
Laurie Haleta, Ph.D.

English
Jason McIntee, Ph.D.
Geography
George White, Ph.D.
History, Political Science, Philosophy, and Religion
Will Prigge, Ph.D.
Journalism and Mass Communication
Mary Peterson Arnold, Ph.D.
Military Science
LTC Aaron C. Schultz, M.B.A.
Modern Languages and Global Studies
Laurie Haleta, Ph.D., Interim
Music
David Reynolds, D.M.A.
Physics
Joel Rauber, Ph.D.
Psychology
Bradley Woldt, Ph.D.
Sociology and Rural Studies
Mary Emery, Ph.D.
Visual Arts
Tim Steele, Ph.D.

Education and Human Sciences
Consumer Sciences
Jane E. Hegland, Ph.D.
Counseling and Human Development
Jay Trenhaule, Ed.D.
Health and Nutritional Sciences
Matthew Vukovich, Ph.D.
Teaching, Learning and Leadership
Andrew Stremmel, Ph.D.

Jerome J Lohr College of Engineering
Civil and Environmental Engineering
Nadim I. Wohbe, Ph.D.
Electrical Engineering and Computer Science
Steven Hietpas, Ph.D.
Construction and Operations Management
Teresa Hall, Ph.D.
Mathematics and Statistics
Jana Shiver, Ph.D.
Mechanical Engineering
Kurt Bassett, Ph.D.

Nursing
Nursing Research
VACANT
Nursing Student Services
Todd Stritcher, M.S.
Undergraduate Nursing
Linda Herrick, Ph.D.
West River Nursing
Barbara Hobbs, Ph.D.

Pharmacy
Pharmacy Practice
James Clem, Pharm.D.
Pharmaceutical Sciences
Omamunnu Perumal, Ph.D.

Accreditations and Affiliations
The University holds institutional membership in a number of educational associations: the National Association of State Universities and Land-Grant Colleges (1307 New York Avenue, Suite 400, Washington, D.C. 20005-4701; Phone 202-478-4701) promotes the aims expressed in the Morrill Act of 1862, and in the subsequent acts of Congress relating to Land-Grant Colleges.

Accredited by The Higher Learning Commission (HLC) of the North Central Association of Colleges and Schools (230 North LaSalle Street, Suite 7-500, Chicago, IL, 60604; Phone 800-621-7440). Its purpose is to maintain high standards of instructional work and educational programs.

Agricultural Systems Technology: The Agricultural Systems Technology Program is accredited by the American Society of Agricultural And Biological Engineers (2950 Niles Road, St. Joseph, MI 49085-9659; Phone: 269-429-0300).
Animal Disease Research and Diagnostic Laboratory: The Animal Disease Research and Diagnostic Laboratory is accredited by the American Association of Veterinary Laboratory Diagnosticians (PO Box 1522, Turlock, CA 95381; Phone 209-634-5837).

Art Museum: In 1977 the South Dakota Art Museum became the first South Dakota museum of any kind to be accredited by the American Association of Museums Accreditation Commission (1575 Eye St., NW, Suite 400, Washington, D.C. 20005; Phone 202-289-1818).

Athletic Training: The Athletic Training Program (undergraduate and graduate levels) is accredited by the Commission on Accreditation of Athletic Training Education (2201 Double Creek Drive, Suite 5006, Round Rock, TX 78664; Phone 512-733-9700).

Aviation Education: The Aviation Major - Aviation Education Specialization program is accredited by the Aviation Accreditation Board International (3410 Skyway Drive, Auburn, AL 36830; Phone 334-844-2431).

Chemistry: The Chemistry program is certified by the American Chemical Society (1155 Sixteenth St., N.W., Washington, DC 20036; Phone 202-872-4589).


Construction Management: The Construction Management program is accredited by the American Council for Construction Education (1717 North Loop 1604 East, Suite 320, San Antonio, TX 78232-1570; Phone 201-495-6161).

Counseling and Human Resource Development: The Counseling and Human Resource Development program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (1001 North Fairfax Street, Suite 510 Alexandria, Virginia 22314; Phone 703-535-5990). The specialization in Rehabilitation and Mental Health Setting is accredited by the Council on Rehabilitation Education (1699 E. Woodfield Road, Suite 300 Schaumburg, IL 60173; 847-944-1345).

Dietetics: The Dietetics program is accredited by the Accreditation Council for Education of Nutrition and Dietetics, the accrediting agency for Academy of Nutrition and Dietetics (120 South Riverside Plaza, Suite 200, Chicago, IL 60606-6995; 312-899-0040 ext 5400).

Early Childhood Education: The Early Childhood Education program is accredited as part of teacher education by the National Council for Accreditation of Teacher Education (2010 Massachusetts Ave., NW, Suite 500, Washington, D.C. 20036-1023; Phone 202-466-7496).

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

Extension: The extension programs of Agricultural and Biosystems Engineering; Animal Science; Biology/Microbiology; Dairy Science; Economics; Experiment Station; Human Sciences; Plant Science; Range Science; Sociology; Veterinary Medicine; and Wildlife and Fisheries Sciences are reviewed by the United States Department of Agriculture, National Institute of Food and Agriculture (NIFA); 1400 Independence Avenue SW, Stop 2201, Washington, DC 20250-2201.

Exercise Science: The Exercise Science Program is accredited by the Commission on Accreditation for the Exercise Sciences (401 W. Michigan St. Indianapolis, IN 46202, http://www.coaes.org/home.html).

Fishback Center for Early Childhood Education: The Fishback Center for Early Childhood Education is accredited by the National Association for Education of Young Children (1506 16th St., NW, Washington, D.C. 20036-1426; Phone 800-424-2460).

Honors College: The Honors College program is certified by the National Collegiate Honors Council (1100 Neihardt Residence Center 540 North 16th St. Lincoln, Nebraska 68588-0627; Phone: 402-472-9150; Email: nhec@unl.edu).

Interior Design: The Interior Design program is accredited by the Council for Interior Design Accreditation (206 Grandville Avenue, Suite 350 Grand Rapids, MI 49503-4014; Phone: 616.458.0400).

Journalism and Mass Communications: The curriculum in Journalism and Mass Communications is accredited by the Accrediting Council on Education in Journalism and Mass Communication (School of Journalism and Mass Communications, University of Kansas, Lawrence, KS 66045; Phone 913-864-3986).

Leadership & Management Non-Profit Organizations (LMNO): The LMNO program is certified by the Nonprofit Leadership Alliance (1100 Walnut Suite 1900 Kansas City, MO 64106; 816-561-6415).

Medical Laboratory Science: South Dakota State University Medical Laboratory Science Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (5600 River Rd. Suite 720, Rosemont, IL 60018-5119).

Music: The Music programs are accredited by the National Association of Schools of Music (11250 Roger Bacon Drive, Suite 21, Reston, VA 22090; Phone 703-437-0700).

Nursing: The programs in the College of Nursing are accredited by the Commission on Collegiate Nursing Education (One Dupont Circle, NW, Suite .530, Washington, D.C. 20036-1120; Phone: (202) 887-6791 x252 Fax: (202) 887-8476).

Pharmacy: The curriculum in Pharmacy is accredited by the Accreditation Council for Pharmacy Education (20 North Clark Street, Suite 2500, Chicago, IL 60602-5109; Phone 312-664-3575).

Range Sciences: The curriculum in Range Science is accredited by the Society for Range Management (10030 W 27th Ave Wheat Ridge, CO 80021-6601; Phone 303-986-3509; Fax 303-986-3892).

Teacher Education: The preparation of teachers and other professional school personnel at both the undergraduate and graduate levels is accredited by the National Council for Accreditation of Teacher Education (2010 Massachusetts Ave., NW, Suite 500, Washington, D.C. 20036-1023; Phone 202-466-7496).

Affiliations
The University also holds membership in the American Council on Education, the American Council on Education's Internationalization Collaborative Studies, the American Society for Information Science & Technology, the Council on International Educational Exchange (CIEE), the College Consortium for International Studies (CCIS), the Cooperative Center for Study Abroad (CCSA), the International Student Exchange Program (ISEP), the American Association of Colleges for Teacher Education, the American Association of University Women, the American Association of Colleges of Pharmacy, the American Society for Engineering Education, the Association of Schools of Journalism and Mass Communication, the American Association of Colleges of Nursing, the American Library Association, Associated Western Universities, Inc., the Association of American Veterinary Medical Colleges, Association for Supervision & Curriculum Development, Council of Graduate Schools in 358 University Organization, Administration and Staff.
the United States, Educause, National Association for Foreign Student Affairs, and several others which are concerned with more limited phases of college work. Through the Board of Regents, the University also participates in the Western Interstate Commission for Higher Education (WICHE).

### University Staff

The number immediately after the title of a member of the staff indicates the year when the person was first employed as a regular member of the university staff; the number following, if there is one, is the year of appointment to present rank.

## General Administration

Chelioze, David L., President, Professor of Economics, Graduate Faculty, 2007; B.S., South Dakota State University, 1969; M.S., University of Delaware, 1971; M.A., Western Illinois University, 1978; Ph. D., University of Illinois, 1979.

Nichols, Laurie Stenberg, Provost and Vice President for Academic Affairs, Professor of Counseling and Human Development, Graduate Faculty, 1994, 2009; B.S., South Dakota State University, 1978; M.Ed., Colorado State University, 1984; Ph.D., Ohio State University, 1988.

Adelaine, Michael F., Vice President for Information Technology and Security, Graduate Faculty, 1990, 2003; B.S., Michigan State University, 1974; M.S., University of Nebraska, 1983; Ph.D., 1989.

Kephart, Kevin D., Vice President for Research, Professor of Plant Science, Graduate Faculty, 1986, 2005; B.S., Montana State University, 1979; M.S., University of Wyoming, 1982; Ph.D., Iowa State University, 1987.

Rames, Marys Paclzowski, Vice President for Student Affairs, Graduate Faculty, 1987, 2004; B.S., University of Northern Colorado, 1982; M.A., 1986; Ed.D., University of South Dakota, 199?.


Helling, Mary Kay, Associate Vice President for Academic Affairs and Professor of Human Development, Graduate Faculty, 1978, 2003; B.S., South Dakota State University, 1977; M.S., 1982; Ph.D., Purdue University, 1992.

## Academic Deans

Brown, Lewis F., Dean of the College of Engineering, Professor of Electrical Engineering, Graduate Faculty, 1992, 2000; B.S., South Dakota State University, 1984; M.S., Iowa State University, 1986; Ph.D., 1988.

Corbett, Keith W., Dean of the University College, Professor of Educational Leadership, Graduate Faculty, 1981, 2004; B.S., South Dakota State University, 1976; M.Ed., 1987; Ed.D., University of South Dakota, 2001.

Donovan, Kathleen, Associate Dean of the College of Arts and Sciences, Professor of English, Graduate Faculty, 1994, 2000; B.A., Spalding College, 1968; M.A., University of Nebraska, 1968; Ph.D., University of Arizona, 1994.

Doerner, Kinel, Dean of the Graduate School, Professor of Biology and Microbiology, Graduate Faculty, 2012, B.S., Southern Illinois University, 1986; M.S., University of Illinois, 1989; University of Illinois at Urbana-Champaign, 1992.

Dunn, Barry, Dean of the College of Agriculture and Biological Sciences, Professor of Animal Science, Graduate Faculty, 2000, 2010; B.S., South Dakota State University, 1975; M.S., 1977; Ph.D., 2000.

Fahrenwald, Nancy, Dean of Nursing, Associate Professor of Nursing, Graduate Faculty, 1995, 2006; B.S., South Dakota State University, 1983; M.S., University of Portland, 1998; Ph.D., University of Nebraska, 2002.

Guin, Xiangming, Assistant Dean of Research College of Pharmacy, Professor of Pharmaceutical Sciences, Coordinator of Graduate Studies and Research, Graduate Faculty, 1992, 2014; B.S., Zhejiang Medical University, 1982; M.S., University of Kansas, 1988; Ph.D., 1991.

Hansen, Daniel J., Assistant Dean for Student Services, College of Pharmacy, Associate Professor of Pharmacy Practice, 2007, 2010; B.S., South Dakota State University, 2003; Pharm.D., 2005.

Hedge, Dennis, Dean of the College of Pharmacy, Professor of Pharmacy Practice, Graduate Faculty, 1992, 2009; B.S., South Dakota State University, 2003; Pharm.D., University of Kansas, 1991.

Hegland, Jane E., Associate Dean of Education and Human Sciences, Professor and Head of Consumer Sciences, Graduate Faculty, 2001, 2006; B.A., Saint Olaf College, 1985; M.A., University of Minnesota, 1991; Ph.D., 1995.

Heldr, Dennis L., Associate Dean of Research, College of Engineering, and Distinguished Professor of Electrical Engineering, Graduate Faculty, 1983, 2011; B.S., South Dakota State University, 1979; B.S., 1980; M.S., 1985; Ph.D., North Dakota State University, 1991.

Herrick, Linda M., Associate Dean of Undergraduate Nursing, 2012; B.S., Winona State University, 1979; M.S., University of Minnesota, 1991; Ph.D., University of Minnesota, 1998.

Jennings II, Samuel A., Dean of Students, 2012; B.S., Lewis-Clark State College, 1996; M.S. Portland State University, 1999; Ph.D., Capella University, 2005.

Marshall, Donald M., Associate Dean and Director of Academic Programs, College of Agriculture and Biological Sciences, Professor of Animal Science, Graduate Faculty, 1984, 2002; B.S., University of Missouri, 1979; M.S., Oklahoma State University, 1981; Ph.D., 1984.

Mort, Jane R., Associate Dean for Academic Programs, College of Pharmacy, Professor of Pharmacy Practice, Graduate Faculty, 1986, 2010; Pharm.D., University of Nebraska, 1985.

Nichols, Timothy J., Dean of the Honors College, Professor of Sociology and Rural Studies, Graduate Faculty, 1994, 2014; B.S., Washington State University, 1986; M.A.Ed., 1995; Ph.D., South Dakota State University, 2001.

Papini, Dennis, Dean of the College of Arts and Sciences, Professor of Psychology, Graduate Faculty, 2012; B.S., Western Illinois University, 1979; M.S., West Virginia University, 1982; Ph.D., West Virginia University, 1984.

Scholl, Daniel, Associate Dean of the College of Agriculture and Biological Sciences, Ag Experiment Station Director, Professor, Graduate Faculty, 2000, 2010; B.S., University of California, 1985; D.V.M., University of California, 1987; M.P.V.M., University of California, 1988; Ph.D., State University of Utrecht (the Netherlands) 1992.

Thorngren, Jill, M., Dean of the College of Education and Human Sciences, 2011; B.A., Idaho State University, 1994; M.S., 1996; Ph.D., 1999.

Regental Distinguished Professors

Bailey, Harold S., Vice President for Academic Affairs Emeritus, Distinguished Professor of Higher Education, 1951, 1985; B.S., Massachusetts College of Pharmacy, 1944; M.S., 1948; Ph.D., Purdue University, 1951.

Distinguished Professors

Brown, Michael L., Distinguished Professor of Natural Resource Management, Graduate Faculty, 1994, 2013; B.S., Arkansas Technical University, 1986; M.S., Texas A&M University, 1989; Ph.D., 1993.


Dwivedi, Chandrachr, Distinguished Professor Emeritus of Biology and Microbiology, Graduate Faculty, 1987, 2000; B.S., Gorakhpur University, 1964; M.S., 1966; Ph.D., Lucknow University, 1972.

Evenson, Donald P., Distinguished Professor Emeritus of Biology and Microbiology, Graduate Faculty, 1981, 1996; B.A., Augustana College, 1964; Ph.D., University of Colorado, 1968.

Flake, Lester D., Distinguished Professor Emeritus of Wildlife and Fisheries Sciences, Graduate Faculty, 1972, 1999; B.S., Brigham Young University, 1965; M.S., 1966; Ph.D., Washington State University, 1971.

Granholm, Nels H., Distinguished Professor Emeritus of Biology and Microbiology, Graduate Faculty, 1968, 2011; B.A., University of Massachusetts; 1964; Ph.D., Iowa State University, 1968.


Hegge, Margaret J., Distinguished Professor Emerita of Nursing, Graduate Faculty, 1969, 1999; 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.

Hess, Donna J., Distinguished Professor and Head of Rural Sociology, Graduate Faculty, 1974, 1998; B.A., Marquette University, 1965; M.A., State University of New York, 1971; Ph.D., Michigan State University, 1974.

Jenss, Jonathan A., Distinguished Professor of Natural Resource Management, Graduate Program Coordinator, Graduate Faculty, 1991, 2006;

Faculty, Staff

Aamloed, Brian, Assistant Athletic Director-Annual Giving, Intercollegiate Athletics; 2011; B.S., South Dakota State University; 2009; M.S., Belmont University, 2011.

Aaron, David, Assistant Professor of Physics, 1986; B.S., South Dakota State University, 1975; M.S., University of Wisconsin, 1981.

Abeln, Kristin, Instructor of General Studies, 2010; B.A., Southwest Minnesota State University, 2003; M.S., South Dakota State University, 2007.


Adams, Wells E., Jr., Adjunct Assistant Professor of Natural Resource Management, 2011; B.S., Iowa State University, 2002; M.S., South Dakota State University, 2004.


Adolph, Eric, Assistant Strength and Conditioning Coach; Intercollegiate Athletics; 2012; B.A., Dakota Wesleyan University, 2009; M.S. South Dakota State University, 2012.

Agostini, Thomas, Assistant Professor of History, Political Science, Philosophy, and Religion, Graduate Faculty, 2009; B.A., Virginia Military Institute, 1990; M.A., James Madison University, 1993; Ph.D., Lehigh University, 2002.


Ahmed, Patricia, Instructor of Sociology and Rural Studies; Ph.D., University of California - Los Angeles, 2005.


Ali, Shaukat, Associate Professor of Plant Science, Graduate Faculty, 2012; M.Sc., University of Agriculture, Faisalabad (Pakistan), 1978; M.S., South Dakota State University, 1993; Ph.D., North Dakota State University, 2001.

Alsaker, William, Instructor of Mathematics and Statistics, 2010; B.S., South Dakota State University, 2008; M.S., South Dakota State University, 2010.

Alston, Troy M., Assistant Director of Conference and Special Services, 2003, 2005; B.S., Bemidji State University, 1994; M.S., University of Wisconsin, 1996.

Anand, Sanjeev, Professor of Dairy Science, Graduate Faculty, 2006, 2014; B.S., D.S. College (India), 1978; M.S., National Dairy Research Institute (India), 1981; Ph.D., 1986.

Andersen, Brenda F., Associate Director of Student Health Services, 1982, 1984; B.S., South Dakota State University, 1979; M.S., 1986.

Anderson, Barbara, Clinic Recruitment and Outreach Coordinator, EA Martin Program in Human Nutrition, 2010; B.A., South Dakota State University, 1981

Anderson, Carla L., Student Services Coordinator and Academic Advisor, College of Education and Human Sciences, 2004; B.S., South Dakota State University, 2002; M.S., 2007; Ed.D., University of South Dakota, 2013.

Anderson, Gary A., Professor of Agricultural and Biosystems Engineering, Graduate Faculty, 1987, 1999; B.S., South Dakota State University, 1975; M.S., Iowa State University, 1985; Ph.D., 1987.

Anderson, Jean, Assistant Professor of Communication Studies and Theatre, 2012; B.A., Truman State University, 2004; M.A., Miami University, 2008; Ph.D. Michigan State University, 2012.

Anderson, Jill L., Assistant Professor of Dairy Science, 2012; B.S., University of Delaware, 2003; M.S., South Dakota State University, 2005; Ph.D., 2012.


Anderson, Randy, Adjunct Professor, Plant Science, Graduate Faculty, 2004; B.S., South Dakota State University, 1974; M.S., 1976; Ph.D., University of Wyoming, 1980.

Anderson, Zach, Student Affairs Fiscal and Facility Officer, 2012; B.S., South Dakota State University, 2004; M.S., University of South Dakota, 2006.

Ammat, Michael J., Adjunct Assistant Professor of Natural Resource Management, 2011; B.S., University of Alaska Fairbanks, 1997; M.S., Louisiana State University, 2002; Ph.D., 2006.


Arsenous, Angela, Instructor of Modern Languages and Global Studies, 2012; B.A., South Dakota State University, 2001; M.A., Bowling Green State University, 2006; Ph.D., Texas Tech University, 2012.

Arnold, Mary P., Professor and Head of Journalism and Mass Communication, Graduate Faculty, 2002, 2005; B.A., Dakota Wesleyan University, 1969; M.A., University of South Dakota, 1973; Ph.D. University of Iowa, 1994.


Arwood, Donald, Professor of Sociology and Rural Studies, Graduate Faculty, 1986, 1999; B.S., South Dakota State University, 1980, M.S., 1982; Ph.D., 1989.


Auger, Donald L., Associate Professor of Biology and Microbiology, Graduate Faculty, 2003, 2008; B.A., Saint John's University, 1975; Ph.D., University of North Dakota, 1995.

Austin, Jane E., Adjunct Assistant Professor of Natural Resource Management, 2003; B.S., University of Maine, 1980; M.S., University of Missouri, 1983; Ph.D., 1988.

Aure, Aaron, Director of Enrollment Services and Registrar, Student Affairs, 2010; B.S., University of Iowa, 1993; M.S., University of Northern Colorado, 1999; Ph.D., Colorado State University, 2003.

Alyor, William W., Director of Technology Transfer, 2012; B.S., Frostburg State University, 2000; M.S., North Carolina State University, 2002; J.D., West Virginia University, 2005.

Badura, Matthew, First Year Professional Advisor, University College, 2013; B.A., University of Notre Dame 1996; M.A. Illinois State University, 1998; Ph.D., Temple University 2010.

Baggott, Marie-Pierre E., Professor of Modern Languages, Graduate Faculty, 1998, 2002; B.A., Université de Clermont (France), 1986; M.A., University of California, 1989; Ph.D., 1996.

Baggott, Paul B., Associate Professor of English, Graduate Faculty, 2002, 2014; B.A., University of California-Irvine, 1987; M.A., California State University-Long Beach, 1993; Ph.D., University of Miami, 1998.


Bai, Wei, Post-Doctoral Research Associate in the Ethel Austin Martin Program in Human Nutrition, 2013; M.D., Xijing Medical University, 1997; M.S., Southern Medical University, Guangzhou 2000; Ph.D., South Dakota State University, 2013.

Bakker, Kristel K., Adjunct Assistant Professor of Natural Resource Management, 2003; B.S., South Dakota State University, 1990; M.S., 1996; Ph.D., 2000.

Ball, John J., Professor of Plant Science, 1991, 2001; B.S., Michigan Technological University, 1976; M.S., Michigan State University, 1979; Ph.D., 1982.

Banik, Deborah K., Assistant Professor of Nursing, 1998, 2012; Diploma in Nursing, Trinity School of Nursing, 1973; B.S., South Dakota State University, 1985; MPH, University of Minnesota, 1988, Ph.D., University of Nebraska-Omaha, 2002.

Bartel, Billie, Assistant Professor of Pharmacy Practice, 2011; B.S., South Dakota State University, 2007; Pharm.D., 2009.

Bassett, Janine D., Associate Professor of Nursing, 2000, 2013; B.S., South Dakota State University, 1992; M.S., 2004.

Bassett, Kurt D., Professor and Head of Mechanical Engineering, Graduate Faculty, 2005, 2007; B.S., South Dakota State University, 1981; M.S., 1983; Ph.D., North Dakota State University, 1996.

Bassett, Susan D., Instructor of Nursing, 1992; B.S., South Dakota State University, 1982; M.S., 1998.


Barber, Christopher P., Postdoctoral Fellow, 2012; B.S., Richard Stockton College of NJ, 1997; Ph.D., South Dakota State University, 2012.

Bayer, Michelle A., Lecturer, University College, 2007; B.A., South Dakota State University, 1995; M.ED., University of Nevada, 2005; Ed.D., University of South Dakota, 2012.


Beaudoin, Daniel, Adjunct Assistant Professor of Aerospace Studies, 2012; B.S., United States Air Force Academy, 2007.

Bebensee, Stephanie M., First Year Professional Advisor, 2001, 2012; B.S., South Dakota State University, 2000; M.S., South Dakota State University, 2008.

Beck, Dwayne L., Research Manager of Dakota Lakes Field Station, Professor, Graduate Faculty, 1979, 1995; B.S., Northern State University, 1975; Ph.D., South Dakota State University, 1983.


Bell, Julie A., Assistant Professor and Academic Advisor, College of Education and Human Sciences, 1975, 1980; B.S., South Dakota State University, 1970; M.S., 1976.

Berg, Jr., Robert K., Manager, SNS Experiment Station Farm, Professor, Graduate Faculty, 1993, 1998; B.S., Oklahoma State University, 1981; M.S., 1982; Ph.D., Iowa State University, 1987.


Berzonsky, William A., Associate Professor of Plant Science, Graduate Faculty, 2008; B.S., University of Maryland, 1982; M.S., University of Delaware, 1984; Ph.D., University of Missouri, 1988.

Bertolini, Katherine, Assistant Professor of Teaching, Learning, and Leadership, 2011; B.A., Michigan State University, 1990; M.A., 1999; Ph.D., North Dakota State University, 2010.


Bertrand, Katie N., Associate Professor of Natural Resource Management, Graduate Faculty, 2008, 2014; B.A., Gustavus Adolphus College, 2002; Ph.D., Kansas State University, 2007.

Beutler, Martin K., Extension Specialist and Professor of Economics, Graduate Faculty, 1986, 1998; B.S., Utah State University, 1980; M.S., 1982; Ph.D., Purdue University, 1986.


Bieseker, Matthew J., Associate Professor of Mathematics and Statistics, Graduate Faculty, 2003; B.S., California State University at Chico, 1994; M.S., Utah State University, 1996; Ph.D., 2004.


Binkley, Teresa L., Assistant Professor of Health and Nutritional Sciences, Graduate Faculty, 1998, 2007; EA Martin Program in Human Nutrition; B.S. South Dakota State University, 1988; M.S., 1997; Ph.D., 2007

Birch, Carol, Assistant Professor of Nursing, 1990; B.S.N., Loyola University, 1979; M.S., Northern Illinois University, 1981.

Biswas, Ananya, Research Associate I, 2011; B.S., West Bengal University of Animal and Fishery Science, 1998; M.S., 2002; M.S., South Dakota State University, 2005.


Blackwell, Brian G., Adjunct Associate Professor of Natural Resource Management, 2001; B.S., South Dakota State University, 1990; M.S., Texas A&M University, 1993; Ph.D., South Dakota State University, 2001.

Blaha, Bradley, Coordinator of Recruiting and Academic Services for the College of Agriculture and Biological Sciences, 2009; B.S., South Dakota State University, 2008.


Blevins, Bruce H., Professor of Biology and Microbiology, Graduate Faculty, 1991, 2003; B.S., Michigan State University, 1978; M.S., 1981; Ph.D., University of Florida, 1986.
Britzman, Darwin G., Adjunct Professor of Animal Science, 1999; B.S., South Dakota State University, 1953; M.S., University of Minnesota, 1962; Ph.D., South Dakota State University, 1964.

Britzman, Mark J., Professor of Counseling and Human Development, Graduate Faculty, 1987, 2004; B.S., South Dakota State University, 1982; M.Ed., 1984; Ed.D., University of South Dakota, 1987.

Brokmeier, Susanne, Instructor of Teaching, Learning and Leadership, 2005; B.S., Martin Luther College, 1987; M.Ed., South Dakota State University, 2003.

Brooks, April, Professor of History, Political Science, Philosophy, and Religion, Graduate Faculty, 1993, 2002; B.A., Hunter College, 1966; M.A., Tulane University, 1968; Ph.D., 1974.


Brown, Clint, Assistant Football Coach, Intercollegiate Athletics, 1996; B.S., University of Nebraska-Lincoln, 1999; M.A., New Mexico State University, 2009.

Brown, Kamerra, Assistant Equestrian Coach, Intercollegiate Athletics; 2011; B.S., Delaware State University, 2010; M.S., South Dakota State University, 2012.


Brown, Stephanie R., Academic Advisor, College of Education and Human Sciences, 2012; B.S., University of Nebraska-Lincoln, 1996; M.S., South Dakota State University, 2012.

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Jorgensen, Jerry D., Dean Emeritus of the College of Arts and Sciences, Professor Emeritus of Communication Studies and Theatre, Graduate Faculty, 1979, 2011; B.S., South Dakota State University, 1978, M.S.; 1984; Ph.D., University of Nebraska, 1990.

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Keneffek, Donald G., Professor Emeritus of Plant Science and Biochemistry, Graduate Faculty, 1959, 1971; B.S., University of Wisconsin, 1951; Ph.D., Michigan State University, 1959.

Kerr, Foster, Water Resources Specialist Emeritus, Agricultural and Biosystems Engineering, 1957, 1990; B.S., University of South Dakota, 1933.


Kohl, Robert A., Professor Emeritus of Plant Science, Graduate Faculty, 1975, 1987; B.S., Purdue University 1958; M.S., Utah State University, 1960; Ph.D., 1962.

Kohler, Paul H., Professor Emeritus of Animal Science, 1951, 1962; B.S., South Dakota State University, 1949; M.S., 1950; Ph.D., University of Minnesota, 1959.


Lamberton, Charles E., Professor Emeritus of Economics, Graduate Faculty, 1974, 1984; B.B.A., University of Minnesota, 1960; M.S., University of Wyoming, 1970; Ph.D., Iowa State University, 1975.

Lattin, Danny L., Professor and Dean Emeritus of the College of Pharmacy, Graduate Faculty, 1995; B.S., University of Kansas, 1965; Ph.D., University of Minnesota, 1970.


Leisure, O. W., Professor Emeritus of Physics, Graduate Faculty, 1963, 2004; B.S., South Dakota State University, 1960; M.S., 1966.


Libal, George W., Professor Emeritus of Animal and Range Sciences, 1968, 2001; B.S., University of Nebraska, 1966; M.S., 1968; Ph.D., South Dakota State University, 1974.

Lingsen, Charles K., Professor Emeritus of Educational Leadership, Graduate Faculty, 1976, 1999; B.A., University of Northern Iowa, 1958; M.A., University of Iowa, 1968; Ph.D., 1975.


Matthees, Duane, Professor Emeritus of Veterinary and Biomedical Sciences - Olson Biochemistry Laboratory, Graduate Faculty, 1980, 1991; B.A. Augsburg College, 1972; Ph.D., University of Maryland, 1978.


McMullen, Charles R., Professor Emeritus of Biology and Microbiology, Assistant Director of Academic Programs of College of Agriculture and Biological Sciences, Graduate Faculty, 1966, 1968; B.S., Northern State University, 1966; M.S., South Dakota State University, 1969; Ph.D., 1974.

McRoberts, Donald E., Associate Professor Emeritus of Chemistry, 1956, 1985; B.S., Montana State University, 1943; M.S., 1963.

Mendelson, Robert D., Professor Emeritus of Rural Sociology, Graduate Faculty, 1976, 1986; B.S., Illinois State University, 1967; M.S., Western Michigan University, 1971; Ph.D., 1973.


Miller, Peggy Gordon, President and Professor Emerita of Education, Graduate Faculty, 1998; B.A., Transylvania University, 1959; M.S., Northwestern University, 1964; Ed.D., Indiana University, 1975, L.L.D., Transylvania University (Honorary Degree), 1993.


Monahan, Maurice L., Professor Emeritus of Mathematics, 1956, 1999; B.S., South Dakota State University, 1956; M.S., University of Illinois, 1964.


Morrill, Keith, Associate Professor Emeritus of Biology, 1968, 1975; B.S., South Dakota State University, 1959; M.A., University of South Dakota, 1963.

Murra, Gene, Professor Emeritus of Economics, 1959, 1977; B.S., South Dakota State University, 1959; M.S., 1960; Ph.D., Ohio State University, 1963.


Nusbaumner, Linda L., Professor Emerita of Interior Design, Graduate Faculty, 1994, 2007; B.S., Mankato State University, 1990; M.S., 1992; Ph.D., University of Minnesota, 1998.


Olson, Roberta K., Dean and Professor Emerita of Nursing, 1994, 2013; B.S., South Dakota State University, 1964; M.S.N., Washington University, 1968; Ph.D., Saint Louis University, 1984.


Parsons, John G., Professor and Head Emeritus of Dairy Science, Graduate Faculty, 1968, 2001; B.S., University of Manitoba, 1961; M.S., 1963; Ph.D., Pennsylvania State University, 1968.


Pedersen, James O., Professor of Education/Dean of General Registration Emeritus, B.S., South Dakota State University, 1955; M.S., 1962; Ph.D., Purdue University, 1968.

Penor-Ceglian, Cindi M., Professor Emerita of Human Development, Graduate Faculty, 1979, 2011; B.S., South Dakota State University, 1979; M.Ed., 1980; Ph.D., 1997.

Perpich, Mary, Associate Professor Emerita of Journalism and Mass Communication, B.A. Michigan State University, 1976; M.A. Michigan State University, 1981.

Petersen, Marvin E., Associate Professor Emeritus of Electrical Engineering, 1982, 1989; B.S., S.D. School of Mines and Technology, 1948; M.S., Massachusetts Institute of Technology, 1957.

Peterson, Carol J., Provost and Vice President Emerita for Academic Affairs, Professor of Nursing, Graduate Faculty, 1977, 2000; Diploma in Nursing, Methodist Kahler School of Nursing, 1960; B.S., University of Minnesota, 1963; M.Ed., 1964; Ph.D., 1969.


Peterson, Gary, Professor Emeritus of Biology and Microbiology, Graduate Faculty, 1973, 1983; 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-Forestry, 1953, 1987; B.S., Colorado State University, 1947; M.S., University of California, 1949; Ph.D., University of Minnesota, 1953.


Pollmann, Robert J., Associate Professor of Plant Science/Manager of Seed Certification Emeritus, 1978, 2004; B.S., South Dakota State University, 1961; M.Ed., 1967.

Powers, James E., Professor Emeritus of Clinical Pharmacy, Graduate Faculty, 1983, 2000; B.S., University of Wisconsin, 1957; Pharm.D., University of Minnesota, 1983.


Raney, A. Leon, Professor/Dean of Libraries Emeritus, B.S., University of Central Arkansas, 1960; M.S., Louisiana State University, 1962; Ph.D., Indiana University, 1972.

Reeves, Dale L., Professor Emeritus of Plant Science, 1970, 1980; B.S., Kansas State University, 1958; M.S., 1963; Ph.D., Colorado State University, 1969.

Reger, Michael P., Executive Vice President Emeritus for Administration, Assistant Professor of Education, Graduate Faculty, 1979, 2000; B.A., Western Illinois University, 1970; M.S., 1972; Ph.D., Ohio State University, 1983.


Rickerl, Diane Holland, Professor Emeritus of Plant Science, Graduate Faculty, 1986, 2011; B.S., Iowa State University, 1972; M.A., 1976; M.S., Auburn University, 1984; Ph.D., 1986.

Roberts, Ardelle A. Lundeen, Professor Emerita and Head of Economics, 1976, 1977; B.S., South Dakota State University, 1970; M.S., 1971; Ph.D., Iowa State University, 1976.

Rogers, Lawrence, Professor Emeritus of Education and Human Sciences, Professor of Teaching, Learning and Leadership, Graduate Faculty, 1995, 2011; B.A., University of Nebraska, 1964; Ph.D., 1975.

Rollag, Dwayne A., P.E., Professor and Head of Civil and Environmental Engineering, Graduate Faculty, 1965, 1979; B.S., University of Minnesota, 1959; M.S., South Dakota State University, 1966; Ph.D., Purdue University, 1975.

Rose, Madeleine S., Associate Professor Emerita of Nutrition, Food Science & Hospitality, Science Fair Coordinator, Graduate Faculty, 1990, 2000; B.S., Texas Woman's University, 1985.

Rue, Rolland R., Professor Emeritus of Chemistry and Biochemistry, 1962, 1983; B.A., Macalester College, 1957; Ph.D., Iowa State University, 1962.

Rufolo, John J., Professor Emeritus of Biology and Microbiology, Graduate Faculty, 1999; B.S., Loyola University, 1965; M.S., University of Iowa, 1969; Ph.D., 1972.


Sandness, Roger K., Professor and Head Emeritus of Geography, Graduate Faculty, 1971, 1992; B.S., University of North Dakota, 1967; M.S., 1968; Ph.D., University of Iowa, 1986.

Satterlee, James L., Professor Emeritus and Head of Rural Sociology, Graduate Faculty, 1962, 1976; B.S., South Dakota State University, 1962, M.S., 1963; Ph.D., 1970.


Schoengothe, David J., Distinguished Professor Emeritus of Dairy Science, Graduate Faculty, 1969, 2011; 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, 1981; B.S., University of Wisconsin, 1974; M.Ed., University of Minnesota, 1981.

Schliessmann, Michael R., Assistant Dean and Professor Emeritus of Communication Studies and Theatre, Institutional Management Officer, Graduate Faculty, 1973, 2001; 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, 1983, 2012; B.A., Bluffton College, 1972; M.S., Michigan State University, 1979; Ph.D., 1982.

Selim, Ali A., Professor Emeritus of Civil and Environmental Engineering and Director of Local Transportation Assistance Program, Graduate Faculty, 1977, 2008; 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, 1977, 2008; B.S., South Dakota State University, 1969; M.S., University of Arizona, 1971; Ph.D., Washington State University, 1978.

Shank, Boyd, Professor Emeritus of Plant Science, 1946; 1980; B.S., University of Nebraska, 1935; Ph.D., Iowa State University, 1941.

Shubeck, Fred E., Professor Emeritus of Plant Science, 1951, 1985; B.S., South Dakota State University, 1940; Ph.D., University of Minnesota, 1951.

Sigl, Arden B., Professor Emeritus of Civil and Environmental Engineering, Graduate Faculty, 1967, 1984; B.S., South Dakota State University, 1967; M.S., 1969; Ph.D., Northwestern University, 1977.

Singh, Yadhu N., Professor Emeritus of Pharmaceutical Sciences, Graduate Faculty, 1988, 1997; B.S., University of Otago (New Zealand), 1967; M.S., University of Strathclyde (Scotland), 1974; Ph.D., 1979.

Slyter, Lowell, Professor Emeritus of Animal and Range Sciences, Graduate Faculty, 1970, 2001; B.S., Kansas State University, 1964; M.S., University of Nebraska, 1966; Ph.D., Kansas State University, 1969.


Spinlar, Leo H., Professor Emeritus of Chemistry and Biochemistry, 1966, 1970; B.A., University of South Dakota, 1951; M.S., University of Wisconsin, 1953; Ph.D., 1958.


Steinley, Gary L., Professor Emeritus of Education and Counseling, Graduate Faculty, 1979, 1992; B.S., Black Hills State University, 1963; M.A., Fresno State University, 1967; Ph.D., University of Utah, 1970.

Stoflet-Gouldin, Dorothy, Professor Emerita of Textiles, Clothing and Interior Design, 1962, 1977; B.A., Coe College, 1933; M.S., Iowa State University, 1948.

Stuart, Sigge, Professor Emerita of Visual Arts, 1972, 1974; B.A., University of Connecticut, 1959; M.A., University of New Mexico, 1960.

Stymiest, Clair, Associate Professor of Plant Science Emeritus, 1967, 2004; B.S., South Dakota State University, 1966; M.S., 1970.


Swedlund, Harriet P., Director of International Programs Emerita and Assistant Professor Emerita of Apparel Merchandising, 1984, 1994; B.S., Iowa State University, 1954; M.S., 1957.

Sweeney, Jerry K., Professor Emeritus and Head of History, Graduate Faculty, 1970, 2000; B.A., Fort Hays Kansas State University, 1962; M.A., Kansas State University, 1967; Ph.D., Kent State, 1970.

Taylor, Donald C., Professor Emeritus of Economics, 1980, 1996; B.S. Cornell University, 1959; M.S., University of Minnesota, 1964; Ph.D., 1965.

Thies, Nancy, Professor Emerita of the SDSU Veterinary and Biomedical Sciences Department and the SD Agricultural Experiment Station, 1970, 2012; B.A., Northern State University, 1970; M.Ed., South Dakota State University, 1972; M.S., 1974.

Thompson, John E., Professor Emeritus of Economics, 1952, 1985; B.S., University of South Dakota, 1950, M.S., South Dakota State University, 1953; Ph.D., University of Wisconsin, 1960.


VanRiper, Gary, Assistant Professor Emeritus of Pharmaceutical Sciences, 1972, 2007; B.S., South Dakota State University, 1969; M.S., 1972.


Wahlstrom, Richard C., Distinguished Professor Emeritus of Animal Science, 1952, 1988; B.S., University of Nebraska, 1948; M.S., University of Illinois, 1950; Ph.D., 1952.


West, George A., Professor Emeritus of English, Graduate Faculty, 1969, 2000; B.S., South Dakota State University, 1965; M.A., University of Nebraska, 1967; Ph.D., 1972.

Whalen, Richard H., Professor Emeritus of Biology and Microbiology, Graduate Faculty, 1967, 1990; B.S., College of Saint Thomas, 1954; M.S., University of Illinois, 1956; Ph.D., Purdue University, 1965.

White, Everett M., Professor Emeritus of Plant Science, 1954, 1990; B.S., Iowa State University, 1948; M.S., 1950; Ph.D., 1953.


Wills, Rena, Professor Emerita of Nutrition, Food Science & Hospitality, 1952, 1976; B.S., Iowa State University, 1940; M.S., 1946.


Wragge, Leon J., Distinguished Professor of Plant Science Emeritus, Extension Specialist, 1961, 2004; B.S., South Dakota State University, 1961; M.S., 1964.


Zeman, David H., Professor Emeritus of Veterinary and Biomedical Sciences, 1986, 2013; B.S., North Dakota State University, 1976; D.V.M., Oklahoma State University, 1980; Ph.D., Louisiana State University, 1986.
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2014 Fall Term
August 26, Monday
September 1, Monday
September 4, Thursday
September 5, Friday
September 12, Friday
October 13, Monday
October 17, Friday
October 22, Wednesday
November 7, Friday
November 11, Monday
November 26–30, Wednesday-Sunday
December 10, Wednesday
December 11-17,* Thursday-Wednesday
December 22, Monday
* December 17 - official graduation date noted on transcript

Note: There is no Fall 2014 Commencement Ceremony

2015 Spring Term
January 12, Monday
January 19, Monday
January 21, Wednesday
January 22 Thursday
January 30, Friday
February 16, Monday
March 9-13, Monday-Friday
March 16, Monday
March 19, Thursday
April 7, Monday
April 3-5, Monday-Sunday
May 4-8*, Monday-Friday
May 9, Saturday
May 13, Wednesday
*May 8 - official graduation date noted on transcript

2015 Summer Term
May 11, Monday - May 22, Friday
May 25, Monday
May 26, Tuesday - July 31, Friday
July 3, Friday
August 3, Monday - August 21, Friday
May 11, Monday - August 21, Friday

Start Date/Instruction Begins
Labor Day Holiday
Last day to drop or add and adjust final fees
"W" grade begins
Last day to submit graduation applications for Fall 2014
Native American Day Holiday
First half Fall Term ends
Deficiency reports due on WebAdvisor by midnight
Last day to drop a course
Veterans' Day holiday
Thanksgiving Recess
No classes; Final exam preparation
Final exams
Grades due on WebAdvisor by midnight

Start Date/Instruction Begins
Martin Luther King Day Holiday
Last day to drop or add and adjust final fees
"W" grade begins
Last day to submit graduation application for Spring 2015
Presidents' Day Holiday
Spring Break
First half Spring Term ends
Deficiency reports due on WebAdvisor by midnight
Last day to drop a course
Easter Recess
Final exams
129th Annual Commencement
Grades due on WebAdvisor by midnight

Start Date/Instruction Begins
May Interim
Memorial Day Holiday
10-week Academic Summer Session
Independence Day Holiday
August Interim
Summer Administrative Term