## Frequently Called Numbers

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<th>General Numbers</th>
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<tr>
<td>Admissions 605-688-4121 or 1-800-952-3541</td>
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<td>International Affairs 605-688-4913</td>
<td>Vice President for Research and Dean of the Graduate School 605-688-4181</td>
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<td>Jackrabbit Ticket Office 605-688-5422</td>
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<td>Library 605-688-5107</td>
<td>Vice President for Information Technology Office 605-688-4988</td>
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<td>Multicultural Affairs Office 605-688-6129</td>
<td>College of Agriculture and Biological Sciences 605-688-4148</td>
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<td>Placement Office/CAP Center 605-688-4153</td>
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<td>Registrar (on-campus) 605-688-6195</td>
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## South Dakota State University Nondiscrimination 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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History and Mission:
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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 and is known as the “West Point of the Plains.” 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 Science, Engineering, Home Economics, Nursing, and Pharmacy 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 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 (AAFCS) and to reflect a newer, more up-to-date image. In 2009, the College of Education and Human Sciences was established combining the College of Education and Counseling and the College of Family and Consumer Sciences and the Department of Health, Physical Education and Recreation. 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 1994, land-grant status was expanded to include tribal colleges and universities. SDSU has developed working relationships with tribal colleges within and beyond South Dakota.

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, education, engineering, family and consumer 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 general agriculture.
   • Baccalaureate programs in the agricultural sciences, education, engineering and technology, family and consumer sciences, humanities and liberal arts, nursing, performing and visual arts, pharmaceutical sciences, physical and biological sciences, and social sciences.

B. Graduate Programs
   • Master's degrees in arts and sciences, agricultural and biological sciences, family and consumer 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 Doctor of Pharmacy (Pharm.D.).

(Mission statement is quoted from Board of Regents Policy 1:10:2, dated December 2003.)
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; education and human sciences; liberal arts; pharmacy; nursing; 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; education and human sciences; liberal arts; nursing; pharmacy; 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; consumer and family sciences; liberal arts; nursing; pharmacy; teacher and counselor education; basic physical, biological and social sciences; humanities and arts for adults and youth in South Dakota.
5. Citizenship training and general learning essential for understanding, 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.

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 changeable, 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 and Creative Activities

The University is committed to excellence in basic and applied research, scholarship, and creative activities associated with the University’s mission. The generation of new knowledge, ideas, processes, and developments is basic to the mission of a land-grant university and contributes to the State’s economic development and quality of life. Research and scholarly activities are integral, essential, and traditional parts of university life involving faculty, graduate, and undergraduate students.

The University encourages and supports research, scholarship, and creative activity programs in all disciplines. To support these activities, the University and its faculty actively pursue external funds through competitive grant and contract proposals and through cooperative agreements with other institutions of higher education, state, and federal agencies. In addition to department-based research efforts, South Dakota State University pursues scholarly activity through the Agricultural Experiment Station, the 2010 Research Centers funded by the State Legislature, E. A. Martin Program in Human Nutrition, the South Dakota National Science Foundation’s Experimental Program to Stimulate Competitive Research (EPSCoR), the Geographic Information Science Center of Excellence, and the North Central Regional Sun Grant Center.

Primarily as a result of its doctoral education and research programs, South Dakota State University is classified by the Carnegie Foundation for the Advancement of Teaching as South Dakota’s only RU/H Research University (high research activity) and as a national university by most rating organizations.

For information, contact Kevin Kephart, Vice President for Research and Dean of Graduate School, South Dakota State University, Box 2201, Brookings, South Dakota 57007-1998, phone: 605-688-4181, e-mail: kevin.kephart@sdstate.edu.
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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 to 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 the schools you previously attended. You do not need to have transcripts sent from other South Dakota 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

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 percent 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 2.6 on a 4.0 scale.

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 noncredit fine arts activity will be accepted.

At the time of admission, students are expected to have these computer technology literacy skills and competencies: basic keyboarding skills and experience in using computer word processing, spreadsheet, presentation graphics, and the Internet. These expectations may be met by high school coursework. Effective fall 2006, entering students who have not taken such high school coursework must complete a specified computer course addressing these skills and competencies within the first 42 credit hours attempted.

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 percent of your high school graduating class,
   OR
   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
   AND
   Met university minimum progression standards.

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.
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-test 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.

OR

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.

Nontraditional Students

Applicants who are at least 24 years of age or older and who have 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. Concurrent high school students may not take more than two courses per semester.

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.

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. Equivalencies for unique courses may be changed. In subsequent evaluations, grades previously recorded cannot 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.

F. Orientation, Life Experience, General Educational Development Tests, and high school level courses are not recorded in College as transfer credit nor are they granted equivalent credit.

1) High school courses for which students received college credit will not be entered as transfer credit, or given equivalent credit, unless validated by an Advanced Placement or CLEP score that meets Board of Regents guidelines for acceptance of credit or the college credit is granted by a university with which the Board has a dual credit agreement. This requirement is effective for high school courses taken after spring term 2002.

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. Equivalencies for unique courses may be changed, reevaluated, 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.

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

A. Graduate transfer courses and transfer grades 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 ONLY if these transfer courses are equivalent to a specific graduate course at the university evaluating the credit.

B. Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system.

C. In subsequent evaluation, all equivalencies may be re-evaluated, inactivated, or changed. Additional equivalencies may be added and evaluated. In subsequent evaluations, grades previously recorded cannot be changed.

D. 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. South Dakota Technical Institutes

1) Transfer of courses from South Dakota postsecondary technical institutes is governed by BOR policies 2:25, 2:26, 2:27 and 2:28.

2) Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system.

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

4) 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.

B. Other Technical Institutes

1) 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.

2) 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.

3) 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, reevaluated, or inactivated. Additional equivalencies may be added and evaluated.

4) 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.

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 nonaccredited institution 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. Equivalencies for unique courses may be changed, reevaluated, 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
10. Credit received through validation methods
A. Credit earned through validation methods other than nationally recognized examinations is limited to a maximum of 32 hours of credit for baccalaureate degrees and 16 hours of credit for associate degrees.
1) Validation of military credit is limited to an additional 32 hours of credit for baccalaureate degrees and an additional 16 hours of credit for associate degrees.
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, reevaluated, 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 (two-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 noncourse 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 plan of 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 university for programs other than the Bachelor of Applied Technical Science degree should contact the Admissions Office of that desired university for an evaluation of their program objectives and technical institute transcript. An individual evaluation of course credits will be made by the receiving public university in accordance with institutional and Board of Regents policy.

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

Correspondence Credit
South Dakota State University will grant credit for correspondence courses from other colleges under the following circumstances: Limited credit for correspondence work may be applied toward a degree. Such credit will not be approved if the work is done while the student is enrolled in the University, unless arrangements have been made in advance with the dean of your college. Maximum acceptable credit by correspondence may be limited only 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 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 more than 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.

SDSU may grant conditional admission to students who cannot meet the minimum TOEFL requirement. Enrollment would be contingent upon successful completion of a U.S. based intensive English program, including an exit TOEFL of 500 or above.

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.

Residency Requirements

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

Qualifications for residency for tuition purposes may be obtained by writing the Director of Admissions, SDSU, Box 2201, Brookings, SD 57007.

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 completion of the home institution and SDSU courses determined to be equivalent to SDSU courses. 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 whether the S/U or letter grade option will be used. Such an agreement must be made in writing, with a copy sent to the SDSU Office of International Affairs for the student’s file.

Non-Native Speakers of English

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.

Contact the International Student Affairs Office for the application packet and further information: International Student Affairs, SAD 101, SDSU, Brookings, SD 57007. Phone: 605-688-4122; e-mail sdsu.intlstud@sdstate.edu or fax 605-688-6540.
Academic Evaluation

15

Introduction
Academic Amnesty
Assessment Program
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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:
1. Be an undergraduate, full-time or part-time, degree-seeking student at one of the universities in the South Dakota Regental system.
2. Not have been enrolled in any Regental university 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 senior administrator upon recommendation of the vice president for Academic Affairs.
3. 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.
4. Not have earned a baccalaureate degree from any university.
5. Not have been granted any prior academic amnesty at any Regental university.
6. 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 either (a) all previous postsecondary education courses, or (b) all previous postsecondary education courses at a specific institution, or (c) a specified time period not to exceed one academic year (fall/spring).
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 coursework when making admission decisions.

Assessment Program

SDSU has a comprehensive Assessment Program to evaluate its educational programs and services and student learning. This program is designed to measure the effectiveness of the general education core 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, you are required to participate in assessment activities when requested. Assessment information is collected when you enter SDSU and additional assessments occur throughout your academic career. As a senior, you will participate in an assessment for each of your majors as part of your graduation requirements. For further information contact the director of Academic Evaluation and Assessment at 605-688-4217.
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 their advisers 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 at 605-688-4217.

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.

Examination for University Credit

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

Credits obtained through validation methods other than nationally recognized examinations are limited to 32 hours of credit for baccalaureate degrees and 16 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 your academic transcript, you must complete an “Application for Placement Credit” form at the Academic Evaluation and Assessment Office and pay a recording fee.

University CLEP Policies

A CLEP examination may not be taken if a student has completed the course for collegiate credit. 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 for a course for which you wish credit, a local 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 your background in the subject area to determine if an examination is warranted.
2. Consult the dean of the college in which you expect to receive a degree 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.

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Policy for Repeating Local Challenge Examinations

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

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

Challenge By Portfolio

A “portfolio” may be used to document competencies learned through nontransferable 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 (605-688-4217). 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 (605-688-4217). 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.

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:

a. Students must have earned a minimum of 12 credit hours in courses numbered 100-699 during the term.

b. Students must achieve a System Term GPA of at least 3.5.

c. 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, an associate-level graduate 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)

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:

a. Students must have completed at least 12 credit hours prior to the current semester at one or more Regental institutions.

b. The student must have earned at least 3 and up to 11 credit hours of 100-699 level courses during the term.

c. Students must achieve a System Term GPA of at least 3.5.

d. 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 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 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/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/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 CLEF in the native language.

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

The grading system is based on achievement of expectations in a class. 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.

### Types of Grades

#### Undergraduate Grades

The grading system for 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**: Exceptional 4.00 grade points per semester hour
- **B**: Above Average 3.00 grade points per semester hour
- **C**: Average 2.00 grade points per semester hour
- **D**: Lowest Passing Grade 1.00 grade points per semester hour
- **F**: Failure 0.00 grade points per semester hour
- **S**: Satisfactory Does not calculate into any GPA
- **U**: Unsatisfactory Does not calculate into any GPA
- **RI**: Incomplete (Remedial) Does not calculate into any GPA
- **RS**: Satisfactory (Remedial) Does not calculate into any GPA
- **RU**: Unsatisfactory (Remedial) Does not calculate into any GPA
- **W**: Withdrawal Does not calculate into any GPA, no credit granted

- **AU**: Audit Does not calculate into any GPA, no credit granted
- **I**: Incomplete Does not calculate into any GPA
- **IP**: In Progress Does not calculate into any GPA
- **EX**: Credit by Exam Does not calculate into any GPA
- **CR**: Credit Does not calculate into any GPA
- **TR**: Note for NSE/MEDT Does not calculate into any GPA, no credit granted
- **LR**: Lab grade linked to Recitation Grade 0 credit course
- **NG**: No Grade 0 credit tracking course
- **NR**: Grade not Reported by Instructor Does not calculate into any GPA
- **Grade***: Academic Amnesty Does not calculate in any GPA, no credit given

### Determination of native language skills

Determination of native language skills is typically based on the language of instruction in the secondary school from which a student graduated. (In other words, was the high school education in English or another language?) The Department of Modern Languages will 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.

#### Arts and Sciences Majors

International students whose native language is not English may substitute 14 credits of “American Culture” courses for the modern language requirement. The courses in the social science (SGE goal 3) and humanities (SGE goal 4) are in addition to the standard B.A. requirements. Students must visit with the Assistant Dean of the College of Arts and Sciences for permission to pursue this option.

*Challenge by Exam in a language not offered by SDSU* — If a student wants to Challenge by Exam in a language not offered by SDSU, the challenge cannot be in the student’s native language.

#### Advanced Placement (AP) Credit

An official College Board AP score at the approved South Dakota Board of Regents level is accepted as verification of advanced education in the native language. Please contact the Department of Modern Languages (SNF 121, 605-688-5101) for additional information.

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**Grading**

An **Incomplete (I) grade** may be granted at the **undergraduate level** only when all of the following conditions apply:

- a. A student has encountered extenuating circumstances that do not permit him/her to complete the course.
- b. 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.
- c. The student does not have to repeat the course to meet the requirements.
- d. The instructor must agree to grant an Incomplete grade.
- e. The instructor and student must agree on a plan to complete the coursework.
- f. The coursework must be completed within one semester; extensions may be granted by the vice president for Academic Affairs.
- g. If the student completes the course within the specified time, the grades that may be assigned are A, B, C, D, F, S, RS, RU, or U.
- h. If the student does not complete the course within the specified time, the grade assigned will be F (Failure) or U (Unsatisfactory) or RU (Remedial Unsatisfactory) if the student had requested S/U within the time specified in BOR policy 2:6.9.

An **In Progress (IP) grade** may be granted only when all of the following conditions apply:

- a. The requirements for the course (for every student enrolled in the course) extend beyond the current term.
- b. The extension beyond the current term must be defined before the class begins.
- c. 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.
- d. A definite date for completion of the course must be established in the course syllabus.

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Graduate Grades will be assigned to the Graduate Academic Level and to all courses and sections with course numbers of 500 or greater. Plus and minus grades are not used.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Exceptional 4.00 grade points per semester hour</td>
</tr>
<tr>
<td>B</td>
<td>Good 3.00 grade points per semester hour</td>
</tr>
<tr>
<td>C</td>
<td>Average 2.00 grade points per semester hour</td>
</tr>
<tr>
<td>D</td>
<td>Unsatisfactory 1.00 grade points per semester hour</td>
</tr>
<tr>
<td>F</td>
<td>Failure 0.00 grade points per semester hour</td>
</tr>
<tr>
<td>S</td>
<td>Satisfactory Does not calculate into any GPA</td>
</tr>
<tr>
<td>U</td>
<td>Unsatisfactory Does not calculate into any GPA</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal Does not calculate into any GPA, no credit granted</td>
</tr>
<tr>
<td>LR</td>
<td>Lab grade linked to Recitation Grade</td>
</tr>
<tr>
<td>LR</td>
<td>No credit granted</td>
</tr>
</tbody>
</table>

An Incomplete (I) grade may be granted at the graduate level only when all of the following conditions apply:

a. A student has encountered extenuating circumstances that do not permit him/her to complete the course.

b. 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.

c. The student does not have to repeat the course to meet the requirements.

d. The instructor must agree to grant an Incomplete grade.

e. The instructor and student must agree on a plan to complete the coursework.

f. The coursework must be completed within one calendar year; extensions may be granted by the Graduate Dean.

g. If the student completes the course within the specified time, the grades that may be assigned are A, B, C, D, F, S, or U.

h. If the student does not complete the course within the specified time, the Incomplete grade remains on the transcript.

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

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

b. The extension beyond the current term must be defined before the class begins.

c. 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.

d. A definite date for completion of the course must be established in the course syllabus.

A Normal Progress (NP) grade may be granted by an instructor when the instructor determines that a graduate student is making normal progress in a graduate Thesis/Dissertation course. If a graduate student does not enroll for a period of one calendar year, the NP grade may change to I (Incomplete) upon approval by the Graduate Dean. The NP grade calculates into attempted credits but does not calculate into completed credits or grade point averages.

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.

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.

You should notify the Registrar’s Office, SAD 100, when a course, whether failed or passed, is repeated.

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.

1. You may enroll in up to 20 credits.

2. These credits must be outside your major and may not serve to satisfy university, college or departmental-specific requirements, unless program exceptions exist.

3. Colleges may further restrict the Satisfactory/Unsatisfactory credit option.

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

5. 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.

6. You may change from Satisfactory/Unsatisfactory elective to graded credit or vice versa only during the two week add period.

7. The grade (S or U) will be recorded on your 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 department if you have a question.
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Academic Performance

The normal progress rate toward graduation requires 12-16 semester credits and 24-32 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) and IGPA (Institutional Grade Point Average) of 2.00 or above. (See Resident Requirements under 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>0-31.99</td>
<td>2.0</td>
</tr>
<tr>
<td>Sophomore</td>
<td>32-63.99</td>
<td>2.0</td>
</tr>
<tr>
<td>Junior</td>
<td>64-95.99</td>
<td>2.0</td>
</tr>
<tr>
<td>Senior</td>
<td>96+</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.G 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 (01:10:25:01 - 1:10:25:04) 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 Office of Academic Affairs, SAD 230, 605-688-4173.
Policy: Student attendance in all classes is expected. Teaching and learning is a reciprocal process involving faculty and students. Faculty members have an expectation of meeting classes on a regular basis and students have an obligation to attend classes on a regular basis. Faculty determine the specific attendance policy for courses under their direct supervision and instruction. Attendance procedures must be stated in written form and distributed to students at the beginning of each semester. If attendance is required and will impact grading, this expectation will be included in the syllabus.

Absence due to personal reasons
Any exceptions to the faculty member’s written attendance policy due to verified medical reasons, death of family member or significant other, or verified extenuating circumstances judged acceptable by the instructor or the institution, will be honored. Such exceptions must be communicated and negotiated between the student and faculty member prior to the absence whenever possible.

Absence due to approved university-sponsored trips
Faculty and administration will honor officially approved absences where individuals are absent in the interest of officially representing the University. These are considered officially “excused absences.” A single trip can not keep students away from classes more than five (5) consecutive class days. Requests for excused absences must be submitted one week prior to the trip. Students must present the completed approved trip absence card to the faculty member prior to the trip to have an official “excused absence.” Faculty members are not required to honor incomplete cards.

Students with official “excused absences”
Students with excused absences will be given appropriate make up work and 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 courses or a grade of incomplete.

Mediation on absence
Arrangements should be negotiated with the faculty member. If this is not possible the student goes to the department head and dean in that order. The student may contact the Office of Academic Affairs if conflict is not resolved at these levels.

Class Definition

1. Sophomore status requires 32 semester credit hours.
2. Junior status requires 64 semester credit hours.
3. Senior status requires 96 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.

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 16 credits each semester. To be a full-time student, all students classified as undergraduates must carry 12 semester credits; all students classified as master’s-level must carry a minimum of 9 semester credits for fall/spring semester and 4 or 6 semester credits for summer term; all students classified as doctoral level must carry a minimum of 7 credits for fall/spring semesters and 4 or 6 semester credits for summer term. Undergraduates will not be 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.
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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, SAD 100.

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 your faculty adviser. See your semester course schedule 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 nonstandard 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 percent 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. You should 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.) (Refer to Board of Regents policy 5:7.2) 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 nonstandard 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)

You should notify the Registrar’s Office, SAD 100, when a course, whether failed or passed, is repeated.
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.

Petitions and 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 adviser to work out the best plan possible. You must then contact the Registrar’s Office, SAD 100, 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 percent of instruction has been completed (See date published in Semester Course Schedule). 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, nonpayment 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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The overall educational objective at South Dakota State University is to guide each student in the attainment of intellectual and professional competency, 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. Inspire students to understand their freedom of choice and accept their responsibility for academic progress and planning.
2. Assist students in the exploration and definition of immediate and lifelong goals.
3. Encourage students to explore and become involved in beneficial experiences that contribute to a complete university experience.

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 adviser who fulfills the SDSU advising goals, role, and responsibilities.
2. The right to know and have timely access to an assigned adviser.
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 adviser assignment and the right to clear procedures for conveying concerns relative to quality of advising help.

Responsibilities of the Advisee:
1. Responsible for initiating and advancing timely career- and academic-related plans and discussions with adviser.
2. Responsible for initiating regular progress appointments and seeking adviser assistance when problems arise.
3. Responsible for fulfilling additional requirements as agreed upon during discussions with adviser.
4. Responsible for recognizing that the ultimate responsibility for timely completion of academic requirements rests with the advisee.

Role of the Academic Adviser:
The academic adviser role is to be a sensitive, knowledgeable, and skilled link that enhances the advisee’s relationship with the University. The academic adviser assists the student in achieving educational goals.

Responsibilities of the Academic Adviser:
1. Maintain Advisee Records. Keep current advisee records and personal information in accordance with confidentiality requirements.
2. Furnish Accurate Academic Information. Provide advisees with correct and relevant information about University, college, and departmental graduation requirements.
3. Know Advisees. Know assigned advisee and their individual educational and career goals.
4. Guide Major Program Planning. Recommend courses which correspond with advisee’s academic background and educational goals.
5. Monitor Academic Decision-Making. Inform advisees about relevant alternatives, limitations, and possible consequences of academic decisions, including information on academic standards, appeals, and charges 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.
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 nondiscrimination. 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 nondiscrimination, the collection and analysis of data, the formulation and implementation of procedure 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, analyses, and reports. Analyses, 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 the Equal Opportunity Officer/Title IX Coordinator in Human Resources (SAD 318; telephone 605-688-4128; Fax 605-688-5822).

South Dakota State University (SDSU) reaffirms that it is committed to a policy of nondiscrimination 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 nondiscrimination 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 605-688-4394; TTD 605-688-4394; e-mail: sdsu.disability@sdstate.edu.

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.
Family Educational Rights and Privacy Act of 1974 (FERPA)

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 Web site.

Graduation Policies and Procedures

A. Graduation Application – Date Due in Dean’s Office.
Check the University Calendar in the Catalog or the Fall, Spring, and Summer Course Schedules for dates.

B. 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.

C. 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).

D. 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.

E. 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 the Office of Continuing and Extended Education, SWC 223 SDSU, Box 506, Brookings, SD 57007; 605-688-4154; e-mail: gail.tidemann@sdstate.edu.
Policy on Sexual Harassment and 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 proscribed.

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 a hand-delivered; mailed; or faxed, written complaint. At SDSU, e-mail 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 administrative assistant, vice president for Academic Affairs or associate vice president for Academic Affairs, vice president for Student Affairs or assistant vice president of Student Affairs. 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).

Developed by Vice President Carol J. Peterson, Dean Robert Tomlinson, Ms. Linda Schumacher 10/98, Finalized 12/98. Updated 9/01 by Provost Carol J. Peterson and Vice President Marysz Rames.
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. You 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 your behavior, your 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 at the President’s Office, each dean’s office, the Student Union, the Residence Halls, and the Student Affairs Office, and on the SDSU Web site by clicking on Campus Life, and then 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 clearance for the trip. Permit forms are available from most departmental offices (ordered from Stores). The Application For Trip Permit form must be signed by the faculty sponsor and approved by the dean of the college or his/her designate, or the director of Student Activities or his/her designate, and must be approved by the Office of Academic Affairs prior to the trip.

B. Students on University-approved trips (excluding a ski trip, a rodeo club trip, or interscholastic athletics) are covered by a secondary accident-medical insurance policy. State-owned vehicles may be utilized if criteria established in the policy regulating use of state-owned vehicles are met. Drivers of personal vehicles should have liability insurance.

C. Students are eligible for trips if 1) activities of the student have not been curtailed by action of an authorized University judicial body; 2) no single trip shall keep students away from classes more than five (5) consecutive class days.

D. There will be 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 arbitrated by the department head, dean, or vice president for Academic Affairs, in that order.

E. A Trip Absence Card for each student involved in the trip will be issued to the faculty sponsor upon approval of the trip permit. The Trip Absence Cards must be filled in and signed by the faculty sponsor and given 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.

F. For insurance purposes, all intradepartmental trips (i.e., laboratory field trips, clinical experiences, etc.) that do not involve the missing of classes by the participating students shall be cleared through the department office or the college dean’s office, and a record kept of the number of students going and the dates of the trips. This record shall be summarized by each college dean and reported to the vice president for Academic Affairs at the end of each academic term.

University-Sponsored Student Athletic Trip Regulations

A. A written notification of all athletes participating in any off-campus event must be submitted to the Athletics (HPER) 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 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 Athletics Office before the trip.
Graduation Requirements

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General Degree Requirements

The adviser system assists in proper course selection to meet curricular requirements and helps you avoid errors in scheduling. However, you 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 128 semester credit hours for the baccalaureate degree (see individual professional college requirements) and 64 semester credit hours for the associate degree. Remedial course credits are not counted as meeting degree requirements.

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

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 32 credits for the baccalaureate degree and 16 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 16 of the last 32 credits for the baccalaureate degree and 8 of the last 16 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 explained on pages 40-47 of this Catalog. The 30-credit 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) of 8-9 credits designed to achieve three major goals.

**IGR Goal #1: Land and Natural Resources**
Students will learn to be responsible for the land and other natural resources.

**IGR Goal #2: Personal Wellness**
Students will demonstrate a holistic approach to personal wellness.

**IGR Goal #3: Social Responsibility/Cultural and Aesthetic Awareness**
Students will demonstrate social responsibility or cultural and aesthetic awareness to foster individual responsibility and creativity.

The specific learning outcomes related to these three IGR goals and the specific courses designed to meet these learning objectives are described in detail on pages 43-45 of this Catalog.

**NOTE:** 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 people, organizations, governments, and cultures. This process affects:

- environmental resources
- culture(s), including people’s well-being
- political systems, national sovereignty
- national security
- agriculture
- public health/health care
- economic systems/international trade
- transportation
- information technology/communication
- education
- global governance

Students will understand globalization and how it affects the human community.

**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.

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**General Education Requirements for Baccalaureate Degree**

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

**I. System General Education Requirements: 30 credits (see pages 40-42)**

- 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: 8-9 credits (see pages 43-45)**

- Goal #1: Land and Natural Resources (3 credits)
- Goal #2: Personal Wellness (2-3 credits)
- Goal #3: Social Responsibility/Cultural and Aesthetic Awareness (3 credits)

**III. Globalization Requirement (see page 46)**

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

**IV. Advanced Writing Requirement (see page 47)**

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

**V. Computer Technology Literacy**

At the time of admission, students are expected to have these computer technology literacy skills and competencies: basic keyboarding and experience using computer word processing, spreadsheet, presentation graphics, and the Internet. These expectations may be met by high school coursework or demonstrated by some other means. Incoming students assessed and found deficient in this area will be required to complete specific computer skills courses.

**VI. Information Literacy**

Students fulfill this requirement by demonstrating competency through an assessment designated by the University. The IL goal and student learning outcomes are addressed in ENGL 101, 201, and SPCM 101. These courses provide the basic foundational knowledge and skills. In addition, the opportunity to learn IL concepts and skills is provided through other required coursework in the major.
I. System General Education Requirements (SGRs) 30 credits
(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
| ENGL 101 Composition I | 3 |
| ENGL 201 Composition II | 3 |
| ENGL 277 Technical Writing in Engineering | 3 |

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, presentation 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
| SPCM 101 Fundamentals of Speech | 3 |
| SPCM 215 Public Speaking | 3 |
| SPCM 222 Argumentation and Debate | 3 |

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
| ANTH 210 Cultural Anthropology | 3 |
| ANTH 220 Physical Anthropology | 3 |
| CIUS 201 Introduction to Criminal Justice | 3 |
| ECON 101 The Global Economy | 3 |
| ECON 201 Principles of Microeconomics | 3 |
| ECON 202 Principles of Macroeconomics | 3 |
| GEOG 101 Introduction to Geography | 3 |
| GEOG 200 Introduction to Human Geography | 3 |
| GEOG 210 World Regional Geography | 3 |
| GEOG 212 Geography of North America | 3 |
| GEOG 219 Geography of South Dakota | 3 |
| GLST 201 Global Studies | 3 |
| HDFS 141 Individual and the Family | 3 |
| HDFS 210 Lifespan Development | 3 |
| HIST 151 US History I | 3 |
| HIST 152 US History II | 3 |
| POLS 100 American Government | 3 |
| POLS 102 American Political Issues | 3 |
| POLS 165 Political Ideologies | 3 |
| POLS 210 State and Local Government | 3 |
| POLS 253 Current World Problems | 3 |
| PSYC 101 General Psychology | 3 |
| PSYC 102 Introduction to Psychology | 3 |
| REL 237 Religion in American Culture | 3 |
| SOC 100 Introduction to Sociology | 3 |
| SOC 150 Social Problems | 3 |
| SOC 240 The Sociology of Rural America | 3 |
| SOC 250 Courtship and Marriage | 3 |
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 hours (in 2 disciplines or a sequence of foreign language courses)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AIS 101 Introductory Lakota I</td>
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<td>AIS 102 Introductory Lakota II</td>
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<tr>
<td>ARAB 101 Introductory Arabic I</td>
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<tr>
<td>ARAB 102 Introductory Arabic II</td>
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<tr>
<td>ART 111 Drawing I</td>
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<td>ART 112 Drawing II</td>
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<td>ART 121 Design I 2D</td>
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<td>ART 123 Three Dimensional Design</td>
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<td>ARTH 100 Art Appreciation</td>
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<td>ARTH 211 History of World Art I</td>
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<td>ARTH 212 History of World Art II</td>
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<td>ENGL 210 Introduction to Literature</td>
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<td>ENGL 211 World Literature I</td>
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<td>ENGL 212 World Literature II</td>
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<td>ENGL 221 British Literature I</td>
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<td>ENGL 222 British Literature II</td>
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<td>ENGL 240 Juvenile Literature</td>
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<td>ENGL 248 Women in Literature</td>
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<td>ENGL 249 Literature of Diverse Cultures</td>
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<td>ENGL 250 Science Fiction</td>
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<td>ENGL 256 Literature of the American West</td>
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<td>FREN 101 Introductory French I</td>
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<td>FREN 102 Introductory French II</td>
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<td>FREN 201 Intermediate French I</td>
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<td>FREN 202 Intermediate French II</td>
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<td>GER 101 Introductory German I</td>
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<td>GER 102 Introductory German II</td>
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<td>GER 201 Intermediate German I</td>
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<td>GER 202 Intermediate German II</td>
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<td>HIST 111 World Civilizations I</td>
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<td>HIST 112 World Civilizations II</td>
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<td>HIST 121 Western Civilization I</td>
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<td>HIST 122 Western Civilization II</td>
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<td>LAKL 101 Introductory Lakota I</td>
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<td>MCOM 151 Introduction to Mass Communication</td>
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<td>MCOM 160 Introduction to Film</td>
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<td>•MFL 101 Introduction to Foreign Language and Culture I</td>
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<tr>
<td>MFL 102 Introduction to Foreign Language and Culture II</td>
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<td>MFL 134 Foreign Cultures</td>
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<td>MUS 100 Music Appreciation</td>
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<td>MUS 130 Music Literature and History I</td>
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<td>MUS 131 Music Literature and History II</td>
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<td>MUS 201 History of Country Music</td>
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<td>MUS 203 Blues, Jazz, and Rock</td>
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<td>PHIL 100 Introduction to Philosophy</td>
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<td>PHIL 200 Introduction to Logic</td>
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<tr>
<td>PHIL 215 Introduction to Social-Political Philosophy</td>
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<td>PHIL 220 Introduction to Ethics</td>
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<td>REL 213 Introduction to Religion</td>
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<td>REL 224 Old Testament</td>
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<td>REL 225 New Testament</td>
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<td>REL 238 Native American Religions</td>
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<td>REL 250 World Religions</td>
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<td>REL 270 - Middle East Survey</td>
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<td>RUSS 101 Introductory Russian I</td>
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<td>SPAN 201 Intermediate Spanish I</td>
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<td>SPAN 202 Intermediate Spanish II</td>
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<tr>
<td>THEA 100 Introduction to Theatre</td>
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<tr>
<td>THEA 131 Introduction to Acting</td>
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</table>
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

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tr>
<td>MATH 102 College Algebra</td>
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<tr>
<td>MATH 104 Finite Math</td>
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<tr>
<td>MATH 115 Precalculus</td>
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<tr>
<td>MATH 120 Trigonometry</td>
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<td>MATH 121 Survey of Calculus</td>
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<td>MATH 125 Calculus II</td>
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<td>MATH 225 Calculus III</td>
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<tr>
<td>MATH/STAT 281 Introduction to Statistics</td>
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</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
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<tr>
<td>BIOL 101 Biology Survey I</td>
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<td>BIOL 101L Biology Survey I Lab</td>
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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.
II. SDSU’s Institutional Graduation Requirements (IGRs)
(These Requirements are unique to SDSU.)

IGR Goal #1:
Land and Natural Resources

Students will learn to be responsible for the land and other natural resources.

Student Learning Outcomes
As a result of taking courses meeting this goal, students will:
1. Learn the fundamental importance of land and other natural resources.
2. Understand scientific principles as they pertain to responsible use of land and other natural resources.
3. Develop an ethic for responsible use of land and other natural resources.
4. Gather and critically evaluate data to address basic and applied principles related to land and other natural resources.
5. Develop knowledge or skills related to the sustainable use of land and other natural resources.
6. Obtain knowledge and skills to scientifically analyze the influence of individuals and groups of people on land and other natural resources.

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

Credit Hours: 3

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<tr>
<th>Courses</th>
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<td>ABS 482-582 International Experience</td>
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<td>CEE 225 Principles of Environmental Science and Engineering</td>
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<td>DS 452-552 Environmental Management of Dairy Systems</td>
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<td>ECON 472-572 Resource and Environmental Economics</td>
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<td>ENGL 256 Literature of the American West</td>
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<td>ENVM 225 Principles of Environmental Science and Engineering</td>
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<td>ENVM 275 Introduction to Environmental Science</td>
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<td>GEOL 310 Soil Geography and Land Use Interpretation</td>
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<td>HIST 368 History and Culture of the American Indian</td>
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<td>NFS 111 Food, People and the Environment</td>
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<td>PHIL 383 Bioethics</td>
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<td>PHIL 454-554 Environmental Ethics</td>
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<td>RANG 105 Introduction to Range Management</td>
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<td>RANG 215 Introduction to Integrated Ranch Management</td>
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<td>REL 332 Environmental Ethics</td>
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<td>SOC 240 The Sociology of Rural America*</td>
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<td>WL 110 Environmental Conservation</td>
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</table>

*Indicates courses that also meet the System General Education Requirements (SGR). If students use a course to meet the SGR, students must select a different course to meet the IGR.

Graduation Requirements 43

IGR Goal #2:
Personal Wellness

Students will demonstrate a holistic approach to personal wellness.

Student Learning Outcomes:
As a result of taking courses meeting this goal, students will:
1. Identify areas of self-responsibility and wellness principles.
2. Demonstrate concepts fostering wellness of the mind, body, and spirit.
3. Present a personal wellness plan as a guide for maintaining lifelong wellness.

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

Credit Hours: 2-3

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<tr>
<th>Courses</th>
<th>Credits</th>
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<td>BIOL 105 Human Biology</td>
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<td>GS 143 Mastering Lifetime Learning Skills</td>
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<td>HSC 212 Contemporary Health Problems</td>
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<td>PHA 201 Medications and Wellness</td>
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<td>PSYC 267 Psychology of Personal Adjustment</td>
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<td>WEL 100 Wellness for Life</td>
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<td>WEL 100L Wellness Lab</td>
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</tbody>
</table>
IGR Goal #3:
Social Responsibility / Cultural and Aesthetic Awareness

Students will demonstrate social responsibility or cultural and aesthetic awareness to foster individual responsibility and creativity.

Credit Hours: 3 total from Option 1 and/or Option 2

Student Learning Outcomes:

Option 1: Social Responsibility
As a result of taking courses meeting this goal, students will:
1. Demonstrate an appreciation of the different ways in which people express their understanding of the human condition.
2. Understand their responsibilities and choices as related to behavioral, cultural, and/or institutional contexts.
3. Demonstrate their knowledge of the structures and possibilities of the human community.
4. Foster individual responsibility by use of service learning, leadership, or experiential learning activities.

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

NOTE: If a student selects a 1- or 2-credit course, the student will need to combine course credit hours to meet the 3-credit requirement.

Courses

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
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<tr>
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<td>AIR 101 The Foundations of the US Air Force</td>
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<td>AIR 102 The Foundations of the US Air Force</td>
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<tr>
<td>AIR 201 The Evolution of USAF Air and Space Power</td>
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<td>AIS 100 Introduction to American Indian Studies</td>
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<tr>
<td>AIS 101 Introductory Lakota I</td>
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<td>AIS 102 Introductory Lakota II</td>
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<td>AIS 421 Indians of North America</td>
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<td>AM 381 Professional Behavior at Work</td>
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<tr>
<td>ANTH 210 Cultural Anthropology</td>
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<td>ANTH 220 Physical Anthropology</td>
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<td>ANTH 421-521 Indians of North America</td>
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<td>ECON 460-560 Economic Development</td>
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*Indicates courses that also meet the System General Education Requirements (SGR). If students use a course to meet the SGR, students must select a different course to meet the IGR.
Option 2: Cultural and Aesthetic Awareness

As a result of taking courses meeting this goal, students will:
1. Demonstrate an appreciation of the different ways in which people express their understanding of the human condition.
2. Understand their responsibilities and choices as related to spatial and temporal contexts.
3. Foster individual creativity.

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

- Required: #1
- At least one of the following: #2, #3

NOTE: If a student selects a 1- or 2-credit course, the student will need to combine course credit hours to meet the 3-credit requirement.

Courses

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<td>ENGL 248 Women in Literature *</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 249 Literature of Diverse Cultures *</td>
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</tr>
<tr>
<td>ENGL 250 Science Fiction *</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 256 Literature of the American West *</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 268 Literature *</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 283 Creative Writing I</td>
<td>3</td>
</tr>
<tr>
<td>MUS 100 Music Appreciation *</td>
<td>3</td>
</tr>
<tr>
<td>MUS 130 Music Literature and History I *</td>
<td>2</td>
</tr>
<tr>
<td>MUS 131 Music Literature and History II *</td>
<td>3</td>
</tr>
<tr>
<td>MUS 201 History of Country Music *</td>
<td>3</td>
</tr>
<tr>
<td>MUS 203 Blues, Jazz, and Rock *</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 100 Introduction to Philosophy *</td>
<td>3</td>
</tr>
</tbody>
</table>

*Indicates courses that also meet the System General Education Requirements (SGR). If students use a course to meet the SGR, students must select a different course to meet the IGR.

Clarification of “Educational Experiences” Alternative

Educational Experiences (EdEx) are an option for meeting SDSU's IGRs. The Educational Experiences will parallel the guideline for credit which is that 45 hours of experience is needed per credit hour earned. Proposals describing Educational Experiences will be presented by departments and approved by the SDSU General Education Core Committee to assure that the student learning outcomes of the goals are being accomplished by the Educational Experiences. These Educational Experiences are not to be designed to meet the needs of an individual student, but rather to meet the needs of groups of students of a department/major, throughout the University.
III. Globalization Requirement

Globalization is defined as a process of interaction and integration among people, organizations, governments and cultures. This process affects:

- environmental resources
- culture(s), including people’s well-being
- political systems, national sovereignty
- national security
- agriculture
- public health/health care
- economic systems/international trade
- transportation
- information technology/communication
- education
- global governance

Students will understand globalization and how it affects the human community.

Student Learning Outcomes:

Students will:
1. Demonstrate a basic understanding of globalization.
2. Identify the benefits and cost implications of globalization.
3. Identify and analyze global issues including how multiple perspectives impact such issues.
4. Interpret global issues and data utilizing discipline specific analytical and/or philosophical tools.

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

Credit Hours:

Students can select a course to meet the globalization requirement which also meets one of the SGR/IGR requirements or meets a major requirement with the following exceptions: ABS 482, International Experience (2-4 cr.), FREN 385, Travel & Study Abroad Francophone (1-4 cr.), and MFL 396-496, Field Experience (1-4 cr.). If a student selects one of these three courses, required credits would increase from 1-4 credits. Otherwise, selected courses do not add to the total number of credits required for the major. In no instance are the 128 credits required for graduation increased.

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.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS 203 Global Food Systems *</td>
<td>3</td>
</tr>
<tr>
<td>ABS 482-582 International Experience *†</td>
<td>(2-4)</td>
</tr>
<tr>
<td>AGEC 479 Agricultural Policy*</td>
<td>3</td>
</tr>
<tr>
<td>ARAB 101 Introductory Arabic I *</td>
<td>4</td>
</tr>
<tr>
<td>ARAB 102 Introductory Arabic II *</td>
<td>4</td>
</tr>
<tr>
<td>ARTH 100 Art Appreciation *</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 211 History of World Art I *</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 212 History of World Art II *</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 383 Bioethics *</td>
<td>4</td>
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<tr>
<td>BOT 419 Plant Ecology**</td>
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</tr>
<tr>
<td>BOT 419L Plant Ecology Lab**</td>
<td>0</td>
</tr>
<tr>
<td>CSC 303 Ethical and Security Issues in Computing**</td>
<td>3</td>
</tr>
<tr>
<td>ECON 101 Global Economy *</td>
<td>3</td>
</tr>
<tr>
<td>ECON 202 Principles of Macroeconomics *</td>
<td>3</td>
</tr>
<tr>
<td>ECON 460-560 Economic Development*</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 211 World Literature I *</td>
<td>3</td>
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<tr>
<td>ENGL 212 World Literature II *</td>
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<tr>
<td>ENGL 221 British Literature I *</td>
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<tr>
<td>ENGL 222 British Literature II *</td>
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<tr>
<td>ENVM 275 Introduction to Environmental Science **</td>
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<td>FREN 101 Introductory French I *</td>
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<td>FREN 102 Introductory French II *</td>
<td>4</td>
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<tr>
<td>FREN 385 Travel Study Abroad Francophone†</td>
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<tr>
<td>GEOG 200 Introduction to Human Geography *</td>
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<tr>
<td>GEOG 210 World Regional Geography *</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 219 Geography of South Dakota *</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 310 Soil Geography and Land Use Interpretation *</td>
<td>2</td>
</tr>
<tr>
<td>GEOG 310L Soil Geography and Land Use Interpretation Studio *</td>
<td>1</td>
</tr>
<tr>
<td>GER 101 Introductory German I *</td>
<td>4</td>
</tr>
<tr>
<td>GER 102 Introductory German II *</td>
<td>4</td>
</tr>
<tr>
<td>GLST 201 Global Studies I *</td>
<td>3</td>
</tr>
<tr>
<td>GLST 401 Global Studies II**</td>
<td>3</td>
</tr>
<tr>
<td>HIST 112 World Civilizations II *</td>
<td>3</td>
</tr>
<tr>
<td>HIST 122 Western Civilization II *</td>
<td>3</td>
</tr>
<tr>
<td>HIST 410 World History Since 1945*</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 443 Public Health Science*</td>
<td>3</td>
</tr>
<tr>
<td>HSC 443 Public Health Science*</td>
<td>3</td>
</tr>
<tr>
<td>MCOM 417-517 History of Journalism**</td>
<td>3</td>
</tr>
<tr>
<td>MFL 101 Introduction to Foreign Language and Culture I *</td>
<td>4</td>
</tr>
<tr>
<td>MFL 102 Introduction to Foreign Language and Culture II *</td>
<td>4</td>
</tr>
<tr>
<td>MFL 396 Field Experience†</td>
<td>(1-12)</td>
</tr>
<tr>
<td>MFL 496-596 Field Experience†</td>
<td>(1-12)</td>
</tr>
<tr>
<td>NURS 480 Advanced Population based Nursing Practice</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 383 Bioethics*</td>
<td>4</td>
</tr>
<tr>
<td>POLS 253 Current World Problems *</td>
<td>3</td>
</tr>
<tr>
<td>PS 310 Soil Geography and Land Use Interpretation *</td>
<td>2</td>
</tr>
<tr>
<td>PS 310L Soil Geography and Land Use Interpretation Studio*</td>
<td>1</td>
</tr>
<tr>
<td>PS 446-546 Agroecology**</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 409 History and Systems of Psychology**</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 482-582 Travel Studies**</td>
<td>(1-4)</td>
</tr>
<tr>
<td>REL 250 World Religions *</td>
<td>3</td>
</tr>
<tr>
<td>SE 330 Human Factors and User Interface**</td>
<td>3</td>
</tr>
<tr>
<td>SOC 100 Introduction to Sociology **</td>
<td>3</td>
</tr>
<tr>
<td>SOC 150 Social Problems *</td>
<td>3</td>
</tr>
<tr>
<td>SOC 240 The Sociology of Rural America*</td>
<td>3</td>
</tr>
<tr>
<td>SOC 350 Race and Ethnic Relations *</td>
<td>3</td>
</tr>
<tr>
<td>SOC 440 Urban Sociology *</td>
<td>3</td>
</tr>
<tr>
<td>SOC 483 Sociology of Gender Roles**</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 101 Introductory Spanish I *</td>
<td>4</td>
</tr>
<tr>
<td>SPAN 102 Introductory Spanish II *</td>
<td>4</td>
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<tr>
<td>SPCM 470 Intercultural Communication**</td>
<td>3</td>
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<tr>
<td>WL 110 Environmental Conservation *</td>
<td>3</td>
</tr>
<tr>
<td>WL 430 Human Dimensions in Wildlife and Fisheries **</td>
<td>4</td>
</tr>
<tr>
<td>WL 430L Human Dimensions in Wildlife and Fisheries Lab **</td>
<td>0</td>
</tr>
</tbody>
</table>

* Indicates courses that also meet the System General Education Requirements (SGR) and/or Institutional Graduation Requirements (IGR).
** Indicates course required for the major.
† Required credits increase from 1-4 credits.
IV. Advanced Writing Requirement

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.

Required: #1, #2, #3, #4

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:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABE 422 Design Project IV</td>
<td>2</td>
</tr>
<tr>
<td>ABE 490 Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ABS 475 Integrated Natural Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>ABS 475L Integrated Natural Resource Management Lab</td>
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</tr>
<tr>
<td>AGE 479 Agricultural Policy</td>
<td>3</td>
</tr>
<tr>
<td>AGED 404 Program Plan in Agricultural Education</td>
<td>4</td>
</tr>
<tr>
<td>AM 482 Trends Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 310 History of United States Art and Architecture</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 520 Modern Art and Architecture Survey</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 490 Seminar</td>
<td>1</td>
</tr>
<tr>
<td>AS 489 Current Issues in Animal and Range Sciences</td>
<td>1</td>
</tr>
<tr>
<td>AST 463-563 Agricultural Waste Management</td>
<td>3</td>
</tr>
<tr>
<td>AT 474-574 Rehabilitation of Athletic Injuries</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 490 Seminar</td>
<td>1</td>
</tr>
<tr>
<td>CA 340 Work Family Interface</td>
<td>3</td>
</tr>
<tr>
<td>CEE 465 Civil Engineering Capstone Design II</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 342 Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 342L Physical Chemistry I Lab</td>
<td>1</td>
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<tr>
<td>CHEM 383 Techniques in Clinical Laboratory Technology II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 494 Internship (COM)(AW)</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 498 Undergraduate Research/Scholarship</td>
<td>3</td>
</tr>
<tr>
<td>CM 473 Construction Law and Accounting</td>
<td>3</td>
</tr>
<tr>
<td>CSC 485 Software Engineering II</td>
<td>3</td>
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<tr>
<td>CTE 440-540 Curriculum Design in Career and Technical Education</td>
<td>3</td>
</tr>
<tr>
<td>DS 490 Seminar</td>
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<tr>
<td>ECE 361 Methods and Materials/Early Childhood Education</td>
<td>4</td>
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<tr>
<td>ECE 361L Methods Lab</td>
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</tr>
<tr>
<td>ECON 433 Public Finance</td>
<td>3</td>
</tr>
<tr>
<td>EE 465 Senior Design II</td>
<td>2</td>
</tr>
<tr>
<td>EET 470 Project Management</td>
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</tr>
<tr>
<td>EET 470L Project Management</td>
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</tr>
<tr>
<td>EET 471 Capstone Experience</td>
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<tr>
<td>EET 471L Capstone Experience Lab</td>
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<tr>
<td>ENGL 379 Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 410 Mythology and Literature</td>
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<tr>
<td>ENGL 424 7-12 Language Arts Methods</td>
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<tr>
<td>ENGL 479 Capstone Course and Writing in the Disciplines</td>
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<tr>
<td>FCSE 411 Philosophy and Methods Family and Consumer Sciences</td>
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</tr>
<tr>
<td>FREN 310 French Language Skills</td>
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</tr>
<tr>
<td>GEQG 382 Geographic Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>GER 433 German Civilization I</td>
<td>3</td>
</tr>
<tr>
<td>GER 434 German Civilization II</td>
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<tr>
<td>GS 479 Interdisciplinary Studies Capstone</td>
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<tr>
<td>HIST 480 Historical Methods and Historiography</td>
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<tr>
<td>HO 464 Senior Project I</td>
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<td>HO 465 Senior Project II</td>
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<tr>
<td>HSC 490 Seminar</td>
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<tr>
<td>ID 322 Interior Design Studio III</td>
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<tr>
<td>MATH 401 Senior Capstone and Advanced Writing</td>
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</tr>
<tr>
<td>MCOM 371L Advertising Copy and Layout</td>
<td>3</td>
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<tr>
<td>MCOM 371L Advertising Copy and Layout Studio</td>
<td>3</td>
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<tr>
<td>MCOM 433 Advanced TV News Reporting</td>
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<td>MCOM 433L Advanced TV News Reporting Studio</td>
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<tr>
<td>MCOM 436 Public Affairs Reporting</td>
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<tr>
<td>MCOM 438L Public Affairs Reporting Studio</td>
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<tr>
<td>ME 479 Mechanical Systems Design II</td>
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<tr>
<td>ME 479L Mechanical Systems Design II Lab</td>
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<tr>
<td>MEDT 461 Introduction to Management and Education</td>
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<tr>
<td>MICR 490 Seminar</td>
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<tr>
<td>MNET 470 Project Management</td>
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<td>MNET 470L Project Management Lab</td>
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<tr>
<td>MNET 471 Capstone Experience</td>
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<td>MNET 471L Capstone Experience Lab</td>
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<td>MNET 494 Internship</td>
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<td>MUS 333 Music Literature and History III</td>
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<tr>
<td>NURS 490-499 Seminar</td>
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<td>NFS 490-590 Seminar</td>
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<td>NURS 416 Community Health Nursing</td>
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<td>NURS 495 Practicum</td>
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<td>PE 490 Seminar</td>
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<td>PHA 467 Pharmacy Practice III</td>
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<td>PHA 467L Pharmacy Practice III Lab</td>
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<td>PHA 468 Pharmacy Practice IV</td>
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<tr>
<td>PHA 468L Pharmacy Practice IV</td>
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<tr>
<td>PHIL 424 Modern Political Philosophy</td>
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<tr>
<td>PHYS 316 Measurement Theory and Experiment Design</td>
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<td>POLS 461 Early Political Philosophy</td>
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<td>POLS 462 Modern Political Philosophy</td>
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<tr>
<td>PS 383 Principles of Crop Improvement</td>
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<tr>
<td>PS 390 Seminar</td>
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<td>PSYC 409 History and Systems of Psychology</td>
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<tr>
<td>RANG 489 Current Issues in Animal and Range Sciences</td>
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<tr>
<td>REC 410 Current Issues in Recreation</td>
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<tr>
<td>SE 320 Software Requirements and Formal Specifications</td>
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</tr>
<tr>
<td>SPAN 433 Spanish Civilization and Culture</td>
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<tr>
<td>SPAN 435 Latin American Civilization and Culture</td>
<td>3</td>
</tr>
<tr>
<td>SPCM 305 Communication Research</td>
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<tr>
<td>Graduation Requirements</td>
<td>47</td>
</tr>
</tbody>
</table>
General Education Requirements for Associate Degree

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

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

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 15 hours of System General Education Requirements specified below must be completed within the first 48 hours as preparation for the Proficiency Examination:

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Goal #1)</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences/Diversity (Goal #3)</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Arts/Diversity (Goal #4)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics (Goal #5)</td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences (Goal #6)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

2. Transfer students with more than 18 credit hours entering from outside the Regental System must complete the above specified 15 credit hours of general education within the first 30 credit hours taken at a Regental institution.

3. All System General Education Requirements (30 credits) must be completed within the first 64 hours. A list of program exceptions at SDSU are:
   - Agricultural and Biosystems Engineering
   - Biology – Preprofessional Health Related Specialization
   - Civil Engineering
   - Computer Science
   - Electrical Engineering
   - Engineering Physics – Mechanical Engineering Emphasis and Electrical Engineering Emphasis
   - Interior Design
   - Mathematics Education
   - Mechanical Engineering

4. Students placed in pre-general education (i.e., remedial) courses must enroll in and successfully complete the courses within the first 30 credit hours. If a student does not successfully complete the pregeneral education course(s) within the first 30 credit hours attempted, a registration hold is placed on the student's record. In any subsequent registration during the next 12 credit hours attempted, the student must enroll in and successfully complete the pre-general education course(s). If the pre-general education course(s) is not successfully completed within the first 42 credit hours attempted, 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. Transfer students entering with 42 or more credit hours, who are still in need of pre-general education coursework, are required to enroll in the necessary pre-general education coursework during their first enrolled term in the regental system. Student who are placed into MATH 021 are expected to successfully complete 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 COMPASS Math placement exam and earn scores that meet or exceeds the placement score necessary for enrolling in MATH 102.

Additional Guidelines for Associate Degrees

1. The 15 hours of System General Education Requirements specified below must be completed within the first 32 hours as preparation for the Proficiency Examination:

<table>
<thead>
<tr>
<th>Course Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication (Goal #1)</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences/Diversity (Goal #3)</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Arts/Diversity (Goal #4)</td>
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<tr>
<td>Mathematics (Goal #5)</td>
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<tr>
<td>Natural Sciences (Goal #6)</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Graduation Requirements 49
Transfer Students

Fraction of Credits

Transfer courses that are in the general education areas should be met within a 1/3 credit or greater of what is required in order for that requirement to be considered met. For example, if a student has transferred in 5 and 1/3 credits of Social Science credit toward Goal #3, that student will have met the 6 credit minimum for that goal. If less than 5 and 1/3 credits or fewer is transferred, then the student must take additional credits from the list of Goal #3 courses in the University Catalog to equal the minimum of 6 credits that is required. Total credits toward graduation must include specific College requirements.

Personal Wellness Requirement

The Personal Wellness requirement (IGR #2) needs to be satisfied by transfer students with documented equivalent courses to BIOL 105, GS 143, HSC 212, PHA 201, PSYC 267, WEL 100-100L, or two (2) credits of PE 100. If equivalencies cannot be established, the transfer student will be expected to meet the requirement of two (2) credits of Personal Wellness.

Military students with approved documentation (DD214, CCAF, AARTS, or SMART transcripts) will be granted WEL 100 for 2 credits. If these students have already received WEL 100 credit, they receive 2 credits of PE 100 for the documented military experience.

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 reenrollment as their catalog of graduation.
5. Students are considered to be in continuous enrollment for purposes of the catalog of graduation so long as any break in enrollment at any Regental university is for two or fewer consecutive semesters (excluding summer) and students maintain their degree-seeking status at the same Regental university.
6. Students who change their degree-seeking status from one Regental university to another Regental university are assigned the catalog of graduation that corresponds to the term they are admitted to their new degree-granting university.
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 2.25:4B.) Up to 16 credit hours at the 300 and 400 level may be required. More than 16 credit hours at the 300 and 400 level may be required if specified by an accrediting agency.

South Dakota State University provides a two year associate degree program (A.S.) in General Agriculture and (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 (South Dakota Regental System minimum of 128 semester 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 also to 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 SDSU the credits required for the bachelor's degree range from 128-138. The degrees offered are:

- Bachelor of Arts (B.A.)
- Bachelor of Science (B.S.)
- Bachelor of Science in Education (B.S.E.D.)
- Bachelor of Music Education (B.M.E.)
- Bachelor of Applied Technical Science (B.A.T.S.)

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 preparing for further graduate study. The second category leads to professional master's degrees, such as the M.Ed. or MBA. While similar to the M.A. and M.S., these programs tend to emphasize professional practice.


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.

The professional doctoral 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 M.D., Pharm.D., JD, DVM, and Ed.D. degrees.

SDSU offers the Ph.D. degree in these areas: Agronomy; Animal Science; Biological Sciences; Chemistry; Computational Science and Statistics; Electrical Engineering; Geospatial Science and Engineering; Nursing; Nutritional Sciences; Pharmaceutical Sciences; Sociology; and Wildlife and Fisheries Sciences. SDSU offers a professional doctorate in Pharmacy, that is the Pharm.D. degree; and in Nursing the Doctor of Nursing Practice.

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 usually 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 18-24 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 contains courses within the discipline(s) of the existing program. 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

SDSU offers the following degrees. Listed below the degrees are the major areas of study.

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- Agricultural Systems Technology ......................... 87-90
- Agronomy ....................................................... 199-200
- Animal Science ................................................ 93-97
- Dairy Manufacturing ........................................ 118-119
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- General Agriculture ......................................... 143-144
- Horticulture ................................................... 159-161
- Landscape Architecture .................................... 159, 161-162
- Park and Recreation Management ....................... 159, 162-163
- Range Science .................................................. 93, 95-97

**Bachelor of Science in Biological Science**
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- Environmental Management ................................ 104-105
- Microbiology .................................................. 101, 105-107
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### Arts and Sciences

**Bachelor of Arts in Arts and Sciences**
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- Communication Studies and Theatre .................. 115-117
- Economics ....................................................... 124, 128-129
- English .......................................................... 140-141
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**Education and Human Sciences**

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  Master of Education (M.Ed.) *
  Master of Science (M.S.) *
  Doctor of Nursing Practice
  Doctor of Philosophy (Ph.D.) *

* See Graduate School Catalog for majors in these degrees

54 Degrees and Associated Majors
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<tr>
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<tr>
<td>*Food and Biological Materials Engineering</td>
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<tr>
<td>Agricultural and Resource Economics (B.S.)</td>
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<td>ABS/Ag</td>
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<td>*Environmental Science and Engineering</td>
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<td>*Environmental Systems</td>
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<td>*Processing</td>
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<td>*Production</td>
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<td>*General Technology</td>
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<tr>
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<td>*</td>
<td>Specialization (area within a major)</td>
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## PROGRAM OF STUDY

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### Key to Units Administering Individual Curriculums

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56 Degrees and Associated Majors
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# All Authorized Majors, Minors, Certificates and Specializations

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## Key to Units Administering Individual Curriculums

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Academic Organizational Structure of South Dakota State University

Office of Academic Affairs

Agriculture and Biological Sciences
- Agricultural and Biotic Systems Engineering
- Animal and Range Sciences
- Biology and Microbiology
- Dairy Science
- Economics
- Horticulture, Forestry, Landscape and Parks
- Plant Science
- Rural Sociology
- Veterinary Science
- Wildlife and Fisheries Sciences

Arts and Sciences
- Air Force ROTC
- Architecture
- Army ROTC
- Chemistry and Biochemistry
- Comm. Studies and Theatre
- English
- Geography
- History and Political Science
- Journalism and Mass Comm.
- Modern Languages
- Music
- Philosophy and Religion
- Psychology
- Visual Arts

Education and Human Sciences
- Counseling and Human Resource Development
- Design, Merch, and Consumer Sciences
- Educational Leadership
- Health, Physical Education and Recreation
- Human Development
- Nutrition, Food Science, and Hospitality
- Teacher Education
- BATS Program
- Career Planning Services
- Interdisciplinary/General Studies

Engineering
- Agricultural and Biotic Systems Engineering
- Civil and Environmental Engineering
- Electrical Engineering and Computer Science
- Engineering Technology and Management
- Mathematics and Statistics
- Mechanical Engineering
- Physics

General Studies
- Graduate Nursing
- Nursing Student Services
- Undergraduate Nursing

Honors College
- Pharmacy Practice
- Pharmaceutical Sciences

Nursing
- Distance Education
- Outreach Programs

Pharmacy
- Graduate School

Graduate School Office of Continuing and Extended Education

Office of Academic Affairs General Studies
- BATS Program
- Career Planning Services
- Interdisciplinary/General Studies

Honors College
- Graduate Nursing
- Nursing Student Services
- Undergraduate Nursing

Pharmacy
- Distance Education
- Outreach Programs

Office of Academic Affairs

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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, medical lab technologist, criminal investigation technologist, food safety, 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, biostress, natural resources, biotechnology, and biomass-based energy and products. The results of research often form the basis for classroom instruction and extension work. The Cooperative Extension Service provides educational services statewide to promote the beneficial use and development of human, economic, and natural resources.

Departments/Units

| Agricultural and Biosystems Engineering (Ag Systems Technology) | Horticulture, Forestry, Landscape and Parks |
| Animal and Range Sciences | Plant Science |
| Biology and Microbiology | Rural Sociology |
| Dairy Science | Veterinary Science |
| Economics | Wildlife and Fisheries Sciences |
| | Ag-Bio Communications Unit |

| Agricultural Experiment Station | Animal Disease Research & Diagnostic Lab |
| | Cooperative Extension Service |
| | Youth Development |
| | 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)
Cooperative State Research, Education, and Extension Service (CSREES)
The purposes, objectives, and requirements of various majors and options are outlined in the discussions under the various departments. If at any time you desire a change in major and/or specialization, you should report to the Director of Academic Programs for your adviser reassignment.

### Agriculture and Biological Sciences Curricula

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<td>Agriculture</td>
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<td>Agricultural Systems Technology</td>
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<td>Microbiology</td>
<td>Biological Science</td>
<td>Biology and Microbiology</td>
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Agriculture and Biological Sciences Curricula

Degree Requirements

Students seeking the Bachelor of Science degree must complete the System General Education Requirements (pages 40-42) and SDSU Institutional Graduation Requirements (pages 43-45). In some majors, the student must select a “specialization.” Additional requirements for both Bachelor of Science degrees follow.

Bachelor of Science 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 adviser.

- ABS 203, Global Food Systems ...........................................3
- ABS 381, Multicultural Agricultural/Biological Science Experience.........................................................2-4
- ABS 482, International Experience........................................2-4
- ABS 475-475L, Integrated Natural Resource Management and Lab .....................................................3
- AGEC 271-271L, Farm and Ranch Management and Lab ..........4
- AGEC 354, Agricultural Marketing and Prices ........................3
- AS 101-101L, Introduction to Animal Science and Lab ............3
- AS 241-241L, Meat: Product to Consumption and Lab ............3
- AST 202-202L, Construction Technology and Materials and Lab .........................................................2
- AST 213-213L, Agricultural, Industrial and Outdoor Power and Lab .........................................................3
- AST 262, Environmental Safety and Society ............................2
- AST 333-333L, Soil and Water Mechanics and Lab...................3
- AST 342-342L, Applied Electricity and Lab ..............................3
- DS 130-130L, Introduction to Dairy Science and Lab ...............3
- DS 281, Dairy Foods .........................................................3
- IO 111-111L, Biology of Horticulture and Lab ........................3
- LA 201, Introduction to Landscape Design ..............................3
- MICR 311-311L, Food Microbiology and Lab ............................4
- PRM 101, Parks and Society ..............................................3
- PS 103-103L, Crop Production and Lab ..................................3
- PS 213-213L, Soils and Lab ..............................................3
- PS 223-223L, Principles of Plant Pathology and Lab ...............3
- PS 307-307L, Insect Pest Management and Lab or ....................3
- PS 305-305L, Insect Biology and Lab ....................................3
- RANG 105-105L, Introduction to Range Management and Lab ..........3
- WL 110, Environmental Conservation ..................................3

Bachelor of Science in Biological Sciences

A minimum of 33 credits from the natural sciences is required for the degree. 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.)

Additional Requirements

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

Activities

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. 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. Through this, students are educated in the scientific method, critical thinking, analysis, synthesis, and cogent expression. They are helped to 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 sixteen departments and programs in the College of Arts and Sciences offer major and/or minor programs leading to one of three undergraduate degrees. In addition, four departments in other colleges offer majors and/or minors in programs administered through the College of Arts and Sciences.

Degrees Offered

Bachelor of Arts
Bachelor of Music Education
Bachelor of Science

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

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

Degree Requirements

The Bachelor of Science, Bachelor of Arts, and Bachelor of Music Education degrees are offered by the Arts and Sciences College. Students enrolled 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

Natural Science* .......................................................... 14
With 6 credits from Biological Sciences
With 8 credits from Physical Sciences
Social Sciences ............................................................... 12
(SGR Goal 3 and IGR Goal 3 - Social Science courses only)
Humanities ................................................................. 8
(SGR Goal 4 and IGR Goal 3 - Humanities courses only)

* Bachelor of Science students in the Arts and Sciences College must complete 6 credits from the System General Education (SGR) Natural Science list, page 42 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.

Biological Science credits that may meet the 6-credit requirement are:

ANTH 220 ............................................................... 3
BIOL 101-101L ........................................................ 3
BIOL 103-103L ........................................................ 3
BIOL 105 ................................................................. 3
BIOL 151-151L ........................................................ 4
BIOL 153-153L ........................................................ 4
BIOL 200-200L ........................................................ 4
BIOL 221-221L ........................................................ 4
BIOL 325-325L ........................................................ 4
BOT 201-201L .......................................................... 3
MICR 231-231L ........................................................ 4
NFS 221 ................................................................. 3
PE 252-252L ............................................................ 2
PS 103-103L ............................................................ 3
WL 110 ................................................................. 3
WL 220 ................................................................. 3

Physical Science credits that may meet the 8-credit requirement are:

CHEM 106-106L ........................................................ 4
CHEM 108-108L ........................................................ 4
CHEM 112-112L ........................................................ 4
CHEM 114-114L ........................................................ 4
CHEM 120-120L ........................................................ 3-4
GEOG 131-131L ...................................................... 4
GEOG 132-132L ...................................................... 4
PHYS 101-101L ........................................................ 4
PHYS 111-111L ........................................................ 4
PHYS 115 ............................................................... 3
PHYS 211-211L ........................................................ 4
PHYS 213-213L ........................................................ 4
PS 213-213L ........................................................... 2-3
PS 243-244 ............................................................ 3-4
STAT 281 .............................................................. 3

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

Bachelor of Arts

Modern Language* (completion and competency in one language at the 202 level or a department-approved advanced upper division language course) .................................................. 3-14
Humanities (SGR Goal 4 and IGR Goal 3 - Humanities courses only) from discipline other than a modern language ......................... 6
Social Sciences (SGR Goal 3 and IGR Goal 3 - Social Science courses only) .......................................................... 8

* 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

HIST 368, History of the American Indians or
ANTH 421, Indians of North America .................................. 3
SOC 100, Introduction to Sociology or
PSYC 101, General Psychology ........................................ 3

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 College of Education and Human Sciences for further details.)

Additional 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. 33 semester credits must be upper division (300 and above).

Activities

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, extempore speaking, oral interpretation, and oratory. 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 Chorus), University Women's Choir, and Opera Workshop.

Instrumental: Civic/University Symphony Orchestra, Marching Band (The "Pride of the Dakotas"), Pep Bands, Symphonic Band, Concert Band, Jazz Ensembles and various Percussion, Woodwind and Brass small ensembles.

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

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

- Counseling and Human Resource Development
- Design, Merchandising, and Consumer Sciences
- Educational Leadership
- Health, Physical Education and Recreation
- Human Development
- Nutrition, Food Science and Hospitality
- Teacher Education
- Aviation (program under the College of Education and Human Sciences)

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

- American Association of Family and Consumer Sciences (AAFCS)
- American Dietetic Association (ADA-CADE)
- Commission on Accreditation of Athletic Training Education (CAATE)
- Cooperative State Research, Education, and Extension Service (CHREESS) recognition
- Council for Accreditation of Counseling and Related Educational Programs (CACREP)
- Council for Interior Design Accreditation (CIDA)
- National Association for Education of Young Children (NAEYC)
- National Association for Sport and Physical Education (NASPE)
- National Council for the Accreditation of Teacher Education Programs (NCATE)
- South Dakota Department of Education (DOE)
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<td>Reading</td>
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Curriculum

Majors and Minors in Education and Human Sciences Students enrolled in the College of Education and Human Sciences must meet the University General Education Requirements. In addition, each major has specific required courses pertinent to the field and profession. For a complete listing of graduation requirements, refer to the description of specific majors elsewhere in this catalog.

Minor changes occurring in programs are reflected in program guide sheets issued each year. Entering students must meet the program requirements for graduation listed on the guide sheets, which will reflect the curriculum changes subsequent to the printing of this catalog. The College offers many courses that may be considered exploratory courses for those potentially interested in specific majors. Students should visit with their advisors for information about appropriate courses.

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. Endorsements are available in English as a Second Language, coaching, reading and 22 discipline areas.

Experiential Education

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.

Graduate Programs in Education and Human Sciences

Those pursuing an M.S., M.Ed. and Ph.D. degree in Education and Human Sciences disciplines are enrolled in the Graduate School. The program of work is planned with a faculty adviser from the area of concentration. Specific requirements are outlined in the Graduate School Catalog obtained from the Dean of the Graduate School, South Dakota State University, Box 2201, Brookings, South Dakota, 57007-1998. Web address: http://catalog.sdstate.edu/index.php?catoid=14.
Introduction

Engineering programs have been a vital part of SDSU since 1881, and graduates of the College of Engineering programs 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, science, and technology. The seven academic departments of the College of Engineering 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.

Mission

The mission of the College of Engineering 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.

Facilities

The facilities of the 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 of Engineering also provides computer laboratory facilities and areas for students to study and socialize.

Scholarships

The 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 of Engineering also offer their own department-specific scholarships, which 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 of Engineering and the specific academic program of interest.

Academic Advising

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

Importance of Humanities/Arts and Social Science Electives

The College of Engineering 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. SDSU’s General Education Requirement proficiencies, outlined in the General Education Requirements section of this catalog are of great professional importance to all graduates in the College of Engineering. 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, our students connect their general education component to their technical curriculum and thus strengthen their professional competence.

Cooperative Education

Students are encouraged to seek part-time (or full-time in the summer) employment opportunities that provide professional work experience in their chosen field of study. They can receive credit for this experience through Cooperative Education. Such experience serves to reinforce the student’s interest in his/her chosen field and also adds to his/her employment credentials upon graduation. A formal work plan must be submitted to, and approved by, the department head for the student’s declared major, prior to the work experience. The work plan must also be approved by the work-site supervisor. A formal policy describing the requirements and procedure for applying for Cooperative Education credit may be found in each academic department.

Student Opportunities

SDSU is located in the heart of the I-29 corridor and South Dakota’s principal manufacturing and high tech industries. Consequently, the faculty and programs of the College of Engineering enjoy a close professional relationship with many of the local and regional employers of its graduates. Besides permanent employment in the region, there are many other opportunities for students including part-time technical work, student internships, and student research assistant positions. There are also numerous student professional organizations and honor societies in the College of Engineering.
## Departments/Units

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## 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 the Accreditation Board for Engineering and Technology (EAC/ABET). The College of Engineering has offered engineering programs accredited by EAC/ABET since they first began accrediting engineering programs in 1936.

The College has been actively engaged in complying with the newest EAC/ABET accreditation criteria known as Engineering Criteria 2000. Each of the EAC/ABET accredited engineering programs has developed Program Educational Objectives that meet the unique needs of its profession and constituents. These Program Educational Objectives are statements that describe the expected accomplishment of graduates during their first few years after graduation. In order to achieve these Program Educational Objectives, the EAC/ABET programs have also developed Program Outcomes. These are statements that describe what students are expected to know and are able to do by the time of graduation. By achieving these Program Outcomes, students are assured that they are equipped to achieve the Program Educational Objectives. Ongoing assessment is used to ensure that the programs achieve their objectives and outcomes and are continuously improved.

The programs in Electronics Engineering Technology and Manufacturing Engineering Technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET). The Computer Science program is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (CAC/ABET).

The Construction Management program is accredited by the American Council for Construction Education (ACCE).

## Programs

The College of Engineering offers the following degrees: Bachelor of Science in Agricultural and Biosystems Engineering, Civil Engineering, Computer Science, Construction Management, Electrical Engineering, Electronics Engineering Technology, Engineering Physics, Industrial Management, Manufacturing Engineering Technology, Mechanical Engineering, Physics, Safety Management, and Software Engineering; Bachelor of Science with a major in Mathematics; Master of Science in Engineering, Master of Science in Statistics and Master of Science in Industrial Management; the Doctor of Philosophy in Electrical Engineering; the Doctor of Philosophy in Geospatial Science and Engineering, and Doctor of Philosophy in Computational Science and Statistics.
General Studies

Introduction

Many students enrolling in the College of General Studies have elected to explore their abilities, interests and educational alternatives before declaring a major. Other students are interested in pursuing their own areas of interest through the flexibility offered in the Interdisciplinary Studies degree program. Through General Studies, a student will receive assistance that helps them make wise major/career choices. Most undeclared major students who enroll in General Studies will transfer to one of the degree granting colleges at SDSU before they reach sophomore status. Pre-professional General Studies students usually transfer to degree programs in their sophomore year and maintain their pre-professional status as a secondary designation. The College also provides advising and general support to students enrolled in distance education and to students pursuing a Bachelor’s in Applied Technical Science or an Associate of Arts in General Studies.

Departments/Units

The College of General Studies is organized through the following programmatic delivery structure: Academic Programs, Career Planning, and Academic Support.

Degrees Offered

The College offers the A.A. in General Studies, B.S. in Interdisciplinary Studies, and Bachelor of Applied Technical Science degree (BATS) in General Supervision, Industrial Supervision, Industrial Sales, General Technology, Applied Agriculture, and Allied Health. The College offers a minor in Leadership.

Accreditations

The College of General Studies serves students in the following categories: undeclared pre-majors, pre-chiropractic, pre-law, pre-medicine, pre-dentistry, pre-physician assistant, pre-ministerial, pre-mortuary science, pre-occupational therapy, pre-optometry, pre-physical therapy, special non-degree seeking students, and students admitted in the academic success program.

Programs

Undeclared Majors

General Studies allows students without declared majors to begin college work through its program for undeclared students. Undeclared students are assisted in planning their college program and encouraged to explore various fields of study. Undeclared 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 advisers assist 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 College of General Studies offers a one-credit course entitled “GS 101 Academic and Career Exploration” which assists with career decision making strategies. New undeclared freshman students at SDSU also enroll in a one-credit course entitled “GS 100 University Experience,” which helps them acclimate to college life and learn about SDSU resources. A suggested freshman year schedule follows.

Pre-Professional (http://generalstudies.sdstate.edu/Pre-Pro.htm)

SDSU credits are generally accepted by all professional schools if satisfactory grades are maintained and courses meet appropriate program requirements.

Students who wish to qualify for admission to the professional schools of medicine, dentistry, optometry, law, or others that require pre-professional education, may wish to start in the College of General Studies. While enrolled in General Studies, students are able to consider various majors, either as possibilities for later degree objectives or as a back-up major choice, in the event that plans to pursue professional school admission should be altered.

Requirements for admission to professional schools vary. Assistance will be given to assure that students meet the course requirements of the professional school(s) they select. Students should consult the catalog of the professional institution they plan to attend for adjustments in these programs.

Nearly all of the professional school exams are now administered on campus. Information about pre-professional programs is included in the department and program descriptions and the major and minor requirements section.
Graduate School

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 and Dean of the Graduate School, 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 15 credits of completing the undergraduate curriculum with a grade point average of 2.5 or a junior-senior grade point average of 3.0 may receive credit for graduate courses numbered 500-699 in addition to the courses necessary to complete undergraduate work. Courses in the 700 and 800 series are not open to undergraduate students. Course load may not exceed 18 credits. Courses must be designated for graduate credit at the time of registration. Forms requesting permission to register for these courses are available at the Graduate School office and must be filed prior to taking the course. Permission to take courses for graduate credit while a senior does not constitute admission to the Graduate School. Such courses may be used toward a graduate degree but are not useable toward an undergraduate degree without special permission.

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, write the Dean of the Graduate School, South Dakota State University, Box 2201, Brookings, SD 57007-1998, for the latest Graduate Catalog or call the Graduate School Office 605-688-4181 or visit our Web site: www3.sdstate.edu/Academics/GraduateSchool

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 Agronomy; Animal Science; Biological Sciences (joint with the University of South Dakota); Chemistry; Computational Science and Statistics; Electrical Engineering; Geospatial Science and Engineering; Nursing; Nutritional Sciences, Sociology; Pharmaceutical Sciences; and Wildlife and Fisheries Sciences.

Programs

See the separate Graduate Catalog. This may be obtained by contacting:

Graduate School

South Dakota State University

Box 2201

Brookings, SD 57007-1998

Telephone:

605-688-4181

E-mail:

SDSU.GradSchool@sdsstate.edu

Internet:

www3.sdstate.edu/academics/graduateschool
Honors College

Committee

Associate Professor Timothy Nichols, Dean. Honors College Committee Members: Larry Janssen (ABS), April Brooks (A&S), Kathryn Penrod (E&C), Donna Flint (ENG), Joyce Fjelland (NUR), Chandradhar Dwivedi (PHA).

Program

Graduation with “Honors College Distinction” is earned by completing the requirements listed in the curriculum plan given below. The Honors College is dedicated to supporting the highest quality academic and enrichment opportunities for motivated and academically suited students who seek a high level of rigor and a personalized focus in a program featuring a carefully designed, yet flexible, curriculum and attention to growth experiences outside the classroom. Qualified students are encouraged to enroll in Honors designated sections of general education courses the first semester of their university experience.

Enrollment Requirements for Honors Courses

Qualified students may enroll in general education sections designated as Honors or Honors Colloquia without making formal application to the Honors College. To be eligible for enrollment in an Honors section, a student must have a cumulative GPA of 3.0 or higher. Students entering as freshmen must rank in the upper 10% of their graduating class or have a score of 27 or higher on the composite ACT or combined SAT at the 90th percentile.

Honors Courses

1. Departmental Honors Courses. Departmental Honors courses are departmental general education courses or special sections of departmental courses that have received approval for the Honors course designation.
2. Honors Orientation (HON 100). Recommended for first semester Honors students.
3. Honors Colloquium (HON 303). The Honors Colloquia are semester-long interdisciplinary seminars with reading lists, lectures, discussions, examinations, and/or papers. The colloquia may be used to satisfy electives for the bachelor's degree and may be taken in any sequence. Each colloquium may be repeated once as the topic and reading lists change. Honors College students are encouraged to take more than the one required colloquium.
4. Honors Independent Study (HON 491). In the junior year, Honors College students should propose their independent study projects. The Honors College office will supply a set of instructions. Students may complete their Independent Studies during their junior or senior years and are required to publish and present the results of their project.

Honors College Continuing Enrollment

Students who wish to progress toward graduation with Honors College Distinction must apply for continuing enrollment, generally at the end of the freshman or beginning of the sophomore year. An application form is available from the Honors College Dean.

Graduation with Honors College Distinction

To graduate with Honors College Distinction, a student must have a cumulative GPA of 3.5 or higher as of the beginning of the semester of graduation. A minimum of 27 Honors credit hours is required including 15 credit hours of Honors general education courses, 3-6 hours of Honors Colloquium, 3 credit hours of Honors Independent Studies, and 3-6 hours of Honors upper division contract courses. Credit hours earned in Honors Colloquium and Honors Directed Studies beyond the minimum of 3 credit hours can be applied toward Honors College requirements in lieu of Honors upper division contract course credits.
Nursing

Introduction

The Mission of the College of Nursing at South Dakota State University is to advance the nursing profession and improve human health through excellence in education, research, practice and service to society. Faculty, students and graduates of the College value scholarly activities which will expand nursing science, nursing knowledge and nursing practice while providing leadership in the delivery of nursing and health care for individuals across the life span, communities and populations. The College engages in strategic and interprofessional 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.

Non-majors are encouraged to select courses in the College of Nursing. These courses, contributing to general education, include: NURS 201, Medical Terminology and all the Health Science courses.

Departments

- Graduate Nursing
- Nursing Student Services
- Undergraduate Nursing
- West River Nursing

Degrees Offered

- Bachelor of Science
- Master of Science*
- Doctor of Nursing Practice
- Doctor of Philosophy*

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

Accreditations

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

Through the College of Nursing, students can earn a Bachelor of Science, a Master of Science, a Doctor of Nursing Practice, or a Doctor of Philosophy degree with a major in nursing. Graduates of the undergraduate program have a broad and basic preparation for professional nursing practice. They are qualified for first-level positions in hospitals, community health agencies, industry, Indian Health Service, military, and other institutions where professional nurses are employed. Graduates are prepared to assume professional responsibility for promotion of health and prevention of illness. They assume responsibility for the guidance of nursing personnel and work cooperatively with other health care providers. They have the foundation for advanced study in nursing or specialization at the graduate level.

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.

Bachelor of Science Degree in Nursing

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 program includes university core curriculum, major support courses in communication and the social, physical, and biological sciences, and nursing major courses. Graduates of the standard and the accelerated programs in nursing are eligible to write the National Council Licensure Examination to become registered nurses. They are prepared 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 are already registered nurses and 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.

Master of Science, Doctor of Nursing Practice, and Ph.D. Degrees in Nursing

The graduate programs in nursing consist of advanced theoretical and clinical study in nursing and advanced work in selected supportive fields. The Master of Science degree program offers the following specializations: family, psychiatric, and neonatal nurse practitioner; nurse educator; clinical nurse leader; and nurse administrator. The Doctor of Nursing Practice degree offers the following specializations: family, psychiatric, and neonatal nurse practitioner. Future plans include a pediatric nurse practitioner and a pediatric clinical nurse specialist option. The Ph.D. in Nursing prepares nurse scientists. See separate Graduate Catalog. This may be obtained by contacting:

Graduate School
South Dakota State University
Box 2201
Brookings, SD 57007-1998
Telephone: 605-688-4181 • E-mail: SDSU.GradSchool@sdstate.edu
Internet: www.sdstate.edu/graduate/index.cfm

Health Science Minor

The Health Science minor provides experience in health knowledge, health services, and healthful environment to undergraduate students from various disciplines. Students have the option of earning a minor in Health Science as detailed under Health Science course offerings.
Pharmacy

Introduction

The College of Pharmacy offers a six-year course of study leading to a Doctor of Pharmacy (Pharm.D.) degree. As one of the health professions, pharmacy is vitally concerned with public health and safety. The goal of the College of Pharmacy is to prepare competent Pharm.D. graduates with effective primary care skills which center around the pharmacist's role in ensuring the rational use of medications and related devices to provide optimal therapeutic outcomes for their patients, and to inspire students to be lifelong learners. As the needs of society change, the problems of providing pharmacy care also change. Therefore, pharmacy students must not only be provided with sound scientific and professional training, but also be given opportunity to gain as much liberal education as possible to more adequately understand the society they serve.

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 examinations administered by the Board of Pharmacy of the individual state. 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.

Departments

Pharmaceutical Sciences
Pharmacy Practice

Degrees Offered

Bachelor of Science Degree in Pharmaceutical Sciences
Doctor of Pharmacy (Pharm.D.)
Doctor of Philosophy (Ph.D.)

Accreditations

Accreditation Council for Pharmacy Education (ACPE)

Programs

Doctor of Pharmacy (Pharm.D.)

The College of Pharmacy offers a six-year course of study leading to the Doctor of Pharmacy degree. The Pharm.D. is a professional degree which enables our graduates to pursue diverse career opportunities and ensures that their pharmacy education prepares them for future changes in the profession. It is an exciting opportunity for students who want to make a significant contribution to the health care needs of our 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.

Curriculum (six year)

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. Finally, 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.

Dennis D. Hedge, Dean
SIM 116, 605-688-6197
Box 2202C, Brookings, SD 57007-0099
E-mail: college.pharmacy@sdstate.edu
Web site: www.sdstate.edu/pha/index.cfm
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 website. The deadline for applying for admission for the fall semester is February 1. Limitations in the size of the physical facilities, the number of faculty and the number of advanced pharmacy practice experience sites make it necessary to limit the class size in the professional program. Each student admitted into the professional program is required to authorize and pay for a criminal background check. The background check report is automatically sent to the student and to the College and must be approved by the Admissions Committee.

Notification of acceptance into the professional program is made during the spring semester. Students admitted to the professional program must submit a non-refundable pharmacy major fee to secure their position for the fall semester.

College of 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. A student must earn at least two grade points for each credit hour in pharmacy required courses to qualify for graduation with a B.S. in Pharmaceutical Sciences or to progress to the P3 year.

2. A student will be placed on pharmacy probation when the student's pharmacy GPA (required PHA prefix courses) for a semester falls below 2.0. Each subsequent semester while on pharmacy probation the student must earn a pharmacy GPA of at least 2.0 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 required courses) and will remain on pharmacy probation until the student's cumulative pharmacy GPA is 2.0 or greater.

3. For pharmacy courses (PHA prefix) repeated at SDSU, only the repeated grade will be used to calculate the pharmacy GPA. 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.)

4. Students enrolled in the professional program may transfer a maximum of six credits of PHA prefix courses.

5. Students must pass an Exit Exam for completion of the P2 year and progression into the P3 year; the exam is administered during the spring semester of the P2 year.

6. Students must receive a grade of “C” or better to meet the requirement of each 700 level course.

7. To progress to the P3 year a student cannot have more than 9 credits of “D” and/or “F” grades in any PHA course.

Career Opportunities

Demand for pharmacists is high and SDSU students enjoy an excellent placement rate. There is a diverse range of career opportunities in pharmacy that include: community pharmacy; hospital pharmacy; clinical pharmacy; independent pharmacy ownership; home health care; pharmaceutical sales; military pharmacy; clinical and laboratory research; pharmacy college teaching; positions in federal, state, and local government; professional association work; and many other specialized areas. Additional training or advanced degrees are usually necessary to teach or to conduct research. Students interested in these areas should discuss their plans with an academic adviser.

Professional Organizations

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.

Doctor of Philosophy (Ph.D.)

The College of Pharmacy offers the Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences with research opportunities in medicinal chemistry, pharmaceutics, and pharmacology. The core courses, along with the concentration in a major area of research, provide a valuable broad background of preparation for an industrial and academic career. Students in the Pharm.D. program who also have research interests have the opportunity to coordinate their curriculum leading to both Pharm.D. and Ph.D. degrees.
Summer Term

SDSU offers a wide range of courses and degree programs 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.

The schedule of offerings is located on the Records and Registration website, http://courseinfo.sdstate.edu/schedule/. For further information contact the Academic Affairs Office, SAD 230, 605-688-4173.

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. Most courses taught through University Center are taught after 4:00 p.m. The course content, number and contact hours are the same as the identical course taught on campus in the regular day program. However, a typical three-credit course will meet for three hours one 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 Bachelor of Applied Technical Science, Construction Management, Consumer Affairs, Early Childhood Education, Human Development and Family Studies, Graphic Design, Health Promotion, Interdisciplinary Studies, Journalism and Mass Communication, Nursing and Psychology, at the undergraduate level. Pre-engineering courses are also available in Sioux Falls. Master's degrees are offered in Industrial Management, Education, Nursing and Counseling. In addition, approximately one-half of the credits required for the Master's degree in Counseling may be taken in Sioux Falls.

Students in all majors may complete their general education core in Sioux Falls at University Center.
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 West River Graduate 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 Extended 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.

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 Science degree with a major in Interdisciplinary Studies, and a variety of general education courses and non-credit programs.

The West River Graduate Center in Rapid City provides graduate level opportunities through the College of Education and Counseling. The College offers Master of Education and Master of Science programs in Education 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.

The Nursing RN Upward Mobility Program deepens, enhances, and enriches the knowledge and capabilities of already licensed registered nurses across the state and region. This program is designed to enable the registered nurse to provide more comprehensive nursing care, assist in the prevention of disease, promote health care practices, and expand the knowledge and skills necessary for leadership roles in nursing.

The Nursing Upward Mobility program leading to the Bachelor of Science degree is offered for registered nurses desiring to upgrade their associate degrees or diplomas. The program is offered online via Internet and is available anywhere in the state. Clinical Practicums are performed in the student's community. The Master of Science in Nursing is also offered to various off-campus sites and online as needed and as programming allows. Please contact the Dean of Nursing at 888-216-9806 for information on nursing programs, or visit our website at http://www3.sdstate.edu/Academics/CollegeOfNursing/.

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 wishing 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

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

Extended Programs 83
Department and Program Descriptions and Requirements ...............85
Accelerated Nursing
(See Nursing)

Accounting (ACCT) Minor
(See Economics)

Aerospace Studies (AIR) Department

(Air Force ROTC)
Lieutenant Colonel Carleton H. Hirschel, Head
Department of Aerospace Studies
DePuy Military Hall 003
605-688-6106
email: bonnie.luecke@sdsstate.edu

Faculty
Lieutenant Colonel Hirschel, Professor of Aerospace Studies, Head; Assistant Professors Major Hunter, ILt Den Hoed.

Programs
The Air Force Reserve Officer Training Corps (AFROTC) program is conducted by the Department of Aerospace Studies. The purpose of this leadership development program is to enable qualified undergraduate and graduate students to become commissioned officers in the United States Air Force. AFROTC learning experiences will be of long range value whether one pursues a military or civilian career.

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 and graduate students who have two or 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.

Upon graduation and completion of the AFROTC curriculum, each student is commissioned a 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.

Upon entering the Air Force, newly commissioned second lieutenants incur an active duty commitment of four years. 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.

Professional Development and Flight Orientation Programs
Air Force ROTC cadets have the opportunity to participate in numerous Professional Development Training programs during the summer months of each academic year. Some of these include visits to Air Force installations in the U.S. and overseas, shadow programs with active duty officers in all Air Force specialties, foreign language immersion, parachuting, flying gliders, observing spacelift operations, medical and nurse orientation programs, combat survival, etc. Flight orientation is conducted year round at Air Force and Air National Guard facilities and with local aviation programs and Civil Air Patrol squadrons.

Tuition Assistance
All Air Force ROTC courses are tuition free for all students. All Air Force ROTC cadets who are South Dakota residents and who are not on an Air Force scholarship receive a 50% tuition reduction for all courses taken during four semesters of their junior and senior years.

Air Force ROTC Scholarships
Air Force ROTC scholarships are available for qualified undergraduate and graduate students in all academic degrees. These scholarships pay full tuition and fees at SDSU, $900 per year for textbooks, and a monthly stipend of $300 per month for freshmen rising to $500 per month for seniors. All non-scholarship students in the Professional Officer Course who are on contract with Air Force ROTC qualify for the monthly stipend of $450 to $500.

Aerospace Studies (AIR) Minor
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. Students must maintain a 2.0 GPA in AFROTC courses to earn this minor.

Requirements for Aerospace Studies Minor: 16 cr
A minor in Aerospace Studies requires 16 semester hours, including all Air Force ROTC courses. Students must maintain a 2.0 GPA in AFROTC courses to earn this minor.

AIR 101-101L, The Foundations of the US Air Force and Lab ..... 1
AIR 102-102L, The Foundations of the US Air Force and Lab ..... 1
AIR 201-201L, The Evolution of USAF Air and Space Power and Lab ..... 1
AIR 202-202L, The Evolution of USAF Air and Space Power and Lab ..... 1
AIR 301-301L, Air Force Leadership Studies and Lab ..... 3
AIR 302-302L, Air Force Leadership Studies and Lab ..... 3
AIR 401-401L, National Security Affairs/Preparation for Active Duty and Lab ..... 3
AIR 402-402L, National Security Affairs/Preparation for Active Duty and Lab ..... 3

86 Department and Program Descriptions and Requirements
Agricultural and Biosystems Engineering (ABE) Department

Van Kelley, Head
Department of Agricultural and Biosystems Engineering
Agricultural Engineering 107
605-688-5141
e-mail: van.kelley@sdstate.edu
http://abe.sdstate.edu

Faculty
Associate Professor Kelley, Head; Professors Anderson, Hellickson, Humburg, Julson, Muthukumarappan, Pohl, Trooien; Professors Emeriti Chu, DeBoer; Werner; Associate Professor Nicolini, Todey; Assistant Professors Cortus, Gu, Hay; Assistant Professors Emeriti Pahl, Schipull.

Programs
Agricultural and Biosystems Engineering is the science of engineering applied to the products and processes of agriculture and related industries. Foundation courses are mathematics, physics, chemistry, and biology with engineering emphasis in a wide variety of technical areas: natural resource management, irrigation and drainage, water resources development, machine dynamics and design, precision agriculture, agricultural power, properties and processing of biological materials, environmental control for livestock, indoor air quality, structures, control and disposal of agricultural wastes, computers, and instrumentation. Courses are also offered in the fields of meteorology, climatology, and micro-climatology to interested engineers and students in other colleges.

The mission of the Agricultural and Biosystems Engineering Department is to provide a professional education at the undergraduate and graduate levels for engineers and technologists that 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 Program Educational Objectives are:
1. To produce engineers that are competent in methods of analysis involving use of mathematics, fundamental physical and biological sciences, engineering sciences, and in the computational skills needed for the practice of agricultural and biosystems engineering.
2. To produce engineers that develop design skills, including abilities necessary to think creatively, to formulate problem statements, to communicate effectively, to synthesize information, formulate solutions, and to evaluate and implement problem solutions.
3. To produce engineers that are capable of addressing issues of ethics, safety, professionalism, cultural diversity, globalization, environmental impact, and social and economic impact in engineering practice.
4. To produce engineers that will contribute to agricultural profitability through the development, adoption and proper use of improved and safer engineering technologies, production systems and management practices.

Engineering design is taught throughout the academic program beginning with the freshman ABE 122 course and culminating in a two semester, senior capstone design experience via the ABE 411 and ABE 422 courses. Senior students are members of design teams which design, build, test and demonstrate engineered products and processes. Design projects solicited from industry provide students with relevant “real world” design experience.

To earn the Bachelor of Science Degree in Agricultural and Biosystems Engineering, a student must pass all courses and have an average grade of “C” or better in courses taken and required in the Agricultural and Biosystems Engineering curriculum and take the Fundamentals of Engineering examination prior to graduation.

Experiential Education Programs are available in the Department. Students are encouraged to supplement their formal instruction with internships (can receive graduation credit) and extra curricula activities.

For Agricultural Systems Technology courses and curriculum, as offered by the Agricultural and Biosystems Engineering Department, see Agricultural Systems Technology for full description. For Master of Science and Ph.D. programs, see the Graduate Catalog. Graduate level courses will be taught as listed and on demand.

Agricultural and Biosystems Engineering (ABE) Major
Requirements for Agricultural and Biosystems Engineering Major, Bachelor of Science in Agricultural and Biosystems Engineering (Accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology)

System General Education Requirements*: 34
Goal #1 Written Communication: ENGL 101, and ENGL 277......6
Goal #2 Oral Communication: SPCM 101 .........................3
Goal #3 Social Sciences/Diversity ........................................6
Goal #4 Arts and Humanities/Diversity .....................................6
Goal #5 Mathematics: MATH 123-123L ...............................5
Goal #6 Natural Sciences: PHYS 211-211L, and PHYS 213-213L ...8

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship: BIOL 101-101L...3
Goal #2 Personal Wellness ..................................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ....3

Major Requirements: 76
MATH 125, Calculus II *..........................4
MATH 225, Calculus III *.........................4
MATH 321, Differential Equations ....................3
MATH 331, Advanced Engineering Mathematics, or .........3
MATH 373, Introduction to Numerical Analysis, or .........3
MATH 381, Introduction to Probability and Statistics, or ...3
STAT 281, Introduction to Statistics ....................3
CHEM 112-112L, General Chemistry I and Lab * .......4
CHEM 108-108L, Organic and Biochemistry and Lab, or ....5
CHEM 326-326L, Organic Chemistry I and Lab ........4
CSC 130, Visual Basic Programming ..................3
MICR 231-231L, General Microbiology and Lab ........4
GE 101, Introduction to Engineering and Technology ...1
GE 121, Engineering Design Graphics I .................1
GE 122, Engineering Design Graphics II ................1
GE 123, Computer Aided Drawing .....................1
EM 214, Statics ...........................................3
EM 215, Dynamics .......................................3
EM 321, Mechanics of Materials ......................3
ME 314, Thermodynamics ..................................3
EM 331, Fluid Mechanics ................................3
EE 300-300L, Basic Electrical Engineering I and Lab ...3
ABE 122, Introduction to Agricultural and ...............3
Biological Engineering ...................................1
ABE 132, Engineering Tools for Agriculture and ........1
Biological Engineers ...................................1
ABE 222, Project Development for Agricultural and ...1
Biological Engineers ...................................1
ABE 314-314L, Ag Power and Machines and Lab ........................................ 4
ABE 324-324L, Ag Structures and Indoor Environment and Lab .................... 4
Choose 2 from the following:
ABE 330, Entrepreneurship Opportunities in Agricultural and Biosystems Engineering .......................................................... 1
ABE 494, Internship ................................................................................. 1
ABE 496, Field Experience .................................................................. 1
ABE 498, Undergraduate Research/Scholarship ...................................... 1
ABE 343-343L, Engineering Properties of Biological Materials and Lab ........ 3
ABE 434-434L, Natural Resources Engineering and Lab ......................... 4
ABE 444-444L, Unit Operations of Biological Materials Processing and Lab .... 4
ABE 463-463L, Instrumentation for Agricultural and Biological Systems and Lab .......................................................... 3
ABE 464-464L, Monitoring and Controlling Agricultural and Biological Systems and Lab .......................................................... 2
ABE 411, Design Project III ................................................................... 2
ABE 422, Design Project IV (AW) ......................................................... 2

Electives: 18
Technical Elective † † ............................................................................. 10
Electives in all emphases:
ABE 353-353L, Physical Climatology and Meteorology and Lab ** .............. 3
ABE 491, Independent Study ................................................................ 1-3
ABE 492/592, Topics ............................................................................. 1-4
ABE 494, Internship ............................................................................. 1-6
ABE 496, Field Experience .................................................................. 1-6
ABE 497, Cooperative Education ........................................................... 1-6
CSC 314, Assembly Language ................................................................ 3
CSC 317, Computer Organization and Architecture .................................. 3
EE 422, Engineering Economy † ............................................................... 2
GEOG 487, Geographic Information Systems I ......................................... 3
MATH 331, Advanced Engineering Mathematics ...................................... 3
MNET 320, Computer Aided Design/Drawing ........................................... 3
MNET 320L, Computer Aided Design/Drawing Lab .................................. 0
BIOL 103-103L, Biology Survey II and Lab * or ...................................... 3
CEE 346-346L, Geotechnical Engineering and Lab .................................... 4
MATH 381, Introduction to Probability and Statistics or ............................ 3
STAT 281, Introduction to Statistics ....................................................... 3
† Technical elective credit not given for both CEE 475 and EE 422.

Structures and Environment Emphasis:
CEE 346-346L, Geotechnical Engineering and Lab .................................... 4
CEE 353, Structural Theory .................................................................... 3
CEE 455-455L, Steel Design and Lab ....................................................... 3
CEE 456, Concrete Theory and Design ................................................... 3
CEE 482, Engineering Administration † ................................................... 3
ME 410, Principles of HVAC Engineering ................................................ 3
ME 415, Heat Transfer .......................................................................... 3
ME 439, HVAC System Design .............................................................. 3
ME 439L, HVAC System Design Lab ..................................................... 0
ME 451, Automatic Controls ................................................................. 3
MNET 320, Computer Aided Design/Drawing ........................................... 3
† Technical elective credit not given for both CEE 482 and EE 422.

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

Water and Natural Resources Engineering Emphasis:
ABE 225, Principles of Environmental Science and Engineering ** ............ 3
ABE 390, Seminar ................................................................................ 1
ABE 460, Senior Design I Environmental Science/Engineering ............... 1
ABE 461, Senior Design II Environmental Science/Engineering ............. 2
AST 463-563, Agricultural Waste Management ** (AW) ......................... 3
CEE 106-106L, Elementary Surveying and Lab ...................................... 4
CEE 323-323L, Water Supply and Wastewater Engineering and Lab .......... 4
CEE 333, Hydrology ............................................................................. 3
CEE 346-346L, Geotechnical Engineering and Lab .................................. 4
CEE 422-523, Municipal Water Distribution and Collection System Design .......................................................... 3
CEE 432, Hydraulic Engineering ............................................................. 3
PS 213-213L, Soils and Lab ** .............................................................. 3
PS 362-362L, Environmental Soil Management and Lab ** ..................... 3
PS 483, Irrigation – Crop and Soil Practices ............................................ 3

Total Required Credits: 136
† You must receive a “C” or better in ENGL 277.
† † Technical Electives permit you to concentrate on your applied technical area of interest.
* The 30 credit Board of Regents System General Education Requirements (SGER) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGR). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Accordingly, the elective program must be approved by your adviser. This will include 11 credit hours of technical electives of which at least 6 credits are 300 or above level courses in the College of Engineering and 5 additional credits are from the suggested Technical Elective courses.

Environmental Science and Engineering Specialization: The Environmental Science and Engineering Specialization is an interdisciplinary specialization with faculty and courses from the Agricultural and Biosystems Engineering, Agricultural Systems Technology, Civil and Environmental Engineering, and Environmental Management programs. The specialization is open to students in any of the aforementioned programs and its goal is to incorporate the biological and ecological features of the involved programs to provide students with an interdisciplinary experience. Students from this specialization will be well prepared to apply the engineering, science, and environmental management aspects of each of these existing programs to engineer environmentally sustainable systems. Students graduating from the specialization will have that distinction noted on their transcript. Every student in this specialization is required to take four classes that are unique to the specialization. In addition to the required classes, restrictive prerequisites on selected technical electives in the various participating programs will be relaxed allowing students in this specialization access that was formerly not available.

Agricultural Systems Technology (AST)

Faculty
Associate Professor Kelley, Head; Professors Anderson, Hellickson, Hamburg, Julson, Muthukumarappan, Poell, Trooien; Professors Emeriti Chu, DeBoer, Werner; Associate Professor Nicolai, Todey; Assistant Professors Cortus, Gu, Hay; Assistant Professors Emeriti Pahl, Schipull.
Programs

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.

Agricultural Systems Technology graduates from South Dakota State University are using their technological knowledge, coupled with managerial and leadership skills, to increase America’s food and energy supply. Recent past graduates are pursuing careers in renewable energy such as ethanol and bio-diesel, farm machinery and equipment, natural resources, livestock facilities and systems, and production agriculture.

Agricultural Systems Technology (AST) Major

Requirements for Agricultural Systems Technology Major, Bachelor of Science in Agriculture

System General Education Requirements*: 34-35
Goal #1 Written Communication: ENGL 101, and ENGL 201...........6
Goal #2 Oral Communication: SPCM 101...........3
Goal #3 Social Sciences/Diversity: ECON 202...........6
Goal #4 Arts and Humanities/Diversity...........6
Goal #5 Mathematics: MATH 102, and MATH 120, or MATH 115...........5 or 6
Goal #6 Natural Sciences: PHYS 111-111L, and CHEM 106-106L, or CHEM 112...........8

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship: AST 333-333L...........3
Goal #2 Personal Wellness...........2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness...........3

College Requirements: 11
PS 213-213L, Soils and Lab ** ...........3
AST 202-202L, Construction Technology and Materials and Lab...........2
AST 342-342L, Applied Electricity and Lab...........3
Group I Elective†††...........3

Major Requirements: 49-50
ABE 353-353L, Physical Climatology and Meteorology and Lab **...........3
ABE 490, Seminar (AW)...........1
ACCT 210, Principles of Accounting I...........3
AST 213-213L, Ag, Industrial and Outdoor Power and Lab, or AST 313-313L, Farm Machinery Systems Management and Lab...........3
AST 273, Microcomputer Applications in Agriculture or CSC 105, Introduction to Computers...........3
AST 303-303L, Design Management Experience and Lab or...........1-12
AST 494, Internship or...........1-12
AST 496, Field Experience or...........1-12
AST 497, Cooperative Education...........1-12
AST 423-423L, Rural Structures and Lab...........3
AST 443-443L, Food Processing and Engineering Fundamentals and Lab...........3
AST 463-563, Agricultural Waste Management ** (AW)...........3
BADM 310, Business Finance...........3
BADM 350, Legal Environment of Business...........3
GE 121, Engineering Design Graphics I and...........1
GE 123, Computer Aided Drawing or...........1
GE 120, Engineering Drawing/CAD...........3
MNET 231-231L, Manufacturing Processes I and Lab...........3
Science Elective, selected from CHEM, PHYS, BIOL, MICR, or BOT...........10

Biological Science Elective: Courses must be chosen from BOT, BIOL, MICR, ZOOL...........3

Electives: 12

Technical Electives:
Any 300 or higher level course in Animal and Range Sciences, Plant Science, Agricultural Business, Agricultural and Resource Economics, and Economics...........3
ABE 372-372L, Microcomputer Applications AE and Lab...........2
AST 213-213L, Ag, Industrial and Outdoor Power and Lab...........3
AST 262, Environmental Safety and Society...........2
AST 313-313L, Farm Machinery Systems Management and Lab...........3
AST 492, Topics...........1-4
BADM 260, Principles of Production and Operations Management...........3
BADM 280, Personal Finance...........3
MNET 131, Machining Technology...........3
MNET 132, Welding Technology...........3
MNET 251-251L, Electricity and Electronics I and Lab...........3
MNET 252-252L, Electricity and Electronics II and Lab...........3
MNET 260, Principles of Production and Operations Management...........3
MNET 350-350L, Fluid Power Technology and Lab...........3
AST 494, Internship, or AST 496, Field Experience, or AST 497, Cooperative Education...........1-12

Total Required Credits: 128

Business Specialization Requirements: 14
Business Elective...........3
AGEC 271-271L, Farm and Ranch Management and Lab...........4
AGEC 354, Agricultural Marketing and Prices...........3
AGEC 478-478L, Agricultural Finance and Lab...........3
AGEC 479, Agricultural Policy (AW) (G)...........3
AST 303-303L, Design Management Experience and Lab...........3
BADM 280, Personal Finance...........3
BADM 334, Small Business Management...........3
BADM 360, Organization and Management...........3
BADM 474, Personal Selling...........3
ECON 201, Principles of Microeconomics **...........3
ECON 330, Money and Banking...........3
STAT 281, Introduction to Statistics...........3

Processing Specialization Requirements: 14
Processing Elective...........3
AS 241-241L, Introduction to Meat Science and Lab...........3
AS 441, Advanced Meat Science and Lab...........3
DS 321-321L, Dairy Product Processing I and Lab...........5
DS 421, Dairy Plant Management...........5
MICR 231-231L, General Microbiology and Lab...........4
MICR 311-311L, Food Microbiology and Lab...........4
NFS 341-341L, Food Science and Lab...........4
PS 312, Grain and Seed Production and Processing...........3

Production Specialization Requirements: 14
Ag Production Electives...........3
Animal Science Electives...........3
Horticulture Electives...........6
Plant Science Electives...........6

Environmental Systems Specialization Requirements: 14
Environmental Systems Technology Elective...........3
AST 225, Principles of Environmental Science and Engineering...........3
AST 390, Seminar...........1
AST 460, Senior Design I Environmental Science/Engineering...........1
AST 461, Senior Design II Environmental Science/Engineering...........2
AST 462, Advanced Topics in Natural Resources Technology...........2
BIOL 311, Principles of Ecology **...........3
CHEM 482, Environmental Chemistry...........3-4
MICR 231-231L, General Microbiology and Lab...........4
PS 243, Principles of Geology **...........3
PS 244, Geological Resources of South Dakota Lab...........1
Environmental Science and Engineering Specialization:
The Environmental Science and Engineering Specialization is an interdisciplinary specialization with faculty and courses from the Agricultural and Bio systems Engineering, Agricultural Systems Technology, Civil and Environmental Engineering, and Environmental Management programs. The specialization is open to students with majors in any of the aforementioned programs and its goal is to incorporate the biological and ecological features of the involved programs to provide students with an interdisciplinary experience. Students from this specialization will be well prepared to apply the engineering, science, and environmental management aspects of each of these existing programs to engineer environmentally sustainable systems. Students graduating from the specialization will have that distinction noted on their transcript. Every student in this specialization is required to take four classes (AST 225, 460, 461, 462) that are unique to the specialization. In addition to the required classes, restrictive prerequisites on selected technical electives in the various participating programs will be relaxed allowing students in this specialization access that was formerly not available.

† "C" grade required in ENGL 201.
†† Courses must be selected from the following areas: Botany, Biology, Entomology, Zoology, Microbiology.
††† AST majors are required to take 11 credits of Group I classes from page 64. Students may use a maximum of 6 credits of AST classes to satisfy the Group I requirement.
†††† Technical electives must be selected from the approved list provided.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.
The AST major requires a minimum of 14 semester credits from one of the following specializations: Business, Processing, Production, or Environmental Systems. The specialization and technical elective program must be planned with the adviser and approved by the department head.

Agricultural Systems Technology (AST) Minor
Requirements for Agricultural Systems Technology Minor: 18 cr
AST 202-202L, Construction Technology and Materials and Lab .......... 2
AST 213-213L, Ag, Industrial and Outdoor Power and Lab ............. 3
AST 333-333L, Soil and Water Mechanics and Lab ** ............... 3
AST 342-342L, Applied Electricity and Lab ........................................ 3
Plus 7 hours from the following:
AST 262, Environmental Safety and Society ........................................ 2
AST 273-273L, Microcomputer Applications in Agriculture and Lab ........................................ 3
AST 303-303L, Design Management Experience and Lab ............... 3
AST 313-313L, Farm Machinery Systems Management and Lab ....... 3
AST 423-423L, Rural Structures and Lab ........................................... 3
AST 443-443L, Food Processing and Engineering Fundamentals and Lab ........................................ 3
AST 463-563, Agricultural Waste Management ** (AW) .............. 3
AST 492, Topics ........................................................................ 1-4
AST 494, Internship or
AST 496, Field Experience or
AST 497, Cooperative Education ............................................ 1-12

Biorenewable Resources Minor
Requirements for Biorenewable Resources Minor: 18:
ABS/AST 210, Introduction to Biorenewable Products and Processing... 3

Agricultural and Resource Economics
(See Economics)

Agricultural Business
(See Economics)

Agricultural Education, Communication and Leadership
Lonell Moeller
College of Education and Counseling
Wenona 107
605-688-4378
e-mail: lonell.moeller@sdstate.edu

Students in the Agricultural Education, Communication, and Leadership major must choose one of three specializations: Education, Communication, or Leadership. Students in the 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 students will qualify for a secondary teaching certificate, and will also be prepared for a variety of careers in the agricultural industry. Graduates of the
Communication Specialization will be well prepared for employment in journalism, promotion and marketing, sales, and other career opportunities. The Leadership Specialization requires courses in leadership skills development, basic science, and agriculture, and allows considerable flexibility for students to choose supporting elective courses. Graduates of the Leadership Specialization will pursue careers of service to such entities as agricultural commodity organizations, breed associations, community development organizations, government, and businesses.

Agricultural Education, Communication and Leadership Major

Requirements for Agricultural Education, Communication and Leadership Major - Education Specialization

Bachelor of Science in Agriculture

System General Education Requirements*: 31

Goal #1 Written Communication:
- ENGL 101, Composition I *..........................3
- ENGL 201, Composition II *..........................3

Goal #2 Oral Communication:
- SPCM 101*, Fundamentals of Speech..................3

Goal #3 Social Sciences/Diversity:
- ECON 201, Principles of Microeconomics * or
- ECON 202, Principles of Macroeconomics * (G) and
- SOC 100, Introduction to Sociology * (G).............3

Goal #4 Arts and Humanities/Diversity.................6

Goal #5 Mathematics: MATH 102, College Algebra *....3

Goal #6 Natural Sciences:
- BIOL 201-201L, Biology Survey I and Lab **...........3
- CHEM 106-106L, Chemistry Survey and Lab *...........4

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship:
- PS 213-213L, Soils and Lab **..........................3

Goal #2 Personal Wellness ................................2-3

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ......3

Major Requirements: 82-104

AGEC 271-271L, Farm and Ranch Management and Lab.....................4
AGED 404, Program Plan in Agricultural Education (AW)..................4
AGED 434, Special Methods in Agricultural Education....................3
AGED 454, Teaching Ag Systems Technology Labs..........................2
AGED 475, Supervised Teaching Internship.........................8
AGED 494, Internship or
AGED 496, Field Experience ..................................(1-12)

ANTH 421-421L, Indians of North America **..........................3

AS 101-101L, Introduction to Animal Science and Lab....................3
AS 241-241L, Introduction to Meat Science and Lab......................3

AS 285-285L, Livestock Evaluation and Marketing and Lab............4

AST 342-342L, Applied Electricity and Lab..........................3

CTE 255, Practicum................................................................2

CTE 405, Philosophy of Career and Technical Education...............2

EDFN 365, Computer-Based Technology and Learning....................2

EDFN 427-527, Middle School: Philosophy and Application.............2

EDFN 475, Human Relations .....................................3

EPSY 302, Educational Psychology.................................3

GEOG 131-131L, Physical Geography I and Lab *......................4

GIOL 103-103L, Biology Survey II and Lab * or
- GEOG 132-132L, Physical Geography II and Lab *..................3-4

HO 111-111L, Biology of Horticulture and Lab..........................3

MNET 231-231L, Manufacturing Processes I and Lab...................3

PHYS 101-101L, Survey of Physics and Lab *..........................4

PS 103-103L, Crop Production and Lab................................3

SEED 314, Supervised Clinical/Field Experience.........................1

SEED 420-420L, 5-12 Teaching Methods and Lab........................2

SPED 450, 7-12 Teaching Reading in Content Area....................1

SPED 405, Educating Secondary Students with Disabilities............1

WL 110, Environmental Conservation ** (G) or
WL 220, Introduction to Wildlife and Fisheries Management........3

Two additional credit hours of courses prefixed ENGL, MCOM, or
SPCM..................................................2

Electives: 0-8

Approved Agricultural Electives or ................................5

Approved Agricultural Electives and ................................2

Agricultural Systems Technology (AST) Elective.........................3

AST Elective or

Total Required Credits: 128

Requirements for Agricultural Education, Communication and Leadership Major - Communication Specialization

Bachelor of Science in Agriculture

System General Education Requirements*: 31

Goal #1 Written Communication:
- ENGL 101, Composition I *..........................3
- ENGL 201, Composition II *..........................3

Goal #2 Oral Communication:
- SPCM 101*, Fundamentals of Speech..................3

Goal #3 Social Sciences/Diversity:
- ECON 201, Principles of Microeconomics * or
- ECON 202, Principles of Macroeconomics * (G) and
- SOC 100, Introduction to Sociology * (G).............3

Goal #4 Arts and Humanities/Diversity.................6

Goal #5 Mathematics: MATH 102, College Algebra *....3

Goal #6 Natural Sciences:
- BIOL 101-101L, Biology Survey I and Lab **...........3
- CHEM 106-106L, Chemistry Survey and Lab *...........4

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship:
- PS 213-213L, Soils and Lab **..........................3

Goal #2 Personal Wellness ................................2-3

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ......3

Major Requirements: 44-45

ABS 100, Exploring Ag and the Food System .........................1

ABS/LEAD 310, Leadership for Families and the Food Systems **..3

AS 101-101L, Introduction to Animal Science and Lab............3

MCOM 155, Information Gathering...................................2

MCOM 210-210L, Basic Newswriting and Studio.....................3

MCOM 220-220L, Introduction to Digital Media and Lab...........2

MCOM 265-265L, Basic Photography and Studio.....................2-3

MCOM 311-311L, News Editing and Lab..........................3

MCOM 370, Advertising Principles..................................3

MCOM 430-530, Media Law.....................................3

MCOM 490, Seminar ...........................................1

MCOM 494, Internship .........................................2

PHYS 101-101L, Survey of Physics and Lab *......................4

PS 103-103L, Crop Production and Lab..........................3

SPCM 215*, Public Speaking or
SPCM 410, Organizational Communication.........................3

Choose one of the following (3 credits):

- MCOM 316, Magazine Writing and Editing.....................3
- MCOM 332-332L, Broadcast Writing and Reporting and Lab....3
- MCOM 410, Advanced Reporting ................................3
- MCOM 438-438L, Public Affairs Reporting and Studio (AW)....3

Capstone Requirement (3 credits). Take one of the following:

- ABS 475-475L, Integrated Natural Resource Management and Lab (AW)........................................3
- AGEC 421-521, Farming and Food Systems Economics **..3
AGEC 471-571, Advanced Farm and Ranch Management .......... 3
AGEC 478-478L, Agricultural Finance and Lab ..................... 3
AS 474-474L, Cow/Calf Management and Lab ....................... 3
AS 475, Feedlot Operations and Management ....................... 3
AS 477-477L, Sheep and Wool Production and Lab ................. 3
AS 478-478L, Swine Production and Lab ........................... 3
AST 303-303L, Design Management Experience and Lab .......... 3
AST 463-563, Agricultural Waste Management ** (AW) ............ 3
DS 412-412L, Dairy Farm Management and Lab ................... 4
PS 440-440L, Crop Management with Precision Farming and Lab 3
RANG 485-485L, Advanced Integrated Ranch Management and Lab 3

Electives: 43-45
General Electives ........................................................ 19-21
Agricultural Electives (see College of ABS listing) ............... 9
Group I Agricultural Electives ....................................... 5
MCOM Electives ......................................................... 10

Total Required Credits: 128

Requirements for Agricultural Education, Communication and
Leadership Major- Leadership Specialization

Bachelor of Science in Agriculture

System General Education Requirements*: 31
Goal #1 Written Communication:
ENGL 101, Composition I * ........................................... 3
ENGL 201, Composition II * ......................................... 3
Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech .............................. 3
Goal #3 Social Sciences/Diversity:
ECON 201, Principles of Microeconomics * or
ECON 202, Principles of Macroeconomics * (G) .............. 3
SOC 240, The Sociology of Rural America* ** (G) .......... 3
Goal #4 Arts and Humanities/Diversity ..............................
PHIL 220, Introduction to Ethics ** ................................ 3
Goal #5 Mathematics: MATH 102, College Algebra ............. 3
Goal #6 Natural Sciences:
BIOL 101-101L, Biology Survey I and Lab ** ............... 3
CHEM 106-106L, Chemistry Survey and Lab .................... 4

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ................ 3
Goal #2 Personal Wellness ............................................ 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

Major Requirements: 33-36
ABS 100, Exploring Ag and the Food System ...................... 1
ABS 203, Global Food Systems ** (G) .......................... 3
ABS 310, Leadership for Families and the Food Systems .. 3
ABS 482-582, International Experience **(G) or
XXX 494, Internship or
XXX 498, Undergraduate Research ............................... 2-4
AGEC 479, Agricultural Policy (AW) (G) ......................... 3
AS 101-101L, Introduction to Animal Science and Lab .... 3
LEAD 210, Foundations of Leadership ............................. 3
LEAD 410, Leadership: Senior Seminar .......................... 1
LEAD 433, Leadership and Organizations ......................... 3
LEAD 496, Field Experience: Leadership in Action .......... 2
PS 103-103L, Crop Production and Lab ......................... 3
SPCM 215*, Public Speaking or
SPCM 410, Organizational Communication ..................... 3

Capstone Requirement. Take one of the following (3-4 credits):
ABS 475-475L, Integrated Natural Resource Management and
Lab (AW) ............................................................. 3
AGEC 421-521, Farming and Food Systems Economics ** ....... 3

Agricultural Marketing Minor
(See Economics)

Agricultural Systems Technology
(AST)
(See Agricultural and Biosystems Engineering)

Agronomy
(See Plant Science)

Air Force ROTC
(See Aerospace Studies)

American Indian Studies Program
(AIS)

Timothy Nichols, Acting Coordinator
American Indian Studies
126 Briggs Library
e-mail: timothy.nichols@sdstate.edu

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
American Indian Studies Minor

Requirements for American Indian Studies Minor: 20 cr

ENGL 445, American Indian Literature† .................................................. 3
LAKL 101, Introductory Lakota I ** † ......................................................... 4
ANTH 421-521, Indians of North America *** † or .................................. 3
HIST 368, History and Culture of the American Indian ** † ...................... 3

10 credits chosen from the following elective courses:
HIST 362, History of the American West............................................. 3
AIS 100, Introduction to American Indian Studies .......................... 3
ANTH 210, Cultural Anthropology ** .................................................. 3
ANTH 410, North American Ethnology† ............................................. 3
ANTH 421-521, Indians of North America *** † ................................. 3
ENGL 256, Literature of the American West * ** † .............................. 3
ENGL 447, American Indian Literature of the Present† ......................... 3
GEOG 467, Geography of the American Indian† ................................ 3
HIST 368, History and Culture of the American Indian ** † .................. 3
LAKL 102, Introductory Lakota II * ** † .............................................. 4
LAKL 201, Intermediate Lakota † ......................................................... 3
LAKL 202, Intermediate Lakota II † ..................................................... 3
POLS 417, American Indian Government and Politics† ....................... 3
REL 238, Native American Religions * ** † .......................................... 3
SOC 350, Race and Ethnic Relations ** (G) † ..................................... 3

† Courses crosslisted as AIS.

Other courses will be added as they are approved by the American Indian Studies Committee.

Animal and Range Sciences Department

Clint Rusk, Head
Department of Animal and Range Sciences
Animal Science Complex 103A
605-688-5166
e-mail: clint.rusk@sdstate.edu

Equine Studies Minor

The equine minor offers students instruction in equine management and care. Classes and hands on instruction are offered in management, nutrition, health, and reproduction. There is one-on-one interaction in training and management classes. Special topic courses including farrier science are also available. This academic minor requires an internship and 18-21 credit hours and gives students an opportunity to increase their understanding of equine management while pursuing their primary area of study.

Animal Science (AS) Major

Requirements for Animal Science Major, Bachelor of Science in Agriculture:

System General Education Requirements*: 30

Goal #1 Written Communication:
ENGL 101, Composition I * ................................................................. 3
ENGL 201, Composition II ................................................................. 3

Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ........................................... 3

Goal #3 Social Sciences/Diversity ..................................................... 3
ECON 202, Principles of Macroeconomics * (G) .............................. 3

Goal #4 Arts and Humanities/Diversity ............................................ 6
Goal #5 Mathematics: MATH 102, College Algebra * or .............. 3
MATH 115, Precalculus ................................................................. 5

Goal #6 Natural Sciences: PHYS 111-111L, and PHYS 113-113L ... 8

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship ........................ 3
Goal #2 Personal Wellness ............................................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ...... 3

College Requirements: 1-4
Group I Course in Agriculture ......................................................... 1-4

Department and Program Descriptions and Requirements 93
Animal Science Courses Required: 22
AS 100, Opportunities in Animal and Range Sciences .......... 1
AS 101-101L, Introduction to Animal Science and Lab ........... 3
AS 233-233L, Applied Animal Nutrition and Lab ............... 4
AS 241-241L, Introduction to Meat Science and Lab ............ 3
AS 323, Advanced Animal Nutrition ................................ 3
AS 332-332L, Principles of Animal Breeding and Lab ........... 3
AS 390, Seminar ............................................. 1
AS 433-433L, Livestock Reproduction and Lab ................... 3
AS 489, Current Issues in Animal and Range Sciences (AW) ... 1
AS Production Courses (Choose 2): 6
AS 365-365L, Horse Production and Lab ........................ 3
AS 474-474L, Beef Cattle Production and Lab .................... 3
AS 477-477L, Sheep and Wool Production and Lab ............... 3
AS 478-478L, Swine Production and Lab .......................... 3
Science Requirements: 9-11
BIOL 101-101L, Biology Survey I and Lab ** and ............... 3
BIOL 103-103L, Biology Survey II and Lab * or ................. 3
BIOL 151-151L, General Biology I and Lab * and ............... 4
BIOL 153-153L, General Biology II and Lab * ...................... 4
BIOL 371, Genetics .......................................... 3
Communications Elective (Choose 1): 2-3
ENGL 379, Technical Communication (AW) ...................... 3
MCOM 210, Basic Newswriting ................................... 3
MCOM 313, Publicity Methods ................................... 2
MCOM 331, Video Production .................................... 3
SPCM 201, Interpersonal Communication .......................... 3
SPCM 215*, Public Speaking ..................................... 3
Elective Requirements: 43-50
Specialization and elective courses ................................ 43-50
Total Required Credits: 128

Business and Production Specialization: 54
Group 1 Electives p. 6 .............................................. 6
ACCT 210, Principles of Accounting I .............................. 3
AS 285-285L, Livestock Evaluation and Marketing and Lab .... 4
CHEM 106-106L, Chemistry Survey and Lab * .................... 4
ECON 201, Principles of Microeconomics ......................... 3
MICR 223-223L, Anatomy and Physiology of Domestic Animals and Lab 4
CHEM 108-108L, Organic and Biochemistry and Lab * or .... 4
CHEM 120-120L, Elementary Organic Chemistry and Lab* .... 5-4
PHYS 101-101L, Survey of Physics and Lab * or
MICR 231-231L, General Microbiology and Lab or
CHEM 464, Biochemistry I ........................................ 3
CHEM 466, Lab Methods-Biochemistry ............................ 1
Animal Science Production Courses. Select three from:
AS 365-365L, Horse Production and Lab ........................ 3
AS 441, Advanced Meat Science and Lab ........................ 3
AS 474-474L, Cow/Calf Management and Lab ................... 3
AS 475, Feedlot Operations and Management .................... 3
AS 477-477L, Sheep and Wool Production and Lab .............. 3
AS 478-478L, Swine Production and Lab .......................... 3
RANG 485-485L, Advanced Integrated Ranch Management and Lab 3
Business Electives ................................................. 12
Select from the following:
ACCT 211, Principles of Accounting II ............................ 3
AGEC 271-271L, Farm and Ranch Management and Lab ........ 4
AGEC 352, Agricultural Law ...................................... 3
AGEC 354, Agricultural Marketing and Prices .................... 3
AGEC 421-521, Farming and Food Systems Economics** ....... 3
AGEC 454, Economics of Grain and Livestock Marketing ....... 3

Major Requirements: 39-42
Animal Science Production Courses Required: 6
AS 489, Current Issues in Animal and Range Sciences (AW) ... 1

Science Specialization: 62-70
Group 1 Electives p. 6 .............................................. 6
 General Electives ................................................... 5-13
CHEM 326-326L, Organic Chemistry I and Lab .................. 4
CHEM 464, Biochemistry I ......................................... 3
CHEM 466, Lab Methods-Biochemistry ............................ 1
MATH 121-121L, Survey of Calculus and Lab * .................... 5
MICR 231-231L, General Microbiology and Lab ................. 4
AS Production Courses. Select two from: 6
AS 365-365L, Horse Production and Lab ........................ 3
AS 474-474L, Cow/Calf Management and Lab ................... 3
AS 477-477L, Sheep and Wool Production and Lab .............. 3
AS 478-478L, Swine Production and Lab .......................... 3

Science Requirements: 9-11
BIOL 101-101L, Biology Survey I and Lab ** and ............... 3
 BIOL 103-103L, Biology Survey II and Lab * or ................. 3
 BIOL 151-151L, General Biology I and Lab * and ............... 4
 BIOL 153-153L, General Biology II and Lab * ...................... 4

Elective Requirements: 43-50
Specialization and elective courses ................................ 43-50

Total Required Credits: 128

Business and Production Specialization: 54
Group 1 Electives p. 6 .............................................. 6
ACCT 210, Principles of Accounting I .............................. 3
AS 285-285L, Livestock Evaluation and Marketing and Lab .... 4
CHEM 106-106L, Chemistry Survey and Lab * .................... 4
ECON 201, Principles of Microeconomics ......................... 3
MICR 223-223L, Anatomy and Physiology of Domestic Animals and Lab 4
CHEM 108-108L, Organic and Biochemistry and Lab * or .... 4
CHEM 120-120L, Elementary Organic Chemistry and Lab* .... 5-4
PHYS 101-101L, Survey of Physics and Lab * or
MICR 231-231L, General Microbiology and Lab or
CHEM 464, Biochemistry I ........................................ 3
CHEM 466, Lab Methods-Biochemistry ............................ 1
Animal Science Production Courses. Select three from:
AS 365-365L, Horse Production and Lab ........................ 3
AS 441, Advanced Meat Science and Lab ........................ 3
AS 474-474L, Cow/Calf Management and Lab ................... 3
AS 475, Feedlot Operations and Management .................... 3
AS 477-477L, Sheep and Wool Production and Lab .............. 3
AS 478-478L, Swine Production and Lab .......................... 3
RANG 485-485L, Advanced Integrated Ranch Management and Lab 3
Business Electives ................................................. 12
Select from the following:
ACCT 211, Principles of Accounting II ............................ 3
AGEC 271-271L, Farm and Ranch Management and Lab ........ 4
AGEC 352, Agricultural Law ...................................... 3
AGEC 354, Agricultural Marketing and Prices .................... 3
AGEC 421-521, Farming and Food Systems Economics** ....... 3
AGEC 454, Economics of Grain and Livestock Marketing ....... 3

Animal Science Minor
Requirements for Animal Science Minor: 19 cr
AS 101-101L, Introduction to Animal Science and Lab ........... 3
AS 233-233L, Applied Animal Nutrition and Lab ............... 4
AS 285-285L, Livestock Evaluation and Marketing and Lab .... 4
One of the following courses:
AS 323, Advanced Animal Nutrition .............................. 3
AS 332, Principles of Animal Breeding ............................ 3
AS 433-433L, Livestock Reproduction and Lab ................. 3
Two of the following courses:
(one must be 474-474L, 477-477L or 478-478L)
AS 365-365L, Horse Production and Lab .......................... 3
AS 474-474L, Cow/Calf Management and Lab ................... 3
AS 477-477L, Sheep and Wool Production and Lab .............. 3
AS 478-478L, Swine Production and Lab .......................... 3

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Equine Studies Minor

Requirements for Equine Studies Minor: 18-20 cr

AS 104, Introduction to Horse Management ....................................... 2
AS 105, Light (Saddle) Horses .............................................................. 1
AS 213, Equine Health and Diseases .................................................. 3
AS 220, Equine Nutrition ................................................................. 3
AS 365-365L, Horse Production and Lab ........................................... 3
AS 494, Internship ........................................................................... 1-12
AS 370, Stable Management or .........................................................
AS 420, Equine Reproductive Management ........................................ 2-3
AGEC 271-271L, Farm and Ranch Management and Lab or
BADM 334, Small Business Management or
ENTR 336, Entrepreneurship ............................................................ 3-4

Range Science (RANG) Major

Requirements for Range Science Major, Bachelor of Science in Agriculture:

System General Education Requirements*: 31
Goal #1 Written Communication:
ENGL 101, Composition I * .............................................................. 3
ENGL 201, Composition II * .............................................................. 3
Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ................................................ 3
Goal #3 Social Sciences/Diversity:
ECON 201, Principles of Microeconomics * or
ECON 202, Principles of Macroeconomics *(G) ................................ 3
Goal #4 Arts and Humanities/Diversity .............................................. 6
Goal #5 Mathematics: MATH 102, College Algebra *(or higher) ....... 3
Goal #6 Natural Sciences:
BIOL 103-103L, Biology Survey II and Lab * or
BOT 201-201L, General Botany and Lab * ....................................... 3
CHEM 106-106L, Chemistry Survey and Lab or
CHEM 112-112L, General Chemistry I and Lab * ........................... 4

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship .............................. 3
Goal #2 Personal Wellness .................................................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ....... 3

College Requirements: 1-4
Group 1 Course in Agriculture .......................................................... 1-4

Major Requirements: 30
BIOL 101-101L, Biology Survey I and Lab ** .................................. 3
RANG 105-105L, Introduction to Range Management and Lab ** ...... 3
RANG 415-415L, Range Improvements and Grazing Management and Lab... 4
PS 213-213L, Soils and Lab ** ............................................................ 3
PHYS 101-101L, Survey of Physics and Lab * or
CHEM 464, Biochemistry I and .......................................................... 3
CHEM 466, Lab Methods-Biochemistry or ........................................ 1
MICR 231-231L, General Microbiology and Lab ............................... 4
STAT 281, Introduction to Statistics ................................................... 3
ABS 475, Integrated Natural Resource Management or
RANG 485, Advanced Integrated Ranch Management†† .................. 3
Capstone Course ............................................................................. 3
Communications Elective†................................................................. 3
Senior Seminar ††††........................................................................ 1

Elective and Specialization Requirements (see below): 49-91
Specialization Credits ...................................................................... 52-57

Total Required Credits: 128
† For Range Livestock Production, take SPCM 201. For Rangeland Resource Conservation, select from SPCM 201, SPCM 215, or ENGL 379. For Rangeland Ecology and Habitat Management, take ENGL 379.
‡‡ For Range Livestock Production, take RANG 485-485L. For other specializations, take ABS 475-475L (AW) or other capstone course as approved.
††† For Range Livestock Production, take AS 489 (AW). For Rangeland Resource Conservation, take AS 489 or other seminar as approved. For Rangeland Ecology and Habitat Management, take AS 489, BIOL 490, or PS 390 or other seminar as approved.

Range Livestock Production Specialization: 56
AGEC 271-271L, Farm and Ranch Management and Lab ............... 4
AGEC 354, Agricultural Marketing and Prices ............................... 3
AGEC 421-521, Farming and Food Systems Economics ** .......... 3
AS 101-101L, Introduction to Animal Science and Lab .............. 3
AS 433-433L, Livestock Reproduction and Lab .............................. 3
ECON 201, Principles of Microeconomics * or
ECON 202, Principles of Macroeconomics *(G) .......................... 3
(choose course not taken as Gen Ed requirement)
RANG 210-210L, Range Plant Identification and Lab ................. 2
RANG 215, Introduction to Integrated Ranch Management .......... 3
RANG 325-325L, Measurement Topics and Lab
(Rangeland Analysis and Monitoring and Lab) .......................... 3

Animal Science Electives: 6
Select 2 courses from the following:
AS 332, Principles of Animal Breeding ........................................... 3
AS 365-365L, Horse Production and Lab ........................................ 3
AS 474-474L, Cow/Calf Management and Lab ............................ 3
AS 477-477L, Sheep and Wool Production and Lab .................... 3

Business Electives: 6
Select 2 courses from the following:
AGEC 352, Agricultural Law .......................................................... 3
AGEC 478-478L, Agricultural Finance and Lab ............................ 3
AGEC 479, Agricultural Policy (AW) *(G) ................................. 3
BADM 280, Personal Finance ......................................................... 3
BADM 360, Organization and Management .................................. 3
ECON 472-572, Resource and Environmental Economics ** ...... 3

Plant Science Electives: 3
Select 1 course from the following:
PS 313, Forage Crop and Pasture Management ............................ 3
PS 343-343L, Weed Science and Lab .......................................... 3
PS 421-421L, Soil Microbiology and Lab ................................. 3
PS 475, Water Quality in Agriculture ........................................... 3

Support Courses: 6
Select 2 courses from the following:
Business Courses not selected above .......................................... 3-6
Plant Science Electives not selected above ................................. 3-6
General Electives ......................................................................... 10-13
ACCT 210, Principles of Accounting I ............................................ 3
AS 241-241L, Introduction to Meat Science and Lab .................. 3
AS 285-285L, Livestock Evaluation and Marketing and Lab ........ 4
AS 332, Principles of Animal Breeding ........................................... 3
(If not selected above)
AS 365-365L, Horse Production and Lab ....................................... 3
(If not selected above)
AS 474-474L, Cow/Calf Management and Lab ............................ 3
(If not selected above)
AS 477-477L, Sheep and Wool Production and Lab .................... 3
(If not selected above)
BIOL 371, Genetics ................................................................. 3
CA 340, Work Family Interface (AW) ....................................... 3
POLS 438, The Legislative Process ............................................. 3
RANG 321, Wildland Ecosystems .................................................. 3
RANG 325-325L, Measurement Topics and Lab ....................... 3

Department and Program Descriptions and Requirements 95
Natural Resource Management Electives: 5
RANG 421-521, Grassland Fire Ecology .................................. 3
VET 403-503, Animal Diseases and Their Control .................. 3
WL 220, Introduction to Wildlife and Fisheries Management .... 5
WL 411-411L, Principles of Wildlife Management and Lab ..... 4
WL 412-412L, Principles of Fisheries Management and Lab ...... 3
WL 415-415L, Upland Game Ecology and Management and Lab .. 3
WL 410-410L, Human Dimensions in Wildlife and Fisheries and Lab **(G) 4

Rangeland Resource Conservation Specialization: 52-54
RANG 421-521, Grassland Fire Ecology ................................. 3
RANG 210-210L, Range Plant Identification and Lab ............ 2
RANG 215, Introduction to Integrated Ranch Management ....... 3
RANG 321, Rangeland Ecosystems ..................................... 3
BOT 301-301L, Plant Systematics and Lab or
BOT 405-405L, Grasses and Grasslike Plants and Lab ...... 3-4
BOT 372-372L, Plant Physiology and Lab or
BOT 421-421L, Plant Anatomy and Lab ........................... 3-4
AS 474-474Q, Cow/Calf Management and Lab or
AS 477-477L, Sheep and Wool Production and Lab ............. 3
PS 310-310L, Soil Geography and Land Use Interpretation and Lab **(G) or
PS 446-546, Agroecology (G) ....................................... 3

Communications Electives: 3
Select 1 course not selected above:
ENGL 379, Technical Communication (AW) ....................... 3
SPCM 201, Interpersonal Communication ............................ 3
SPCM 215*, Public Speaking ......................................... 3

Ecology Electives: 4
Select 1 course from the following:
BOT 419-419L, Plant Ecology and Lab (G) .......................... 4
ENVM 425-425L, Disturbance Ecology and Lab .................... 4
LA 440-440L, Restoration Ecology and Lab ........................ 4

Geography Electives: 3
Select 1 course from the following:
GEOG 365, Land Use Planning ....................................... 3
GEOG 484-484L, Remote Sensing and Lab ......................... 3
GEOG 487, Geographic Information Systems I .................... 3
LA 231, Computer Applications in Landscape Architecture .... 3

Natural Resource Management Electives: 5
Select 5 credits from the following:
PR 303-303L, Forest Ecology and Management and Lab ...... 3
PR 401-401L, Advanced Park Management and Lab .......... 3
PRM 202-202L, Outdoor Recreation Resource Management and Lab ...... 3
PRM 300-300L, Park and Recreation Facility Management and Lab .... 3
PS 313, Forage Crop and Pasture Management .................... 3
PS 362-362L, Environmental Soil Management and Lab ** 3
WL 220, Introduction to Wildlife and Fisheries Management ... 3
WL 411-411L, Principles of Wildlife Management and Lab ...... 4
WL 412-412L, Principles of Fisheries Management and Lab .... 3

Range Science Electives: 6
Select 2 courses from the following:
Topics Include:
RANG 325-325L, Measurement Topics and Lab
(Natural Resource Measurements and Lab) ....................... 3
RANG 421-521, Grassland Fire Ecology ............................. 3

Rangeland Ecology and Habitat Management Specialization: 54-57
BOT 419-419L, Plant Ecology and Lab (G) .......................... 4
RANG 321, Rangeland Ecosystems ................................... 3
RANG 325-325L, Measurement Topics and Lab
(Natural Resource Measurements and Lab) ....................... 3
RANG 421-521, Grassland Fire Ecology ............................. 3
WL 220, Introduction to Wildlife and Fisheries Management ... 3
WL 411-411L, Principles of Wildlife Management and Lab ...... 4
BOT 301-301L, Plant Systematics and Lab or
BOT 405-405L, Grasses and Grasslike Plants and Lab ...... 3-4

Group I Electives: 6
Select 6 credits from approved list

Communication Elective: 3
Select 1 course from the following:
SPCM 201, Interpersonal Communication .......................... 3

Environmental Electives: 10-12
Select 1 course from the following:
BIOL 311, Principles of Ecology ** .................................. 3
ENVM 275, Introduction to Environmental Science **(G) ...... 3
WL 430-430L, Human Dimensions in Wildlife and Fisheries and Lab **(G) ................. 4
Select 2 courses from the following:
ENVM 425-425L, Disturbance Ecology and Lab .................... 4
LA 440-440L, Restoration Ecology and Lab ........................ 4
PS 446-546, Agroecology (G) ....................................... 3

Science Electives: 12
Select 12 credits from the following:
General Electives Credits: ............................................. 9-11
BIOL 373, Evolution .................................................. 3
BIOL 383, Bioethics **(G) ........................................... 4
BOT 301-301L, Plant Systematics and Lab ........................ 4
(R if not selected above)
BOT 327-327L, Plant Physiology and Lab .......................... 4
BOT 421-421L, Plant Anatomy and Lab ............................ 3
(R if not selected above)
BOT 421-421L, Plant Anatomy and Lab ............................ 3
LA 560, Landscape Ecology .......................................... 4
PS 243, Principles of Geology ** ................................... 3
PS 310-310L, Soil Geography and Land Use Interpretation and Lab **(G)3
PS 313, Forage Crop and Pasture Management .................... 3
PS 343-343L, Weed Science and Lab ............................... 3
PS 362-362L, Environmental Soil Management and Lab ** 3
PS 421-421L, Soil Microbiology and Lab ........................... 3
PS 475, Water Quality in Agriculture ................................. 3
RANG 210-210L, Range Plant Identification and Lab .......... 2
RANG 400, Judging Teams ........................................... 1
WL 230, Wildlife and Fisheries Techniques ........................ 3
WL 412, Principles of Fisheries Management ....................... 3
WL 412L, Principles of Fisheries Management Lab .............. 0
WL 415-415L, Upland Game Ecology and Management and Lab3
WL 417-417L, Large Mammal Ecology and Management and Lab .... 3
WL 419-419L, Waterfowl Ecology and Management and Lab ....... 3
ZOOL 302, Animal Behavior .......................................... 3

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.
Range Science Minor

Requirements for Range Science Minor: 18 cr
Twelve (12) hours of Range Science course to include RANG 105 and 415. Six (6) additional credits selected from the following list and outside of the students major field of study: additional RANG courses: AS 233, 474, 477; PS 213, 313; BOT 301, 305; BIOL 311, 440; GEOG 365, 487, 488; WL 110, 220, 411.

Apparel Merchandising (AM)
(See Design, Merchandising, and Consumer Sciences)

Applied Technical Science (BATS)
Keith Corbett
College of General Studies
Medary Commons 123
605-688-4153
e-mail: keith.corbett@sdstate.edu

Students who have completed an Associate of Applied Science degree in a technical field from one of South Dakota’s four technical institutes or an out of state technical institute and have discovered that a bachelor’s degree would help advance in their career, achieve higher job satisfaction, and earn a higher salary, will want to look into this degree. The Bachelor of Applied Technical Science degree will provide students with a broad general education, in addition to technical support courses and managerial training. This degree can assist technicians to advance into management positions by providing them with a solid educational foundation. Students will learn about business management, communication, and marketing, while advancing their technical skills even further.

Six specializations are available in this program: Applied Agriculture, Applied Health, General Technology, Industrial Sales, Industrial Supervision, and General Supervision. The BATS degree in the General Supervision specialization is also available in Sioux Falls at the University Center.

Applied Technical Science, Bachelor of (BATS)

Applied Agriculture Specialization Requirements
A total of 30 credits of 300, 400 level coursework is required from the core and track courses.

System General Education Requirements*: 30
Goal #1 Written Communication:
  ENGL 101, Composition I * .............................................. 3
  ENGL 201, Composition II ............................................... 3
Goal #2 Oral Communication:
  SPCM 101*, Fundamentals of Speech .................................. 3
Goal #3 Social Sciences/Diversity ........................................ 6
Goal #4 Arts and Humanities/Diversity ................................ 6
Goal #5 Mathematics: MATH 102, College Algebra * ............. 3
Goal #6 Natural Sciences:
  CHEM 106-106L, Chemistry Survey and Lab * ................. 4

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship .................. 3
Goal #2 Personal Wellness .............................................. 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness.. 3

Major Requirements: 85
AST course numbered 300 or above .................................... 3
Courses numbered 300 or above with the prefix ABE, ABS, AGEC, AS, AST, DS, HO, LA, PR, RANG, VET, or WL ................... 12
Globalization Requirement ............................................. 1-4
BATS 100 Transfer Credits ............................................ 0-49
ABS 203, Global Food Systems ** (G) ................................ 3
AGEC 354, Agricultural Marketing and Prices ........................ 3
BIOL 101-101L, Biology Survey I and Lab ** ........................ 3
PS 383-383L, Principles of Crop Improvement and Lab (AW) .... 3
ECON 201, Principles of Microeconomics * or
  ECON 202, Principles of Macroeconomics * (G) .............. 3
ACCT 210, Principles of Accounting I or
  STAT 281, Introduction to Statistics .............................. 3
BIOL 103-103L, Biology Survey II and Lab * or
  BOT 201-201L, General Botany and Lab * or
  CHEM 120-120L, Elementary Organic Chemistry and Lab * or
  MICR 231-231L, General Microbiology and Lab or
  PHYS 101-101L, Survey of Physics and Lab * .................... 3-4
ABS 475-475L, Integrated Natural Resource Management and Lab (AW) or
  AGEC 421-521, Farming and Food Systems Economics ** or
  AS 474-474L, Cow/Calf Management and Lab or
  AS 477-477L, Sheep and Wool Production and Lab or
  AS 478-478L, Swine Production and Lab or
  HO 415, Nursery Management or
  DS 412-412L, Dairy Farm Management and Lab or
  HO 412-412L, Greenhouse Management and Lab or
  PS 440-440L, Crop Management with Precision Farming and Lab .... 3-4
PS 223-223L, Principles of Plant Pathology and Lab or
  AS 285-285L, Livestock Evaluation and Marketing and Lab or .... 2-4
PS 490, Seminar or
  AS 490, Seminar or
  ABE 490, Seminar (AW) or
  DS 490, Seminar (AW) ................................................. 1

Electives: 5
Total Required Credits: 128

General Supervision Specialization Requirements:
A total of 20 credits of 300, 400 level coursework is required from the core and track courses.

System General Education Requirements*: 30
Goal #1 Written Communication:
  ENGL 101, Composition I * ............................................. 3
  ENGL 201, Composition II ............................................... 3
Goal #2 Oral Communication:
  SPCM 101*, Fundamentals of Speech .................................. 3
Goal #3 Social Sciences/Diversity ........................................ 6
PSYC 101, General Psychology ** .................................... 3
Goal #4 Arts and Humanities/Diversity ................................ 6
Goal #5 Mathematics: MATH 102, College Algebra * ............. 3
Goal #6 Natural Sciences .................................................. 3

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship .................. 3
Goal #2 Personal Wellness .............................................. 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness.. 3

Major Requirements: 86
Globalization Requirement ............................................. 1-4
BATS 100 Transfer Credits ............................................ 0-49
BADM 350, Legal Environment of Business ....................... 3
BADM 360, Organization and Management ......................... 3
CSC 205, Advanced Computer Applications ....................... 3
ECON 467, Labor Law and Economics .............................. 3
LMNO 201, Introduction to Leadership and Management of
  Nonprofit Organizations ............................................. 3
MNET 365, Occupational Safety and Health .......................... 3
MNET 494, Internship (AW) ................................................. 1-3
PSYC 331, Industrial and Organizational Psychology .................. 3
SPCM 320, Communication in Interviewing ................................ 3
SPCM 410-510, Organizational Communication (AW) .................. 3

Business Ethics course or
PHIL 320, Professional Ethics or
SOC 353, Sociology of Work .............................................. 3

Electives: 4

Total Required Credits: 128

General Technology Specialization Requirements
A total of 20 credits of 300, 400 level coursework is required from the core and track courses.

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I * ................................................. 3
ENGL 201, Composition II * ................................................. 3

Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ..................................... 3

Goal #3 Social Sciences/Diversity ........................................... 6
Goal #4 Arts and Humanities/Diversity ...................................... 6
Goal #5 Mathematics: MATH 120, Trigonometry * .................... 3
Goal #6 Natural Sciences ..................................................... 3

CHEM 106-106L, Chemistry Survey and Lab * ......................... 4

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ....................... 3
Goal #2 Personal Wellness .................................................. 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ...... 3

Major Requirements: 85
Globalization Requirement .................................................. 1-4
300-400 Level Elective ..................................................... 6
BATS 100 Transfer Credits .................................................. 0-49
AST 342-342L, Applied Electricity and Lab ................................ 3
AST 443-443L, Food Processing and Engineering Fundamentals and Lab .................................................. 3
CSC 205, Advanced Computer Applications ................................ 3
CSC 325, Management Information Systems ................................ 3
GE 121, Engineering Design Graphics I .................................... 1
GE 123, Computer Aided Drawing .......................................... 1
MNET 231-231L, Manufacturing Processes I and Lab .................. 3
MNET 251-251L, Electricity and Electronics I and Lab ................. 3
MNET 260, Principles of Production and Operations Mgmt ............ 3
MNET 494, Internship (AW) ................................................. 1-3

Electives: 5

Total Required Credits: 128

Industrial Sales Specialization Requirements
A total of 20 credits of 300, 400 level coursework is required from the core and track courses.

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I * ................................................. 3
ENGL 201, Composition II * ................................................. 3

Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ..................................... 3

Goal #3 Social Sciences/Diversity ........................................... 6
Goal #4 Arts and Humanities/Diversity ...................................... 6
Goal #5 Mathematics: MATH 102, College Algebra * .................... 3
Goal #6 Natural Sciences ..................................................... 3

PHYS 101-101L, Survey of Physics and Lab * ............................. 4

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ....................... 3
Goal #2 Personal Wellness .................................................. 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ...... 3

Major Requirements: 90
Globalization Requirement .................................................. 1-4
Elective ............................................................. 2
BATS 100 Transfer Credits .................................................. 0-49
BADM 360, Organization and Management ................................ 3
BADM 474, Personal Selling ................................................ 3
CSC 205, Advanced Computer Applications ................................ 3
ECON 370, Marketing ....................................................... 3
GE 121, Engineering Design Graphics I .................................... 1
GE 123, Computer Aided Drawing .......................................... 1
MNET 231-231L, Manufacturing Processes I and Lab .................. 3
MNET 251-251L, Electricity and Electronics I and Lab ................. 3
MNET 252-252L, Electricity and Electronics II and Lab ................. 3
MNET 334-334L, CAM/CNC and Lab ....................................... 3
MNET 451-451L, Industrial Electronics and Control and Lab ........ 3
MNET 494, Internship (AW) ................................................. 1-3
SPCM 320, Communication in Interviewing .............................. 3

Total Required Credits: 128

Industrial Supervision Specialization Requirements
A total of 20 credits of 300, 400 level coursework is required from the core and track courses.

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I * ................................................. 3
ENGL 201, Composition II * ................................................. 3

Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ..................................... 3

Goal #3 Social Sciences/Diversity ........................................... 6
Goal #4 Arts and Humanities/Diversity ...................................... 6
Goal #5 Mathematics: MATH 102, College Algebra * .................... 3
Goal #6 Natural Sciences ..................................................... 6

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ....................... 3
Goal #2 Personal Wellness .................................................. 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ...... 3

Major Requirements: 86-91
Globalization Requirement .................................................. 1-4
BATS 100 Transfer ......................................................... 0-49
BADM 350, Legal Environment of Business ................................ 3
BADM 360, Organization and Management ................................ 3
CSC 205, Advanced Computer Applications ................................ 3
GE 121, Engineering Design Graphics I .................................... 1
GE 123, Computer Aided Drawing .......................................... 1
MNET 231-231L, Manufacturing Processes I and Lab .................. 3
MNET 251-251L, Electricity and Electronics I and Lab ................. 3
MNET 260, Principles of Production and Operations Management .... 3
MNET 365, Occupational Safety and Health ................................ 3
MNET 367, Plant Layout and Material Handling .......................... 3
MNET 462, Quality Management ............................................ 3
MNET 463, Production and Inventory Management ....................... 3
MNET 494, Internship (AW) ................................................. 1-3
SPCM 320, Communication in Interviewing .............................. 3

Electives: 0-4

Total Required Credits: 128
Allied Health Specialization Requirements

This is designed for individuals interested in matriculating into the baccalaureate degree and receiving transfer credit for their technical training. This degree will prepare graduates for a broad range of opportunities in Health Promotion while continuing their commitment to an allied health profession. This option is appropriate for graduates in allied health programs such as radiological, cardiovascular, or nuclear medicine technology.

Admission requirements: Completion of a one or two year regionally or nationally accredited/certified program in an allied health area. A 2.5 or higher GPA, and a "C" or better in all courses taken within the major requirements.

Required Courses for Allied Health:
See note below

System General Education Requirements*: 30
Goal #1 Written Communication ......................... 6
Goal #2 Oral Communication .................................. 3
Goal #3 Social Sciences/Diversity .......................... 6
Goal #4 Arts and Humanities/Diversity .................... 6
Goal #5 Mathematics .............................................. 3
Goal #6 Natural Sciences ......................................... 3

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship .......... 3
Goal #2 Personal Wellness ................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..... 3

Major Requirements: 49-83
BIOL 221-221L, Human Anatomy and Lab .................. 4
BIOL 325-325L, Physiology and Lab ......................... 4
HDFA 210, Lifespan Development .............................. 3
HLTH 298, Allied Health Technical Training ................. 20-48
HLTH 445, Epidemiology ..................................... 3
HSC 200, Complementary and Alternative Health Care .... 3
HSC 490, Seminar (AW) .................................. 1-4
NFS 321, Human Nutrition ..................................... 3
NURS 201, Medical Terminology ............................. 1
PE 350, Exercise Physiology ................................... 2-3
PSYC 417, Health Psychology .................................. 3
HLTH 120, Community Health or HSC 212, Contemporary Health Problems ** .................... 2
HLTH 250, Pre-Professional First Aid and CPR or HLTH 364, Emergency Medical Technician .......... 2-4

Electives: 16-33
A total of 30 credits of 300, 400 level coursework is required from the core and track courses.

Total Required Credits: 128

Note: Students must have a minimum of 33 credit hours of upper level courses.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

Architecture (ARCH) Department

Brian Rex, Head
Department of Architecture
SIM 108
605-688-4723
e-mail: brian.rex@sdstate.edu

Programs

The new architecture program consists of two degrees, a 4-year undergraduate BS in Architectural Studies followed by a 2 year Master’s in Architecture graduate degree (M.Arch). The program places special emphasis on sustainable and renewable design practices. The curriculum will lead students to meet 34 specific learning outcomes as required by the National Architecture Accrediting Board (NAAB). In addition to SDSU’s General Education Requirements, students will take classes in math, general engineering, physics, art, global studies, construction management, and architecture courses devoted to specific aspects of design, construction, theory, and practice.

During their first year in the undergraduate program, students will have a pre-architecture status. Those who wish to continue in the program and who are in good academic standing, will apply for formal admission to the undergraduate program in Architectural Studies at the beginning of their second year.

Architectural Studies Major

Requirements for Architectural Studies Major, Bachelor of Science in Architecture:

System General Education Requirements*: 34
Goal #1 Written Communication .............................. 6
Goal #2 Oral Communication .................................. 3
Goal #3 Social Sciences/Diversity ............................ 6
Goal #4 Arts and Humanities/Diversity ...................... 6
Goal #5 Mathematics: MATH 121-121L ..................... 5
Goal #6 Natural Sciences: PHYS 111-111L, and PHYS 113-113L .......................... 8

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship .......... 3
Goal #2 Personal Wellness ................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..... 3

College Requirements: 11-12
Biological Science ............................................. 6
Social Science .................................................. 2-3
Humanities (other than ART) .................................. 3

Major Requirements: 68
ARCH 101, Introduction to Architecture .................... 3
GE 120-120L, Engineering Drawing/CAD/CADL ............ 3
ART 111, Drawing I .......................................... 3
ART 113, Drawing II ........................................... 3
ART 121, Design I 2D ...................................... 3
ART 123, Design I 3D ........................................ 3
GLST 201, Global Studies I .................................. 3
ARCH 201, Architectural History I (International) ....... 3
ARCH 202, Architectural History II (Regional) ............ 3
ARCH/CM 216, Construction Materials .................... 3
ARCH/CM 232, Cost Estimating ............................. 3
ARCH/GE 241, Applied Mechanics .......................... 3
ARCH 301, Architecture Lab I ................................ 3
ARCH 302, Architecture Lab II ................................ 3

Department and Program Descriptions and Requirements 99
ARCH 315, Principles of Sustainable Design ........................................... 3
ARCH/CM 321-321L, Strength of Materials ............................................. 3
ARCH/CM 333, Mechanical, Electrical, Plumbing Systems ..................... 3
ARCH/CM 353-353L, Construction Structures ......................................... 3
ARCH 411-511, Architectural Studio I .................................................... 6
ARCH 421-521, Architectural Studio II ................................................... 6
ARCH 483, Travel Studies in Architecture .............................................. 2

Electives:  5-7

Total Required Credits:  128

- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
- South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
- Globalization Requirement. (See page 46 for details.)
- Advanced Writing Requirement. (See page 47 for details.)

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.

Army ROTC (MSL)
(See Military Science)

Art (ART)
(See Visual Arts)

Athletic Coaching Certification
(See Health, Physical Education and Recreation)

Athletic Training (AT)
(See Health, Physical Education and Recreation)

Aviation (AVIA)
Jeff Boulware, Coordinator
College of Education and Human Services
Wenona Hall 108
605-688-5126
e-mail: jeff.boulware@sdstate.edu
Web site: http://aviationprogram.sdstate.edu/

Programs
SDSU offers a four-year Bachelor of Science in Aviation degree with either Aviation Education, Aviation Management, or Aviation Maintenance Management specializations.

The Aviation Education specialization is focused on students who wish to become Certified Flight Instructors. This specialization requires a student to obtain pilot certification from the private pilot through flight instructor certificates. Graduates of this option often become flight instructors for the very program they progressed through. Many graduates are in the airlines, military, and the corporate workplace.

The Aviation Management specialization is focused on students who wish to someday operate their own aviation business or aviation flight department. Students obtain pilot certification from the private pilot through commercial certificates. The Certified Flight Instructor certificate is not required for graduation, and there is a strong emphasis on business related courses.

The Aviation Maintenance Management specialization is focused on students who someday wish to own or manage a business that specializes in aircraft maintenance and repair. SDSU has partnered with approved FAA and A&P programs across the United States to finish the bachelor's degree requirements. Students attend classes on campus for general education and aviation-specific courses, while maintaining flight school aircraft under supervision.

Departmental consent is required for registration in aviation courses. Additional costs are associated with flight training to cover costs of aircraft use and individual flight instruction. Students enrolled in this program are eligible for financial aid through the University and other supplemental sources.

This program prepares students for positions as aviation professionals. The flight or maintenance experience gained in this program also enhances the opportunity for graduates to meet minimum flight experience requirements for consideration for hire by regional airlines, air freight operators, corporate aviation, charter aviation operators, aviation maintenance technician positions, and other aviation industry positions.

The degree includes courses in safety, human factors, advanced flight principles, aviation weather, and other courses recognized by our industry advisory board, and potential employers, as courses which prepare the best future employees.

For additional information: http://aviationprogram.sdstate.edu/, stop in Wenona 108, or call 688-5126.

Aviation (AVIA) Major
Requirements for Bachelor of Science in Aviation with Aviation Education Specialization:

- System General Education Requirements*: 32
  - Goal #1 Written Communication:
    - ENGL 101, Composition I * ...................................................... 3
  - Goal #2 Oral Communication:
    - SPCM 101*, Fundamentals of Speech ...................................... 3
  - Goal #3 Social Sciences/Diversity:
    - ECON 202, Principles of Macroeconomics * (G) ..................... 3
    - PSYC 101, General Psychology ** or
      SOC 100, Introduction to Sociology * (G) .............................. 6
  - Goal #4 Arts and Humanities/Diversity ..................................... 3
  - Goal #5 Mathematics: MATH 102, College Algebra * .................. 3
  - Goal #6 Natural Sciences:
    - GEOG 131-131L, Physical Geography I and Lab ........................ 4
    - PHYS 101-101L, Survey of Physics and Lab * ........................... 4

- Institutional Graduation Requirements**: 8-9
  - Goal #1 Land and Natural Resources:
    - ABE 253-253L, Introduction to Meteorology and Lab ............... 3
  - Goal #2 Personal Wellness:
    - GS 143, Mastering Lifetime Learning Skills ** or
      WEL 100-100L, Wellness for Life and Lab .............................. 2
  - Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

- Major Requirements: 24
  - AVIA 101, Introduction to General Aviation ............................. 1
  - AVIA 200, Aviation Safety ....................................................... 3
  - AVIA 302, Aviation Law ............................................................ 2
  - AVIA 305, Introduction to Aviation Administration ..................... 3
  - AVIA 300, Human Factors in Aviation ....................................... 3
  - AVIA 400, Air Transportation System ...................................... 3
Electives Requirements: 13-27
Total Required Credits: 128

Aviation Education Specialization Requirements: 38
AVIA 270, Private Pilot Theory .................................................. 3
AVIA 272, Private Pilot Flight I .................................................. 2
AVIA 273, Private Pilot Flight II .................................................. 3
AVIA 201, Aviation Weather ...................................................... 3
AVIA 250, Advanced Flight Principles ....................................... 3
AVIA 371, Instrument Pilot Theory ........................................... 3
AVIA 372, Instrument Flight ...................................................... 2
AVIA 375, Commercial Pilot Theory ........................................ 3
AVIA 376, Commercial Flight I ............................................... 3
AVIA 377, Commercial Flight II .............................................. 3
AVIA 470, Flight Instructor Theory/Flight .................................. 3
CTE 419-519, Methods of Teaching ......................................... 3
CTE 440-540, Curriculum Design in Career and Technical Education (AW) ........................................... 3

Aviation Management Specialization Requirements: 52
AVIA 270, Private Pilot Theory .................................................. 3
AVIA 272, Private Pilot Flight I .................................................. 2
AVIA 273, Private Pilot Flight II .................................................. 3
AVIA 201, Aviation Weather ...................................................... 3
AVIA 250, Advanced Flight Principles ....................................... 3
AVIA 371, Instrument Pilot Theory ........................................... 3
AVIA 372, Instrument Flight ...................................................... 2
AVIA 375, Commercial Pilot Theory ........................................ 3
AVIA 376, Commercial Flight I ............................................... 3
AVIA 377, Commercial Flight II .............................................. 3
AVIA 376, Commercial Flight I ............................................... 3
MATH 121-121L, Survey of Calculus and Lab * .......................... 5
ACCT 211, Principles of Accounting II ...................................... 3
BADM 310, Business Finance .................................................. 3
ECON 201, Principles of Microeconomics * ............................... 3
SOC 353, Sociology of Work ................................................... 3
BADM 350, Legal Environment of Business .............................. 3
BADM 360, Organization and Management ............................... 3

Aviation Maintenance Management Specialization Requirements: 18
ACCT 211, Principles of Accounting II ...................................... 3
BADM 310, Business Finance .................................................. 3
ECON 201, Principles of Microeconomics * ............................... 3
BADM 350, Legal Environment of Business .............................. 3
BADM 360, Organization and Management ............................... 3
SOC 353, Sociology of Work ................................................... 3

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

Requirements for Aviation Minor: 19 cr
AVIA 200, Aviation Safety ....................................................... 3
AVIA 270, Private Pilot Theory ................................................ 3
AVIA 272, Private Pilot Flight I ................................................ 2
AVIA 273, Private Pilot Flight II .............................................. 3

Biochemistry Major
(See Chemistry & Biochemistry)

Biology and Microbiology Department

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Faculty
Professor Cheesbrough, Head; Professors Bleakley, Brozel, Cochrane, Dieter, Erickson, Gibbons, Gibson, Gilman, Grunholt, Heney, Hildreth, Johnston, Kayongo- Male, Larson, Reese, Ruffolo, Troedstrup, Wake, West, Yen; Professors Emeriti Chen, Evenson, Haertel, McMullen, Myers, Peterson, Pengra, Whalen; Associate Professors Auger, Bücking, Kaushik, Li, Pedersen, Rushton, Wang, Xu, Zhou; Associate Professor Emeritus Morrell; Assistant Professor Fang, Hill, Li, Nepal, Rohila, Wu; Instructors Ellis, Kidelbaugh, Laposki, Lenzner, McCutcheon, Warren; Adjunct faculty E. Butler (Igne), J. Butler (USFS), Chase (Vet.Sci.), Cooper, Dwivedi (PHA), Epperson (Vet. Sci.), Fennell (HFLP), Francis (Vet. Sci.), German (WRI), Gonda, Henry (SDPURC), Hughes (USDA-ARS), Johnson (PS), McFarland (ARS), Matzner (Augustana), Mukheriee (PHA), Nelson (Vet.Sci.), Reidel (NGIRL-USDA), Rietz (Brookings Medical Clinic), Sergeev (NF), Smith (BHU), Specker (FFS), Todd, Wixon (Vet. Sci.)

Programs
The Biology and Microbiology Department offers curricula leading to the Bachelor's degree with a major in Biology. The undergraduate Biology major has two different programs from which to choose: the curriculum in College of Agriculture and Biological Sciences; or the curriculum in College of Arts and Sciences. The two programs are identical except for the individual college's requirements. Students majoring in Biology will select among four areas of specialization depending upon their particular interest and needs: (1) Ecology, (2) Organismal Biology, (3) Pre-professional, and (4) Secondary Education. A minimum GPA of 2.0 must be maintained in the major and chemistry courses.

The Ecology specialization prepares a student for careers in environmental science and ecosystem modeling.

The Organismal Biology specialization provides the student with a broad, classical background in the emphasis areas of General Biology, Botany and Zoology. This training prepares him/her to work in a wide range of careers.

The Pre-professional specialization is designed for students planning on admission into professional, health science programs.

The Secondary Education specialization provides students with the background needed for a successful career teaching biology in middle and high schools.

Department and Program Descriptions and Requirements 101
Biology (BIOL) Major

Requirements for Biology Major, Bachelor of Science:
Majors must complete the core curriculum and one of the specializations for their B.S.

System General Education Requirements*: 30

Goal #1 Written Communication:
ENGL 101, Composition I * ........................................3
ENGL 201, Composition II* ........................................3

Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ................................3

Goal #3 Social Sciences/Diversity ....................................3

Goal #4 Arts and Humanities/Diversity .................................6

Goal #5 Mathematics: Choose A, B, C, or D1 .................3-5
a. MATH 102, College Algebra * and MATH 120, Trigonometry *1,2 ........................................3
b. MATH 115, Precalculus *2 ........................................5
c. MATH 121-121L, Survey of Calculus and Lab * ..........5
d. MATH 123-123L, Calculus I and lab * ......................5

Goal #6 Natural Sciences:
BIOL 151-151L, General Biology I and Lab * ......................4
BIOL 153-153L, General Biology II and Lab * ......................4

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resources: Choose one below:
BIOL 311, Principles of Ecology **3 ..................................3
BIOL 383, Bioethics (G) ........................................4
ENVM 275, Introduction to Environmental Science (G) **4 ........................................3

Goal #2 Personal Wellness: (any course listed except BIOL 105) ........................................2

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ........................................3

Major Requirements: 44-48

Biology
BIOL 202, Genetics and Organismal Biology6 ........................................3
BIOL 202L, Genetics and Organismal Biology Lab ........................................1
BIOL 204, Genetics and Cellular Biology6 ........................................3
BIOL 204L, Genetics and Cellular Biology Lab ........................................1
MICR 231-231L, General Microbiology and Lab ........................................4
BIOL 290, Seminar ........................................1

Senior- research and communication skills (select a or b)
a. BIOL/MICR 490, Seminar (AW) or BIOL/BOT 496, Field Experience or ........................................1-4
b. BIOL/BOT/MICR 498, Undergraduate Research/Scholarship7 ........................................1-6

Chemistry
CHEM 112-112L, General Chemistry I and Lab * ......................4
CHEM 114-114L, General Chemistry II and Lab * ......................4
CHEM 326-326L, Organic Chemistry I and Lab ........................................4
CHEM 328-328L, Organic Chemistry II and Lab ........................................4

Physics
Physics: choose a or b
a. PHYS 111-111L, Introduction to Physics I and Lab * and PHYS 113-113L, Introduction to Physics II and Lab * ......................4
b. PHYS 101-101L, Survey of Physics and Lab *9 ........................................4

Mathematics
MATH 125, Calculus II* or ........................................3
STAT 281, Introduction to Statistics ........................................3

Advanced Writing
ENGL 379, Technical Communication (AW) ........................................3

Specialization Courses/Electives: 43

Total Required Credits: 128

1. If you select this option to complete Goal #5, and are planning to enter professional or graduate degree programs you should also take MATH 121 or 123 and 125.

Preprofessional Specialization Requirements, Health Related: 23-27

Required courses:
BIOL 221-221L, Human Anatomy and Lab ........................................4
BIOL 325-325L, Physiology and Lab ........................................4
MICR 439, Medical and Veterinary Immunology ........................................3

Elective courses:
Take at least four (4) courses from the following list:
BIOL 491, Independent Study or
BIOL 494, Internship or
BIOL 498, Undergraduate Research/Scholarship ........................................3-4

Recommended General Electives (if not taken to meet core requirements) to complete the 128 credits required for graduation:
BIOL 373, Evolution ........................................3
CHEM 465, Biochemistry II ........................................3
PE 454, Biomechanics ........................................3
ZOOL 423, Advanced Mammalian Physiology ........................................4
ZOOL 441-441L, Histology and Lab ........................................4
ZOOL 467-467L, Parasitology and Lab ........................................3
ZOOL 483-483L, Developmental Biology and Lab ........................................4

Organismal Biology Specialization Requirements: 25-30

Required Core Courses1
Animal: BIOL 200-200L, Animal Diversity and Lab ........................................4
Ecology Specialization Requirements: 31-33

Take at least five (5) courses from the following list:

- BIOL 221-221L, Human Anatomy and Lab
- BIOL 325-325L, Physiology and Lab
- BIOL 383, Bioethics ** (G)
- BIOL 440-440L, Restoration Ecology and Lab
- BIOL 466, Environmental Toxicology and Contaminants
- BIOL 494, Internship
- BIOL 496, Field Experience
- BOT 301-301L, Plant Systematics and Lab
- BOT 327-327L, Plant Physiology and Lab
- BOT 405-405L, Grasses and Grasslike Plants and Lab
- BIOL 419-419L, Plant Ecology and Lab (G)
- BIOL 421-421L, Plant Anatomy and Lab
- ENVM 275, Introduction to Environmental Science ** (G)
- ENVM 425-425L, Disturbance Ecology and Lab
- MICR 310-310L, Environmental Microbiology and Lab
- MICR 421-421L, Soil Microbiology and Lab
- WL 363-363L, Ornithology and Lab
- WL 367-367L, Ichthyology and Lab
- ZOOL 302, Animal Behavior
- ZOOL 305-305L, Insect Biology and Lab
- ZOOL 355-355L, Mammalogy and Lab
- ZOOL 365-365L, Vertebrate Zoology and Lab
- ZOOL 441-441L, Histology and Lab
- ZOOL 467-467L, Parasitology and Lab
- ZOOL 483-483L, Developmental Biology and Lab

In addition to BOR, SDSU, College, & Major requirements, students take 8 courses in their particular field of study. Of these 8 courses, the following 3 are required of all Organismal Biology Students:

1. General Biology Focus: Core + 1 BIOL, 1 Bot + 1 ZOOL/WL + 2 additional courses from elective list
2. Botany Focus: Core + 3 BOT + 2 additional courses from elective list
3. Zoology Focus: Core + 3 ZOOL/WL + 2 additional courses from elective list

Ecology Specialization Requirements: 31-33

Required courses

- BOT 419-419L, Plant Ecology and Lab (G)
- BIOL 373, Evolution
- ENVM 425-425L, Disturbance Ecology and Lab

Systematics/Survey Electives

(choose 1 BOT and 1 BIOL, and/or ZOOL)

- BOT 301-301L, Plant Systematics and Lab
- BOT 405-405L, Grasses and Grasslike Plants and Lab
- WL 363-363L, Ornithology and Lab
- WL 367-367L, Ichthyology and Lab
- ZOOL 305-305L, Insect Biology and Lab
- ZOOL 365-365L, Vertebrate Zoology and Lab
- ZOOL 467-467L, Parasitology and Lab
- ZOOL 483-483L, Developmental Biology and Lab
- ZOOL 370-370L, Limnology and Lab
- WL 415-415L, Upland Game Ecology and Management and Lab
- WL 417-417L, Large Mammal Ecology and Management and Lab
- WL 421-421L, Grassland Fire Ecology and Lab
- ZOOL 302, Animal Behavior

Secondary Education Specialization: 26-30

Required Courses

- BIOL 221-221L, Human Anatomy and Lab
- BIOL 325-325L, Physiology and Lab
- BIOL 373, Evolution
- BOT 120-201L, General Botany and Lab

Other Ecology Specialization Electives (choose at least 4)

- ABS 475-475L, Integrated Natural Resource Management and Lab
- BIOL 440-440L, Restoration Ecology and Lab
- BIOL 466, Environmental Toxicology and Contaminants
- BIOL 496, Field Experience or BIOL 498, Undergraduate Research
- BOT/PR 303, Forest Ecology and Management
- ENVM 275, Introduction to Environmental Science ** (G)
- MICR 310-310L, Environmental Microbiology and Lab
- MICR 421-421L, Soil Microbiology and Lab
- PS 446, Agroecology (G)
- RANG 321, Wildland Ecosystems
- RANG 325-325L, Measurement Topics and Lab
- WL 370-370L, Limnology and Lab
- WL 415-415L, Upland Game Ecology and Management and Lab
- WL 417-417L, Large Mammal Ecology and Management and Lab
- WL 421-421L, Grassland Fire Ecology and Lab
- ZOOL 302, Animal Behavior

Biology Minor

Requirements for Biology Minor: 18 cr

The minor in Biology consists of BIOL 101-101L or 151-151L, and additional credit hours in Biology and Microbiology. Departmental courses for a total of at least 18 credits. Two courses must be at the 300 level. No more than 3 credits can come from 494, 496, 497 and 498. A minimum GPA of 2.0 is required in these courses.
Botany (BOT)

The Department of Biology and Microbiology offers a Botany emphasis as an option for those seeking a degree in Biology with a specialization in Organismal Biology. The Botany emphasis concentrates on the scientific study of plants. The graduate with an emphasis in Botany is qualified for professions in plant research and industry. Graduates wishing to pursue a career in a specialized area of Botany are encouraged to consider an advanced degree program. Above all, the Botany emphasis is designed to provide the student with a thorough understanding and appreciation of the Green World around us. The Department also offers a Botany minor for those wishing to augment their knowledge in the area of plant biology.

Botany Minor
Requirements for Botany Minor: 18 credits
The minor in Botany consists of BIOL 101-101L or 151-151L, BOT 201-201L, and additional courses with a BOT prefix for a total of at least 18 credits. Two courses must be at the 300 level or above. No more than 3 credits can come from 494, 496, 497 and 498. A minimum GPA of 2.0 is required in these courses.

Environmental Management (ENVM)

The Environmental Management Major is designed to prepare students for careers in government, industry, consulting and graduate study in environmental science or management. Students receive a strong background of core courses in biology, chemistry, environmental science, geology, mathematics, physics, soils, and statistics. During the sophomore year, students participate in discussions with working professionals. These discussions serve to guide students toward a particular area of environmental science. Students work closely with their adviser to design a program of study leading toward a particular career objective. A broad selection of elective courses provides flexibility for development of specialization within a particular focus area. A senior seminar and capstone course in integrated natural resource management provide work related experience for graduating senior students. Students are strongly encouraged to cultivate working relationships with prospective employers throughout their program. A minimum GPA of 2.0 must be maintained in the major and chemistry courses.

Environmental Management (ENVM) Major
Requirements for Environmental Management Major, Bachelor of Science in Biological Science:
System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I * 3
ENGL 201, Composition II * 3
Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech 3
Goal #3 Social Sciences/Diversity:
ECON 202, Principles of Macroeconomics * 3
Goal #4 Arts and Humanities/Diversity:
ABS 475-475L, Integrated Natural Resource Management and Lab (AW) 1
Goal #5 Mathematics: Choose A, B, C, or D * 3-5
a. MATH 102, College Algebra * and 3
b. MATH 115, Precalculus * 3
c. MATH 121-121L, Survey of Calculus and Lab * 4
d. MATH 123-123L, Calculus I and Lab * 5
Goal #6 Natural Sciences:
BIOL 151-151L, General Biology I and Lab * 4
BIOL 153-153L, General Biology II and Lab * 4
Institutional Graduation Requirements**: 8-9

Major Requirements: 53
Biology
BIOL 202, Genetics and Organismal Biology and 3
BIOL 202L, Genetics and Organismal Biology Lab or 1
BIOL 371, Genetics 3
BIOL 290, Careers in Ecology and Environmental Science 1
BIOL 311L, Principles of Ecology Lab** 1
ENVM 275, Introduction to Environmental Science (G) 2-3
ENVM 425-426L, Disturbance Ecology and Lab 4
MICR 231-231L, General Microbiology and Lab 4
Chemistry
CHEM 112-112L, General Chemistry I and Lab * 4
CHEM 114-114L, General Chemistry II and Lab * 4
Advanced Chemistry
CHEM 326-326L, Organic Chemistry I and Lab and 4
CHEM 328-328L, Organic Chemistry II and Lab or 4
Chemistry Elective and 4
CHEM 326-326L, Organic Chemistry I and Lab 4
Earth Sciences
PS 213-213L, Soils and Lab ** 3
PS 243, Principles of Geology* ** 3
Mathematics
STAT 281, Introduction to Statistics 3
Physics
PHYS 111-111L, Introduction to Physics I and Lab * 4
PHYS 113-113L, Introduction to Physics II and Lab * 4
Advanced Writing Requirement
ABS 475-475L, Integrated Natural Resource Management and Lab (AW) 1
Electives: 15-30
BIOL 490, Seminar (AW) 1
Environmental Management Majors are required to take 15 hours from the following list of approved electives:
Total Required Electives 15
ABE 353-353L, Physical Climatology and Meteorology and Lab ** 3
ABE 434-434L, Natural Resources Engineering and Lab 4
AST 463-563, Agricultural Waste Management ** (AW) 3
BIOL 200-200L, Animal Diversity and Lab * 4
BIOL 325-325L, Physiology and Lab 4
BIOL 373, Evolution 3
BIOL 383, Bioethics ** (G) 4
BIOL 415-415L, Mycology and Lab 4
BIOL 440-440L, Restoration Ecology and Lab 4
BIOL 466-566, Environmental Toxicology and Contaminants 3
BOT 201-201L, General Botany and Lab * 3
BOT 301-301L, Plant Systematics and Lab 4
BOT 327-327L, Plant Physiology and Lab 4
BOT 405-405L, Grasses and Grasslike Plants and Lab 3
BOT 419-419L, Plant Ecology and Lab (G) 4
CEE 333, Hydrology 3
CHEM 332-332L, Analytical Chemistry and Lab 4
CHEM 342-342L, Physical Chemistry I and Lab (AW) 4
CHEM 464, Biochemistry I 3
CHEM 466, Lab Methods - Biochemistry 1
CHEM 482, Environmental Chemistry 3
CSC 484, Database Management Systems 3
ECON 423, Statistics II 3
Total Required Credits: 128

The Microbiology specialization provides the student with a broad background in all facets of microbiology, thereby preparing students to pursue careers in the breadth of areas related to microbiology.

The Infectious Disease specialization focuses on the basic science of animal, human and plant diseases caused by microorganisms. Students will be prepared for careers in communicable disease control, developing antimicrobial agents, and health care professions.

The Environmental and Applied Microbiology specialization concentrates on the more applied aspects of microbiology, ranging from the role of microorganisms in the environment to utilization of microbes in agriculture, food science, and industry. Students will find a broad range of career opportunities available.

A Microbiology major is often taken along with the preprofessional programs of Medicine, Dentistry and Veterinary Science. Graduates in Microbiology are equipped for a variety of jobs such as in diagnostic and research laboratories, public health, agriculture, food industry, pharmaceutical companies, academia, governmental agencies, and the private sector. With the recommended electives the graduate is prepared to enter graduate school to pursue a Master's or Doctor's degree. The goal is to provide a sound but varied educational experience with a specialty in Microbiology.

Students interested in a career in applied microbiology are also encouraged to consider the B.S. in Dairy Manufacturing: Microbiology specialization.

A minimum GPA of 2.0 must be maintained for the required credits in microbiology and the required credits in chemistry.

Microbiology (MICR) Major

Requirements for Microbiology Major, Bachelor of Science Majors must complete the core curriculum and one of the specializations for their B.S.

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I* 3
ENGL 201, Composition II* 3

Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech 3

Goal #3 Social Sciences/Diversity 6

Goal #4 Arts and Humanities/Diversity 6

Goal #5 Mathematics: Choose A, B, C, or D 3-5
a. MATH 102, College Algebra* and 3
b. MATH 115, Precalculus* 5
c. MATH 121-121L, Survey of Calculus and Lab* 5
d. MATH 123-123L, Calculus I and Lab* 5

Goal #6 Natural Sciences:
BIOL 151-151L, General Biology I and Lab* 5
BIOL 153-153L, General Biology II and Lab* 5

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resources: Choose one below:
BIOL 311, Principles of Ecology* 3
BIOL 383, Bioethics** (G) 4
ENVM 275, Introduction to Environmental Science** (G) 5

Goal #2 Personal Wellness (any course listed except BIOL 105) 2

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

Major Requirements: 44-48
BIOL 202, Genetics and Organismal Biology 3
BIOL 202L, Genetics and Organismal Biology Lab 1
BIOL 204, Genetics and Cellular Biology 3
BIOL 204L, Genetics and Cellular Biology Lab 1
MICR 231-231L, General Microbiology and Lab 4

Microbiology (MICR) Major

Programs

The Biology and Microbiology Department offers curricula leading to the Bachelor's degree with a major in Microbiology. A Bachelor of Science in Biological Science, major in Microbiology is offered in the College of Agriculture and Biological Sciences. A Bachelor of Science with a major in Microbiology is also available in the College of Arts and Sciences. The two programs are identical except for the individual college's requirements. Students majoring in Microbiology will select among three areas of specialization depending upon their particular interest and needs: (1) Microbiology, (2) Infectious Disease, and (3) Environmental and Applied Microbiology.

GE 425-525, Occupational Safety and Health Management 3
GEOG 365, Land Use Planning 3
GEOG 464, Local and Regional Planning 3
GEOG 483-483L, Air Photo Interpretation and Lab 3
GEOG 484-484L, Remote Sensing and Lab 3
HITH 443, Public Health Science (G) 3
HITH 445, Epidemiology 3
LA 231, Computer Applications in Landscape Architecture 3
LA 322, Landscape Site Engineering 3
LA 324-324L, Planning Public Grounds and Lab 3
LA 364, Planting Design and Specifications 4
LA 424-424L, Recreational Facilities Design and Lab 3
MATH 121-121L, Survey of Calculus and Lab* 5
MATH 123, Calculus I* 4
MATH 125, Calculus II* 4
MATH 225, Calculus III* 4
ME 410, Principles of HVAC Engineering 3
MICR 310-310L, Environmental Microbiology and Lab 4
MATH 120, Trigonometry 2 3
BIOL 290, Seminar or
MICR 390, Seminar .............................................1

Research and communication skills (select A or B)
A: MICR 490, Seminar (AW) ....................................1
B: MICR 496, Field Experience ..................................1

Chemistry
CHEM 112-112L, General Chemistry I and Lab * ................4
CHEM 114-114L, General Chemistry II and Lab * ...............4
CHEM 326-326L, Organic Chemistry I and Lab ..................4
CHEM 328-328L, Organic Chemistry II and Lab ..................4

Physics
PHYS 111-111L, Introduction to Physics I and Lab * and ....4
PHYS 113-113L, Introduction to Physics II and Lab * or .......4
PHYS 101-101L, Survey of Physics and Lab *9 ..................4

Mathematics
MATH 125, Calculus II * or ....................................4
STAT 281, Introduction to Statistics ................................4

Advanced Writing
ENGL 379, Technical Communication (AW) .....................3

Specialization Courses/Electives: 43

Total Required Credits: 128
1 If you select this option to complete Goal #5, and are planning to enter professional or graduate degree programs you should also take MATH 121 or 123 and 125.
2 If you select this option to complete Goal #5, and are planning to major in Microbiology or the Biology-Ecology and Molecular/Cellular specializations, you should also take MATH 121 or 123 and 125.
3 Required for Biology-Organismal and Biology-Ecology specializations. Recommended for other Microbiology and Biology specializations, except Pre-professional.
4 Required for Biology-Pre-professional specialization.
5 Required for Environmental Management majors.
6 Students in all specializations except Biology-Ecology and Environmental Management are required to take this series. Biology-Ecology specialization and Environmental Management majors must take either BIOL 202 or 371; they are not required to take the other courses in this series.
7 Consult with the 490 instructor before selecting 496/498.
8 Pre-professional students should talk to their advisor before selecting an option.
9 PHYS 101-101L is not sufficient for students planning to enter professional or graduate degree programs, or for those in the Environmental Management major.

Specializations:
Students must complete one of the following specializations for their Bachelor of Science degree.

Microbiology Specialization Requirements:
Required Courses:
CHEM 464, Biochemistry I .....................................3
CHEM 466, Lab Methods - Biochemistry .........................1
MIRC 332, Microbial Physiology ................................2
MIRC 326L, Microbial Physiology Lab ..........................2
MIRC 436, Molecular and Microbial Genetics ..................4
MIRC 439, Medical and Veterinary Immunology ...............3

Areas of Study:
Section 1 Environmental and Applied:
(Choose at least two courses from this section)
MIRC 310-310L, Environmental Microbiology and Lab .......4
MIRC 311-311L, Food Microbiology and Lab .................4
MIRC 414-414L, Anaerobic Microbiology and Lab ..........3
MIRC 421-421L, Soil Microbiology and Lab ..................3
MIRC 450, Applied Microbiology and Biotechnology ........3

Section 2 Infectious Disease:
(Choose at least two courses from this section)
MIRC 424, Medical and Veterinary Virology ..................3
MIRC 433, Medical Microbiology ................................3
MIRC 440L, Infectious Disease Lab .............................3
PS 333-333L, Diseases of Field Crops and Lab ...............3
PS 334-334L, Diseases of Horticultural Crops and Lab .......3
ZOOL 467-467L, Parasitology and Lab ...........................3

Suggested General Electives:
(choose courses from this list, as well as above lists, to complete 128 credits)
DS 301-301L, Dairy Microbiology and Lab .....................3
PS 223-223L, Principles of Plant Pathology .....................3
CHEM 332-332L, Analytical Chemistry and Lab ..............4
CHEM 465, Biochemistry II ....................................3
MIRC 491, Independent Study ...................................1-3
MIRC 492, Special Topics .......................................1-4
MIRC 494, Internship ............................................1-4
MIRC 497, Co-operative Education ...............................1-4
MIRC 498, Undergraduate Research/Scholarship ................1-4

Environmental and Applied Microbiology Specialization: 33

Required Courses:
CHEM 464, Biochemistry I .....................................3
CHEM 466, Lab Methods - Biochemistry ........................1
MIRC 332, Microbial Physiology ................................2
MIRC 326L, Microbial Physiology Lab ..........................2
MIRC 450, Applied Microbiology and Biotechnology ........3
MIRC 310-310L, Environmental Microbiology and Lab .......4
MIRC 436, Molecular and Microbial Genetics ..................4
MIRC 439, Medical and Veterinary Immunology ...............3

Supporting Courses:
(choose a minimum of 8 credits)
MIRC 414-414L, Anaerobic Microbiology and Lab ..........3
MIRC 421-421L, Soil Microbiology and Lab ..................3
MIRC 311-311L, Food Microbiology and Lab .................4
DS 301-301L, Dairy Microbiology and Lab ....................3
CHEM 465, Biochemistry II ....................................3
MIRC 498, Undergraduate Research/Scholarship ................1-4
MIRC 491, Independent Study ...................................1-3

Bio-Ecology Microbiology Electives:
(choose a minimum of 1 course)
MIRC 424, Medical and Veterinary Virology ..................3
MIRC 433, Medical Microbiology ................................3
MIRC 440L, Infectious Disease Lab .............................3
ZOOL 467-467L, Parasitology and Lab ...........................3

Suggested General Electives:
(choose courses from this list as well as above lists, to complete 128 credits)
BIOL 311, Principles of Ecology ** .............................3
PS 223-223L, Principles of Plant Pathology and Lab ..........3
PS 333-333L, Diseases of Field Crops and Lab ...............3
PS 334-334L, Diseases of Horticultural Crops and Lab ......3
CHEM 332-332L, Analytical Chemistry and Lab ..............4
CHEM 482, Environmental Chemistry ................................3-4
CHEM 434-434L, Instrumental Analysis and Lab .............4
ENVM 275, Introduction to Environmental Science ** (G) ....3
ENVM 425-425L, Disturbance Ecology and Lab ...............4
PS 213-213L, Soils and Lab ** .................................3
PS 362-362L, Environmental Soil Management and Lab ** ....3
PHIL 454, Environmental Ethics ** .............................3
MIRC 491, Independent Study ...................................1-3

1 Take these courses in Junior year if possible
2 Recommended as a General Elective
Infectious Disease Specialization (Plant, Animal, Human): 29-30

Required Courses:
- CHEM 464, Biochemistry I: 3
- CHEM 466, Lab Methods - Biochemistry: 1
- MICR 332, Microbial Physiology: 2
- MICR 332L, Microbial Physiology Lab: 1
- MICR 439, Medical and Veterinary Immunology: 3
- MICR 440L, Infectious Disease Lab: 3
- MICR 436, Molecular and Microbial Genetics: 4
- MICR 433, Medical Microbiology or: 3
- PS 223-223L, Principles of Plant Pathology and Lab: 2

Supporting Courses:
(choose a minimum of 6 credits)
- MICR 311-311L, Food Microbiology and Lab: 4
- MICR 424, Medical and Veterinary Virology: 3
- ZOOL 467-467L, Parasitology and Lab: 3
- PS 334-334L, Diseases of Horticultural Crops and Lab: 3
- PS 333-333L, Diseases of Field Crops and Lab: 3
- MICR 498, Undergraduate Research/Scholarship: 1-4

Microbiology Electives:
(choose a minimum of 3 credits)
- MICR 310-310L, Environmental Microbiology and Lab: 4
- MICR 421-421L, Soil Microbiology and Lab: 3
- MICR 450, Applied Microbiology and Biotechnology: 3
- MICR 414-414L, Anaerobic Microbiology and Lab: 3

Suggested General Electives:
(choose 3 further credits from this list as well as from Supporting Courses and Microbiology Electives lists to fulfill remainder of degree requirements.)
- BOT 327-327L, Plant Physiology and Lab: 4
- DS 301-301L, Dairy Microbiology and Lab: 3
- CHEM 465, Biochemistry II: 3
- BIOL 325-325L, Physiology and Lab: 4
- CHEM 332-332L, Analytical Chemistry and Lab: 4
- HSC 445, Epidemiology: 3
- VET 403, Animal Diseases and Their Control: 3
- MICR 491, Independent Study: 1-3
- MICR 494, Internship: 1-4
- MICR 497, Cooperative Education: 1-4

1 Take these courses in Junior year if possible
2 Recommended as a General Elective
3 Recommended for students interested in plant emphasis
4 Recommended as a General Elective
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

Zoology (ZOOL) Emphasis

The Department of Biology and Microbiology offers a Zoology Emphasis as an option for those seeking a degree in biology with a specialization in Organismal Biology. The Zoology emphasis concentrates on the scientific study of animals. The graduate with an emphasis in zoology is qualified for professions in animal research and industry. Graduates wishing to pursue a career in a specialized area of zoology are encouraged to consider an advanced degree program. The Department also offers a Zoology Minor for those wishing to augment their knowledge in the area of animal biology.

Biomedical Engineering

Lewis Brown, Dean
College of Engineering
Crothers Engineering Hall 201
605-688-4161
e-mail: lewis.brown@sdstate.edu
http://www3.sdstate.edu/Academics/CollegeOfEngineering/BiomedicalEngineering/

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 brings together experts from many disciplines, including biology, chemistry, mathematics, physics, and computer science, to develop solutions to problems in the medical and biological sciences. Graduates with a degree in biomedical engineering can pursue a wide range of careers, including research, teaching, and industry. Engineering students who complete the 18 credit minor will be well prepared for engineering careers in the biomedical field 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.

Students desiring the minor in biomedical engineering complete an 18-credit curriculum in addition to their engineering degree, which adds both coursework and practical experience in the field. 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 Outcomes:

Students will:
1. 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;
2. 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
3. demonstrate an ability to communicate biomedical engineering related technical information in high quality written and oral presentation forms.
Biomedical Engineering Minor

Requirements for Biomedical Engineering Minor: 18 credits
BIOL 221-221L, Human Anatomy and Lab .................4
BIOL 325-325L, Physiology and Lab ..................4
EE 464*, Senior Design I ................................2
EE 465*, Senior Design II (AW) .........................2
EE 491**, Independent Study ..........................1-3
Elective *** ...........................................3
* 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.
*** selected from: EE 454-554, Biomedical Instrumentation and Electrical Safety or EE 450-550, Biomedical Signal Processing

Biorenewable Resources Minor
(See Agricultural and Biosystems Engineering)

Biotechnology

Donald Marshall, Associate Dean
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133
e-mail: donald.marshall@sdstate.edu

This interdisciplinary program helps prepare students in fundamental sciences so that they may successfully compete for career opportunities in the growing life sciences industries. Both a major and minor are available. 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. Students could also choose this major for preparation for admission to professional schools such as medicine, dentistry, optometry, pharmacy, and veterinary medicine. The Biotechnology Major will also provide career alternatives for pre-professional students that are not admitted to a professional program. The program will provide excellent background for students entering graduate school in a life sciences discipline.

Biotechnology Major

Requirements for Biotechnology Major, Bachelor of Science in Biological Science

System General Education Requirements*: 34
Goal #1 Written Communication:
   ENGL 101, Composition I *...........................3
   ENGL 201, Composition II * ......................3
Goal #2 Oral Communication ........................................3
Goal #3 Social Sciences/Diversity ..........................6
Goal #4 Arts and Humanities/Diversity ...................6
Goal #5 Mathematics:
   MATH 121-121L, Survey of Calculus and Lab * or
   MATH 123-123L, Calculus I and Lab ............5
Goal #6 Natural Sciences:
   BIOL 151-151L, General Biology I and Lab * ....4
   BIOL 153-153L, General Biology II and Lab * ....4

Institutional Graduation Requirements**: 9
Goal #1 Land and Natural Resource Stewardship: BIOL 383, Bioethics*(G) .........................4
Goal #2 Personal Wellness ....................................2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .....................3

Major Requirements: 61-62
CHEM 112-112L, General Chemistry I and Lab * ..........4
CHEM 114-114L, General Chemistry II and Lab * .....4
BIOL 202-202L, Genetics and Organismal Biology ..........4
CHEM 326-326L, Organic Chemistry I and Lab ........4
ABS 205, Biotechnology in Agriculture and Medicine ........2
BIOL 204, Genetics and Cellular Biology .................3
BIOL 204L, Genetics and Cellular Biology Lab ...........1
CHEM 328-328L, Organic Chemistry II and Lab ..........4
CHEM 464, Biochemistry I ..................................3
CHEM 466, Lab Methods - Biochemistry ..................3
PHYS 111-111L, Introduction to Physics I and Lab* ........4
MICR 231-231L, General Microbiology and Lab ..........4
AGEC 479, Agricultural Policy (AW) (G) or
   PS 383-383L, Principles of Crop Improvement and Lab (AW) or ..........3
Any course from the Advanced Writing list.
PHYS 113-113L, Introduction to Physics II and Lab* ........4
BIOT 399-399L , Biotechnology and Lab .................4
STAT 281, Introduction to Statistics ....................3

Advanced Genetics Requirement
Select one from the following courses:
   BIOL 453, Advanced Genetics ......................3
   PS 453, Advanced Genetics .......................3
   MICR 436, Molecular and Microbial Genetics  ........3-4

Applications Requirement
Select one from the following courses:
   ABE 343-343L, Engineering Properties of Biological Materials and Lab ................3
   BIOL 459, Bioinformatics .........................3
   MICR 450, Applied Microbiology and Biotechnology ........3

Experiential Learning Requirement
Minimum 3 credits total required from the following:
   (Prefix could be different if approved by program coordinator.)
   BIOT 494, Internship ................................1-6
   BIOT 498, Undergraduate Research .................1-6

Electives Credits: additional credits to reach a total of 128

Total Required Credits: 128
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

Biotechnology Minor

Requirements for Biotechnology Minor: 18 credits minimum

Required courses:
   ABS 205, Biotechnology in Agriculture and Medicine ..........2
   BIOL 202-202L, Genetics and Organismal Biology ..........4
   MICR 436, Molecular and Microbial Genetics ................4
   CHEM 464, Biochemistry I, and ....................3
   CHEM 466, Lab Methods - Biochemistry, or ...........1
   MICR 438, Molecular Microbial Genetics Lab ...........2
Restricted Electives. Must complete remaining credits from the following list:

- AS 332-332L, Principles of Animal Breeding and Lab ...................... 3
- AS 433-433L, Livestock Reproduction and Lab .............................. 3
- BIOL 373, Evolution ..................................................................... 3
- BIOL 383, Bioethics ** (G) ............................................................ 4
- BIOL 453-553, Advanced Genetics .............................................. 3
- CHEM 464, Biochemistry I .............................................................
- CHEM 466, Lab Methods - Biochemistry ...................................... 1
- DS 301-301L, Dairy Microbiology and Lab .................................. 3
- DS 411-411L, Dairy Breeds and Breeding and Lab ....................... 3
- HO 312-312L, Plant Propagation and Lab ..................................... 3
- HO 383-383L, Principles of Crop Improvement and Lab ............... 3
- MICR 332L, Microbial Physiology Lab ........................................ 2
- MICR 424-524, Medical and Veterinary Virology ....................... 3
- PS 383-383L, Principles of Crop Improvement and Lab (AW) ........... 3
- PS 453-553, Advanced Genetics .................................................. 3
- VET 424-524, Medical and Veterinary Virology ......................... 3
- ZOOL 483-483L, Developmental Biology and Lab ....................... 4

Internship or Undergraduate Research credits may be substituted for electives if approved by the biotechnology program coordinator.

Botany (BOT)
(See Biology and Microbiology)

Business Area Studies
(See Economics)

Career and Technical Education (CTE)
(See Teacher Education)

Chemistry and Biochemistry Department

James A. Rice, Head
Department of Chemistry and Biochemistry
Shepard Hall 121
605-688-5151
e-mail: james.rice@sdstate.edu
http://chembiochem.sdstate.edu

Including the areas of Medical Laboratory Science (MLS)

Faculty
Professor Rice, Head; Professor Halaweish, Utecht; Professors Emeriti Emerick, Gehrke, Hecht, Hilderbrand, Palmer, Rue, Spinar, Wadsworth; Associate Professors Cartrette, Cole-Dai, Logue, Miller, Raynie, Shore; Assistant Professors Hoppe, Robinson, Tille, You; Instructors Hall, Nagel.

Programs
The Department of Chemistry and Biochemistry is approved by the American Chemical Society (ACS) for training professional chemists and biochemists. Graduates are certified to the American Chemical Society as being eligible for full membership following two years of graduate work or other experience in chemistry, biochemistry, or related area. The department’s courses serve three general purposes. First, you can major in chemistry or biochemistry by choosing one of the following curricula. Second, a chemistry minor can be obtained by students wanting a more extensive chemistry background without majoring in chemistry. Third, because chemistry and biochemistry are so closely related to other fields of study, a number of courses are offered to provide sufficient chemical and biochemical background to meet professional needs.

Biochemistry
The American Chemical Society (ACS) approved curriculum in biochemistry is a truly interdisciplinary degree intended for students planning to pursue graduate study in biochemistry, molecular biology or similar fields emphasizing the molecular aspects of the biological sciences. It is an ideal major for students intending to pursue careers in medicine, dentistry, or veterinary science. Numerous careers are available to students with biotechnology and pharmaceutical industry laboratories, and government service. Nontraditional career paths that a student can follow include law (particularly patent law), bioethics, and entrepreneurship. A grade of “C” or better is required in all courses required for the major.

Chemistry
The American Chemical Society (ACS) in chemistry approved curriculum is intended for students planning to pursue graduate work in chemistry for positions in research, industrial or governmental laboratories, allied health, careers in business, quality control, environmental negotiations and remediation or as pre-professional trainers in medicine, dentistry, optometry or chiropractics. Students considering teaching should consult with the College of Education and Counseling by their sophomore year. SEED 413, 7-12 Science Methods, is a requirement to be certified to teach high school chemistry. A grade of “C” or better is required in all courses required for the major.

Emphases
The ACS-certified chemistry specialization offers optional emphases in environmental chemistry and chemical physics. These emphases are developed through the selection of elective courses and undergraduate research experiences that provide expertise appropriate to one of these three areas.

Minor in Chemistry
A minor in chemistry is offered for students wanting extensive chemistry coursework without majoring in chemistry. A grade of “C” or better in all courses proposed for the minor is required. At least 50% of chemistry courses applied toward a minor must be completed at SDSU. Chem 112/112L and Chem 114/114L are required courses. The remaining required 12 credits must be courses with the “Chem” prefix and be at the 300-level or above.

Graduate Study
The Department of Chemistry and Biochemistry offers instruction leading to the Master of Science and Doctor of Philosophy degrees in Chemistry. See Graduate Catalog or contact the Department for details.
Medical Laboratory Science (MLS) also known as Medical Technology
Patricia Tille, Program Director

SDSU offers a four-year program in Medical Laboratory Science (MLS). The MLS program is housed within the Department of Chemistry and Biochemistry though the College of Arts and Sciences. The program provides the scientific background in hematology, immunohematology, urinalysis, phlebotomy, microbiology, immunology, molecular biology, clinical chemistry, and mathematics necessary for a laboratory career.

The Medical Laboratory Science program prepares graduates for employment in hospital or medical laboratories. The program is currently seeking accreditation from the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119. During the first two years, students take the background science courses necessary for entrance into the professional clinical year. Upon completion of the sophomore year of college, students apply for entrance into the professional component of the major. Admission into the professional component is contingent upon the student successfully meeting the following criteria: 1.) Minimum cumulative GPA of 2.8 on a 4.0 scale in all college work attempted. 2.) Completion of a minimum of 60 credit hours and a grade of “C” or “70%” minimum in all prerequisite courses in biology, chemistry and math by the start of the fall semester of the professional program. 3.) Successfully passed the SDSU Academic Proficiency Exams. 4.) Ability to meet the non-academic Essential Functions of the program as described in the MLS Student Handbook.

The first year of the professional program includes several courses in the clinical laboratory field as well as additional science courses and completion of the general education requirements of the university. The final year consists of on-campus clinical laboratory science courses and an off-campus experience at a clinical affiliate. A grade of “C” or better is required in all courses required for the major. 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.

Biochemistry Major
Requirements for Biochemistry Major-ACS certified, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101 .........................6
Goal #2 Oral Communication: SPCM 101 ..........................3
Goal #3 Social Sciences/Diversity ....................................6
Goal #4 Arts and Humanities/Diversity ...............................6
Goal #5 Mathematics: MATH 123-123L ...........................6
Goal #6 Natural Sciences: CHEM 115-115L, and CHEM 127-127L....6

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ..................3
Goal #2 Personal Wellness .............................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..3

College Requirements: 11
BIOL 151-151L, General Biology I and Lab * ....................4
BIOL 153-153L, General Biology II and Lab * ....................4
Social Sciences .........................................................3
Arts & Humanities ..................................................2

Major Requirements: 48
MATH 125, Calculus II * ............................................4
CHEM 326-326L, Organic Chemistry I and Lab ....................4
PHYS 211-211L, University Physics I and Lab ....................4
MATH 381, Introduction to Probability and Statistics ............3

Chemistry (CHEM) Major
Requirements for Chemistry Major – ACS Certified, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ........6
Goal #2 Oral Communication: SPCM 101 .........................3
Goal #3 Social Sciences/Diversity ....................................6
Goal #4 Arts and Humanities/Diversity ...............................6
Goal #5 Mathematics: MATH 123-123L ...........................3
Goal #6 Natural Sciences: CHEM 115-115L, and CHEM 127-127L....6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ..................3
Goal #2 Personal Wellness .............................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..3

College Requirements: 11
Biological Sciences ......................................................6
Social Sciences ..........................................................3
Arts & Humanities ....................................................2

Major Requirements: 47-50
MATH 125, Calculus II * ............................................4
PHYS 211-211L, University Physics I and Lab ....................4
PHYS 213-213L, University Physics II and Lab ....................4
CHEM 229-229L, Honors Organic Chemistry I and Lab .......4
CHEM 237-237L, Honors General Chemistry II and Lab .......4
CHEM 332-332L, Analytical Chemistry and Lab .................4
CHEM 342-342L, Physical Chemistry I and Lab (AW) .........4
CHEM 344-344L, Physical Chemistry II and Lab ...............4
CHEM 434-434L, Instrumental Analysis and Lab ...............4
CHEM 452-452L, Inorganic Chemistry and Lab .................4
CHEM 464, Biochemistry I and ....................................3

Electives: 30-31
General Electives: ....................................................20-21
Advanced Biology Electives (300- and 400-level) ...............10

Total Required Credits: 128

1 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. CHEM 498 credit is given for completing a written paper of the research project and presenting the paper at a scientific meeting.

† Electives may include at least 8 credits of Chemistry selected from CHEM 344-344L, or 482, or 498. MATH 125 is recommended as an elective.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

"70%" minimum in all prerequisite courses in biology, chemistry and math by the start of the fall semester of the professional program. 3.) Successfully passed the SDSU Academic Proficiency Exams. 4.) Ability to meet the non-academic Essential Functions of the program as described in the MLS Student Handbook.

"70%" minimum in all prerequisite courses in biology, chemistry and math by the start of the fall semester of the professional program. 3.) Successfully passed the SDSU Academic Proficiency Exams. 4.) Ability to meet the non-academic Essential Functions of the program as described in the MLS Student Handbook.

The Medical Laboratory Science program prepares graduates for employment in hospital or medical laboratories. The program is currently seeking accreditation from the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd. Suite 720, Rosemont, IL 60018-5119. During the first two years, students take the background science courses necessary for entrance into the professional clinical year. Upon completion of the sophomore year of college, students apply for entrance into the professional component of the major. Admission into the professional component is contingent upon the student successfully meeting the following criteria: 1.) Minimum cumulative GPA of 2.8 on a 4.0 scale in all college work attempted. 2.) Completion of a minimum of 60 credit hours and a grade of "C" or "70%" minimum in all prerequisite courses in biology, chemistry and math by the start of the fall semester of the professional program. 3.) Successfully passed the SDSU Academic Proficiency Exams. 4.) Ability to meet the non-academic Essential Functions of the program as described in the MLS Student Handbook.

The first year of the professional program includes several courses in the clinical laboratory field as well as additional science courses and completion of the general education requirements of the university. The final year consists of on-campus clinical laboratory science courses and an off-campus experience at a clinical affiliate. A grade of "C" or better is required in all courses required for the major. 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.

Biochemistry Major
Requirements for Biochemistry Major-ACS certified, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101 .........................6
Goal #2 Oral Communication: SPCM 101 ..........................3
Goal #3 Social Sciences/Diversity ....................................6
Goal #4 Arts and Humanities/Diversity ...............................6
Goal #5 Mathematics: MATH 123-123L ...........................6
Goal #6 Natural Sciences: CHEM 115-115L, and CHEM 127-127L....6

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ..................3
Goal #2 Personal Wellness .............................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..3

College Requirements: 11
BIOL 151-151L, General Biology I and Lab * ....................4
BIOL 153-153L, General Biology II and Lab * ....................4
Social Sciences .........................................................3
Arts & Humanities ..................................................2

Major Requirements: 48
MATH 125, Calculus II * ............................................4
CHEM 326-326L, Organic Chemistry I and Lab ....................4
PHYS 211-211L, University Physics I and Lab ....................4
MATH 381, Introduction to Probability and Statistics ............3

Chemistry (CHEM) Major
Requirements for Chemistry Major – ACS Certified, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ........6
Goal #2 Oral Communication: SPCM 101 .........................3
Goal #3 Social Sciences/Diversity ....................................6
Goal #4 Arts and Humanities/Diversity ...............................6
Goal #5 Mathematics: MATH 123-123L ...........................3
Goal #6 Natural Sciences: CHEM 115-115L, and CHEM 127-127L....6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ..................3
Goal #2 Personal Wellness .............................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..3

College Requirements: 11
Biological Sciences ......................................................6
Social Sciences ..........................................................3
Arts & Humanities ....................................................2

Major Requirements: 47-50
MATH 125, Calculus II * ............................................4
PHYS 211-211L, University Physics I and Lab ....................4
PHYS 213-213L, University Physics II and Lab ....................4
CHEM 229-229L, Honors Organic Chemistry I and Lab ... ....4
CHEM 237-237L, Honors General Chemistry II and Lab .......4
CHEM 332-332L, Analytical Chemistry and Lab .................4
CHEM 342-342L, Physical Chemistry I and Lab (AW) .........4
CHEM 344-344L, Physical Chemistry II and Lab ...............4
CHEM 434-434L, Instrumental Analysis and Lab ...............4
CHEM 452-452L, Inorganic Chemistry and Lab .................4
CHEM 464, Biochemistry I and ....................................3
CHEM 466, Lab Methods - Biochemistry ........................................1
CHEM 482, Environmental Chemistry ...................................... 3

Electives: 51
Advanced Chemistry Elective (300- and 400-level) ...................... 8
General Electives ....................................................................... 43

Suggested elective courses for those interested in associated careers in:

** Allied Health**
BIOL 151-151L, General Biology I and Lab ................................... 4
BIOL 221-221L, Human Anatomy and Lab .................................... 4
BIOL 325-325L, Physiology and Lab ............................................. 4
CHEM 382-382L, Techniques in Clinical Laboratory Technology I and Lab ................................................................. 3
CHEM 383, Techniques in Clinical Laboratory Technology II (AW) ................. 3
CHEM 434-434L, Instrumental Analysis and Lab ............................ 4

** Education**
CHEM 452-452L, Inorganic Chemistry and Lab ........................... 4
CHEM 464, Biochemistry I ............................................................ 3
CHEM 466, Lab Methods - Biochemistry .................................... 1
MICR 231-231L, General Microbiology and Lab ....................... 4
STAT 281, Introduction to Statistics ............................................ 3

** Environmental**
CHEM 311, Principles of Ecology .............................................. 3
CHEM 434-434L, Instrumental Analysis and Lab ............................ 3
CHEM 452-452L, Inorganic Chemistry and Lab ........................... 4
CHEM 464, Biochemistry I ............................................................ 3
CHEM 466, Lab Methods - Biochemistry .................................... 1
CHEM 482, Environmental Chemistry ...................................... 3
GEOG 337, Atmospheric Sciences ............................................. 3
MICR 310-310L, Environmental Microbiology and Lab ............ 4

** Quality Control**
CHEM 434-434L, Instrumental Analysis and Lab ............................ 4
CHEM 452-452L, Inorganic Chemistry and Lab ........................... 4
CHEM 464, Biochemistry I ............................................................ 3
CHEM 466, Lab Methods - Biochemistry .................................... 1
STAT 281, Introduction to Statistics ............................................ 3

** Total Required Credits: 128**

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Chemistry Minor

** Requirements for Chemistry Minor: 20**
A minor in chemistry is given for a minimum of 20 semester credit hours (or equivalent) coursework. Twelve or more credits of upper division chemistry (CHEM 3XX or CHEM 4XX) should be chosen beyond general chemistry (CHEM 112-112L and CHEM 114-114L) from the following areas: Analytical, Biochemistry, Inorganic, Organic, Physical and Environmental. This should include laboratory experiences in at least two different areas beyond general chemistry. A grade of "C" or better is required for each course proposed for the minor. At least 50% of chemistry courses applied toward a minor must be completed at SDSU.
Medical Laboratory Sciences (MLS) Major

Requirements for Medical Laboratory Sciences Major, Clinical Laboratory Specialization, Bachelor of Science in Arts and Sciences

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ..........6
Goal #2 Oral Communication: SPCM 101 ..........3
Goal #3 Social Sciences/Diversity ..........6
Goal #4 Arts and Humanities/Diversity ..........6
Goal #5 Mathematics: MATH 102 ..........6
Goal #6 Natural Sciences: CHEM 112-112L, and CHEM 114-114L ..........6

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ..........3
Goal #2 Personal Wellness ..........2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..........2

College Requirements: 11
BIOL 101-101L, Biology Survey I and Lab ** ..........3
BIOL 103-103L, Biology Survey II and Lab * ..........4
Social Sciences ..........3
Arts and Humanities ..........2

Major Requirements: 81
BIOL 202-202L, Genetics and Organismal Biology ..........4
BIOL 204-204L, Genetics and Cellular Biology and Lab ..........3
CHEM 326-326L, Organic Chemistry I and Lab ..........4
CHEM 328-328L, Organic Chemistry II and Lab ..........4
MICR 231-231L, General Microbiology and Lab ..........4
MICR 439, Medical and Veterinary Immunology ..........3
STAT 281, Introduction to Statistics ..........3
MLS 301-301L, Hematology I and Lab ..........3
MLS 311-311L, Clinical Chemistry I and Lab ..........4
MLS 321, Hemostasis ..........2
MLS 341-341L, Diagnostic Microbiology I and Lab ..........3
MLS 401, Hematology II ..........2
MLS 402L, Advanced Hematology and Hemostasis Lab ..........1
MLS 403, Diagnostic Immunology ..........2
MLS 411-411L, Clinical Chemistry II and Lab ..........3
MLS 412L, Phlebotomy ..........1
MLS 431, Principles of Immunohematology ..........3
MLS 441-441L, Diagnostic Microbiology II and Lab ..........3
MLS 451, Urine and Body Fluid Analysis ..........3
MLS 461, Introduction to Management and Education ..........1
MLS 471, Molecular Diagnostics ..........2
MLS 480, Molecular Diagnostics Clinical Practice ..........2
MLS 481, Clinical Chemistry Practice ..........6
MLS 482, Hematology Clinical Practice ..........6
MLS 483, Clinical Immunology Clinical Practice ..........2
MLS 484, Clinical Immunohematology Clinical Practice ..........4
MLS 485, Diagnostic Microbiology Clinical Practice ..........5
MLS 486, Coagulation Clinical Practice ..........2
MLS 488, Urinalysis and Clinical Microscopy Clinical Practice ..........2
MLS 489, Phlebotomy Clinical Practice ..........1

Total Required Credits: 130

Required by the College of Arts and Sciences Core. See College of Arts and Sciences requirements.

Clinical Practice courses will be completed at an clinical affiliate site. Placement at the clinical affiliate will be made by CLS program faculty. Current available sites are Brookings Health System, Avera McKennan Hospital, Avera Queen of Peace Health Services, Avera Sacred Heart Hospital, Avera St. Luke's Hospital, Huron Regional Medical Center, Prairie Lakes Healthcare, and Spearfish Regional Hospital.

South Dakota State University is seeking initial accreditation for its Clinical and Laboratory Sciences - Clinical Specialization program from the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Eligibility to take some certification exams may depend upon whether or not the program receives "serious applicant" status from the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 West Bryn Mawr Avenue, Suite 670, Chicago, IL 60631-3415; phone (773) 714-8880.

Requirements for Clinical and Laboratory Sciences Major, Industrial Laboratory Specialization, Bachelor of Science in Arts and Sciences

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ..........6
Goal #2 Oral Communication: SPCM 101 ..........3
Goal #3 Social Sciences/Diversity ..........6
Goal #4 Arts and Humanities/Diversity ..........6
Goal #5 Mathematics: Math 102 ..........6
Goal #6 Natural Sciences: BIOL 101-101L, and BIOL 103-103L ..........6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ..........3
Goal #2 Personal Stewardship ..........2
Goal #3 Social and Cultural Stewardship: BIO 383 ..........3

College Requirements: 5
Social Sciences ..........3
Humanities ..........2

Major Requirements: 60
STAT 281, Introduction to Statistics ..........3
MICR 231-231L, General Microbiology and Lab ..........4
MICR 439, Medical and Veterinary Immunology ..........3
BIOL 202-202L, Genetics and Organismal Biology and Lab ..........4
BIOL 204-204L, Genetics and Cellular Biology and Lab ..........4
CHEM 112-112L, General Chemistry I and Lab * ..........4
CHEM 114-114L, General Chemistry II and Lab * ..........4
CHEM 326-326L, Organic Chemistry I and Lab ..........4
CHEM 328-328L, Organic Chemistry II and Lab ..........4
CHEM 332-332L, Analytical Chemistry and Lab ..........4
CHEM 464, Biochemistry I ..........3
CHEM 466, Lab Methods - Biochemistry ..........1
CHEM 434-434L, Instrumental Analysis and Lab ..........4
CHEM 494, Internship (AW) ..........4
MICR 436, Molecular and Microbial Genetics ..........4
CHEM 465, Biochemistry II ..........3
MICR 439, Medical and Veterinary Immunology ..........3

Electives: 24-25
6 credits of electives must come from the following approved list:
BIOL 221-221L, Human Anatomy and Lab ..........4
BIOL 325-325L, Physiology and Lab ..........4
CHEM 342-342L, Physical Chemistry I and Lab (AW) ..........4
CHEM 382-382L, Techniques in Clinical Laboratory Technology I and Lab ..........3
CHEM 383, Techniques in Clinical Laboratory Technology II (AW) ..........3
CHEM 482, Environmental Chemistry ..........3
MICR 433-533, Medical Microbiology ..........3
MICR 440L, Infectious Disease Lab ..........3
PHYS 111-111L, Introduction to Physics I and Lab * ..........4
PHYS 113-113L, Introduction to Physics II and Lab * ..........4

Total Required Credits: 128

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.
(Pre-) Chiropractic
Greg Heibcrger, Coordinator and Advisor
College of General Studies
Wecota Hall 218
605-688-4294
e-mail: greg.heiberger@sdstate.edu

Area of Study
Students who are applying to chiropractic college must demonstrate a strong science background as well as a basic understanding of communications, social sciences and humanities. Chiropractic colleges require a minimum of 90 semester credits in general biology, general and organic chemistry, physics, communication, social sciences and humanities. No standardized entrance examination is required.

Students are strongly encouraged to complete a degree that ensures that they meet licensing requirements in all states. The pre-chiropractic curriculum is compatible with many majors and includes all of the prerequisites for chiropractic college admission. The College of General Studies provides advising services to assist each student in developing a plan and selecting a major best suited to his or her goals.

Suggested Pre-Chiropractic Coursework:
These courses represent the Requirements for successful application to chiropractic colleges. Contact the pre-chiropractic advisor for assistance coordinating requirements with your major degree program or special interests.

Suggested Courses
GS 100, University Experience .................................................. 1
BIOL 290, Seminar ................................................................. 1
PSYC 101, General Psychology * ** ........................................... 3

Biology
BIOL 151-151L, General Biology I and Lab * .................................. 4
BIOL 153-153L, General Biology II and Lab * .................................. 4
BIOL 221-221L, Human Anatomy and Lab .................................... 4
BIOL 325-325L, Physiology and Lab ............................................ 4
MICR 231-231L, General Microbiology and Lab ............................ 4

Chemistry
CHEM 112-112L, General Chemistry I and Lab * ............................ 4
CHEM 114-114L, General Chemistry II and Lab * ............................ 4

Organic Chemistry and Biochemistry
CHEM 326-326L, Organic Chemistry I and Lab ................................ 4
CHEM 328-328L, Organic Chemistry II and Lab or
CHEM 464, Biochemistry I and .................................................... 4
CHEM 466, Lab Methods-Biochemistry ......................................... 1

Physics
PHYS 111-111L, Introduction to Physics I and Lab * ....................... 4

At least one of the following:
PE 350, Exercise Physiology ....................................................... 2-3
PE 454, Biomechanics ............................................................... 3
PHYS 113-113L, Introduction to Physics II and Lab * ....................... 4
STAT 281, Introduction to Statistics ................................................. 3

NOTE: All science courses must be taken with the associated labs. Chiropractic colleges will not accept survey science courses such as BIOL 101-Biology Survey I, CHEM 106-Chemistry Survey, and CHEM 108-Organic & Biochemistry. 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.

Civil and Environmental Engineering (CEE) Department

Bruce W. Berdanier, Head
Department of Civil and Environmental Engineering
Crothers Engineering Hall 120
605-688-5427
fax: 605-688-6476
e-mail: bruce.berdanier@sdstate.edu
http://www3.sdstate.edu/Academics/CollegeOfEngineering/CivilandEnvironmentalEngineering/

Faculty
Professor Berdanier, Head; Professors Burckhard, DeBoer, Reid, Schmit, Ting, Wehbe; Professors Emeriti Dombush, Hassoun, Rollag, Selim, Sigl; Associate Professors Jones, Mahgoub; Associate Professor Emeritus Tiltrum; Assistant Professors Emmons, Pei, Qin.

Programs
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.

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.

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.

The program's mission and educational objectives are accomplished by providing undergraduate students with an educational program that will result in the following outcomes:

Graduates of the CEE Department will have:

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 prescribed objectives;
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 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. the skills to apply the tools and techniques of modern engineering practice.

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 (ASCE) Student Chapter Program; encouraging seniors to take the Fundamentals of Engineering (FE) examination; and promoting summer, cooperative education, and internship employment experiences in civil engineering.

First year engineering students are introduced to engineering design in GE 101, Introduction to Engineering, where they learn about the creative process through exposure to "real world" examples illustrating each step of the design process. Through the sophomore and junior courses, exposure to design experiences is gradually increased to demonstrate how knowledge gained in the engineering sciences can be used to solve engineering problems, promote original thought, illustrate the work expected of engineers and stimulate interest and enthusiasm for design. As students enter the senior year, the design experiences in the core courses become more complex and open-ended. Design experience culminates in CEE 464-465, Civil Engineering Capstone Design I and II, where design teams work on comprehensive, open-ended projects involving scope and definition, evaluation of alternatives on the basis of economics, safety, ethical implications, and other factors, concluding with the preparation of a functional design, plans, specifications and final cost estimates.

Electives are provided to broaden the student's knowledge in the social-humanistic area and to provide the opportunity for technical specialization. A minimum number of credits of Humanities/Arts and Social Sciences are required and must be selected to satisfy the System General Education Core and the SDSU Institutional Graduation Requirements. All students must meet certain requirements for entering the SDSU Institutional Graduation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET) since 1936.

To make the transition easier for high school students interested in a career in Civil Engineering, the following guidelines are suggested: study as much mathematics as available, including trigonometry and calculus (if possible), one year of physics, one year of chemistry, and four years of English.

**Environmental Science and Engineering Specialization**

The Environmental Science and Engineering Specialization is an interdisciplinary specialization with faculty from the Environmental Management, Agricultural and Biosystems Engineering, Agricultural Systems Technology, and Civil and Environmental Engineering programs. The specialization is open to students with majors in any of the aforementioned programs and its goal is to incorporate the biological and ecological features of the involved programs to provide students with an interdisciplinary experience. Students from this specialization will be well prepared to apply the engineering, science, and environmental management aspects of each of these existing programs to engineer environmentally sustainable systems. Students graduating from the specialization will have that distinction noted on their transcript. Every student in this specialization is required to take four courses that are unique to the specialization. In addition to the required classes, restrictive prerequisites on selected technical electives in the various participating programs will be relaxed allowing students in this specialization access that was formerly not available.

**Civil Engineering (CEE) Major**

Requirements for Civil Engineering Major, Bachelor of Science in Civil Engineering: (Accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology)

**System General Education Requirements**: 33

Goal #1 Written Communication: ENGL 101, and ENGL 201 or ENGL 277.................................6

Goal #2 Oral Communication: SPCM 101....................3

Goal #3 Social Sciences/Diversity†..........................6

Goal #4 Arts and Humanities/Diversity†.....................6

Goal #5 Mathematics: MATH 123............................4

Goal #6 Natural Sciences: PHYS 211-211L & PHYS 213-213L 8

**Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship‡: CEE 225........3

Goal #2 Personal Wellness.................................2-3

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness‡..................3

**Major Requirements**: 81

MATH 125, Calculus II * ..................................4

MATH 225, Calculus III * ..................................4

MATH 321, Differential Equations .........................3

MATH 381, Introduction to Probability and Statistics ..................3

GE 101, Introduction to Engineering and Technology ............1

GE 121, Engineering Design Graphics I ....................1

GE 122, Engineering Design Graphics II ....................1

GE 123, Computer Aided Drawing ........................1

EM 214, Statics ..................................................3

EM 215, Dynamics .............................................3

EM 321, Mechanics of Materials ..........................3

EM 331, Fluid Mechanics ....................................3

CHEM 112-112L, General Chemistry I and Lab * .............4

CHEM 114, General Chemistry II * or CHEM 120, Elementary Organic Chemistry*..................3
CSC 150, Computer Science I ..............................................3
CEE 106-106L, Elementary Surveying and Lab ......................3
CEE 216-216L, Materials and Lab ........................................3
CEE 311, Structural Materials Lab ....................................1
CEE 323-323L, Water Supply and Wastewater Engineering and Lab ....3
CEE 323-323L, Water Supply and Wastewater Engineering and Lab ....3
CEE 331, Fluid Mechanics Lab ..........................................1
CEE 340-340L, Engineering Geology and Lab .........................3
CEE 346-346L, Geotechnical Engineering and Lab ....................4
CEE 353, Structural Theory ............................................3
CEE 363, Highway and Traffic Engineering ............................3
CEE 432, Hydraulic Engineering ........................................3
CEE 455-455L, Steel Design and Lab ..................................3
CEE 456, Concrete Theory and Design ................................3
CEE 464, Civil Engineering Capstone Design I .........................1
CEE 465, Civil Engineering Capstone Design II (AW) ...............2
CEE 482, Engineering Administration ..................................3
CEE 490, Seminar ....................................................1-3

Electives: 14
Technical Electives (four courses from 2 areas) .........................12
Applied Electives†† ....................................................2

Total Required Credits: 136
† One of the courses selected to satisfy SGR Goals 3 or 4, or IGR Goals 1 or 3, must satisfy the BOR Globalization Requirement (G) as well.
†† Course to be selected from the department’s approved list.

Technical Electives:
(12 credits required, must be selected from not less than two sub-disciplines)
CEE 208-208L, Engineering Surveys and Lab ........................3
CEE 304, Land Surveying .............................................3
CEE 306-306L, Photo Interpretation and Photogrammetry and Lab ......3
CEE 333, Hydrology ................................................3
CEE 411-411L, Bituminous Materials and Lab .........................3
CEE 422-422L, Environmental Engineering Instrumentation and Lab ......3
CEE 423-523, Municipal Water Distribution and Collection System Design ..3
CEE 424-524, Industrial Waste Treatment ................................3
CEE 429-429L, Solid Waste Engineering and Management and Lab ....3
CEE 435-535, Water Resources Engineering ........................3
CEE 443-543, Matrix Analysis of Structures ...........................3
CEE 444-544, Precast Concrete Structures ..........................3
CEE 446-546, Advanced Geotechnical Engineering .....................3
CEE 447-447L, Foundation Engineering and Lab ......................3
CEE 452-552, Prestressed Concrete .........................................3
CEE 457-457L, Indeterminant Structures and Lab ....................3
CEE 458-558, Design of Timber Structures ..........................3
CEE 459-559, Advanced Structural Mechanics ........................3
CEE 467-567, Transportation Engineering ............................3
CEE 472-572, Geosynthetics ........................................3
CEE 483-483L, Municipal Engineering and Lab .......................3
CEE 491, Independent Study ........................................1-3
CEE 492-592, Topics ................................................1-3
CEE 494, Internship ................................................1-6
CEE 496, Field Experience ............................................1-6
CEE 497, Cooperative Education .........................................1-6
EE 300-300L, Basic Electrical Engineering I and Lab ................3
ME 314, Thermodynamics ............................................3

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

Communication Studies and Theatre (CST) Department

Laurie Haleta, Head
Department of Communication Studies and Theatre
Pugsley Center 115
605-688-6131
e-mail: laurie.haleta@sdstate.edu

Faculty
Professor Haleta, Head; Distinguished Professor Emeriti J. Johnson; Professors Ackman, Jorgensen; Professors Emeriti Ferguson, Hoogestraat, Meyer, Schliessmann, Widvey; Associate Professors Shelsta, Tolman; Assistant Professors Guyotte, Hefling, Hunter, Lampson, Peterson, Petit, Wilburn: Instructor: Westwick.

Programs
A student may major or minor in Communication Studies and Theatre, elect courses for self improvement, take courses to meet humanities requirements, or participate in speech activities. The major may choose any of the following specializations: Speech Communication (SPCM); Speech Education (SPED); or Theatre (THEA).

Advanced Placement in Speech
All students are required to take Speech (SPCM) 101 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.

Co-curricular Activities
Theatre
Assistant Professor Peterson, Director of Theatre
There are several major, experimental and student productions each year. You may be cast in or assist with a production. University credit may be earned. Summer theatre also offers undergraduate credit through Prairie Repertory Theatre.

Forensics
Assistant Professor Hefling, Director of 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.

Speech-Language Clinic
Assistant Professor Lampson, Supervisor
Clinical speech and language services are available under the supervision of American Speech-Language-Hearing Association certified personnel.

Department and Program Descriptions and Requirements 115
Communication Studies and Theatre (CST) Major

Requirements for Communication Studies & Theatre Major – Speech Communication specialization, Bachelor of Science in Arts and Sciences

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 ........6
- Goal #2 Oral Communication: SPCM 101 .....................3
- Goal #3 Social Sciences/Diversity ..................6
- Goal #4 Arts and Humanities/Diversity: (not in CST) ........6
- Goal #5 Mathematics .....................................3
- Goal #6 Natural Sciences ................................6

**Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship ........3
- Goal #2 Personal Wellness ..................2-3
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

**College Requirements**: 34
- Natural Science ........................................14
- Social Science ........................................12
- Humanities ..............................................8

**Speech Communication Specialization Requirements**: 46
- SPCM 201, Interpersonal Communication ..................3
- SPCM 215*, Public Speaking ..................3
- SPCM 222, Argumentation and Debate * ........3
- SPCM 305, Communication Research (AW) ........3
- SPCM 405, Theories of Communication ..................3
- SPCM 410-510, Organizational Communication (AW) .......3
- SPCM 434, Small Group Communication ........3
- SPCM 470, Intercultural Communication (G) ........3
- DCOM 211, Phonetics ................................3
- SPCM 281, Speech and Debate Activities ..................1-4
- SPCM 340, Oral Interpretation of Literature ........3
- SPCM 415, Communication and Gender ........3
- SPCM 417, Political Communication ..................3
- SPCM 320, Communication in Interviewing ........3
- SPCM 442, Group Performance of Literature ................3
- SPCM 460, Family Communication ..................3

**Electives**: 12

**Total Required Credits**: 130

Requirements for Communication Studies and Theatre Major – Speech Education specialization, Bachelor of Arts in Arts and Sciences

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 ........6
- Goal #2 Oral Communication: SPCM 101 .....................3
- Goal #3 Social Sciences/Diversity ..................6
- Goal #4 Arts and Humanities/Diversity: (Not in CST) ........6
- Goal #5 Mathematics .....................................3
- Goal #6 Natural Sciences ................................6

**Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship ........3
- Goal #2 Personal Wellness ..................2-3
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

**College Requirements**: 34
- Natural Science ........................................14
- Humanities ..............................................8
- Social Sciences ........................................12

**Speech Education Specialization Requirements**: 45
- SPCM 201, Interpersonal Communication ..................3
- SPCM 215, Public Speaking ..................3
- SPCM 222, Argumentation and Debate * ........3
- SPCM 305, Communication Research (AW) ........3
- DCOM 131, Introduction to Communication Disorders ........3
- THEA 131, Introduction to Acting * ........3
- THEA 241-241L, Stagecraft and Lab ..................3
- SPCM 340, Oral Interpretation of Literature ........3
- SPCM 442, Group Performance of Literature ........3
- SPCM 470, Intercultural Communication (G) ........3
- SPCM 476, 7-12 Speech Methods ........3
- THEA 351, Directing or THEA 355, Children's Theatre ....3
- MEPR 130, Introduction to Electronic Media ....3
- SPCM 410-510, Organizational Communication (AW) ....3

**Electives**: 19

**Total Required Credits**: 128

Requirements for Communication Studies and Theatre Major – Speech Education specialization, Bachelor of Arts in Arts and Sciences

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 ........6
- Goal #2 Oral Communication: SPCM 101 .....................3
- Goal #3 Social Sciences/Diversity ..................6
- Goal #4 Arts and Humanities/Diversity: (not in CST) ........6
- Goal #5 Mathematics .....................................3
- Goal #6 Natural Sciences ................................6

**Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship ........3
- Goal #2 Personal Wellness ..................2-3
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

**College Requirements**: 28
- Modern Language ......................................14
- Social Science ..........................................8
- Humanities ..............................................6

**Speech Communication Specialization Requirements**: 46
- SPCM 201, Interpersonal Communication ..................3
- SPCM 215, Public Speaking ..................3
- SPCM 222, Argumentation and Debate * ........3
- SPCM 305, Communication Research (AW) ........3
- SPCM 405, Theories of Communication ..................3
- SPCM 410-510, Organizational Communication (AW) .......3
- SPCM 434, Small Group Communication ........3
- SPCM 470, Intercultural Communication (G) ........3
- DCOM 211, Phonetics ................................3
- SPCM 442, Group Performance of Literature ................3
- SPCM 476, 7-12 Speech Methods ........3
- THEA 351, Directing or THEA 355, Children's Theatre ....3
- MEPR 130, Introduction to Electronic Media ....3
- SPCM 410-510, Organizational Communication (AW) ....3

**Electives**: 19

**Total Required Credits**: 128

116 Department and Program Descriptions and Requirements
Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ................. 3
Goal #2 Personal Wellness ........................................ 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ........................................................................ 3

College Requirements: 28
Modern Language .................................................................. 14
Humanities ........................................................................... 6
Social Sciences ...................................................................... 8

Speech Education Specialization Requirements: 45
SPCM 201, Interpersonal Communication ........................... 3
SPCM 215, Public Speaking* .............................................. 3
SPCM 222, Argumentation and Debate * ............................ 3
SPCM 305, Communication Research (AW) ......................... 3
DCOM 131, Introduction to Communication Disorders ........ 3
THEA 131, Introduction to Acting * ................................. 3
THEA 241-241L, Stagecraft and Lab ................................. 3
SPCM 340, Oral Interpretation of Literature ......................... 3
SPCM 442, Group Performance of Literature ...................... 3
SPCM 470, Intercultural Communication (G) ...................... 3
SPCM 476, 7-12 Speech Methods ....................................... 3
THEA 351, Directing or THEA 355, Children’s Theatre ........ 3
MEPR 130, Introduction to Electronic Media ....................... 3
SPCM 410-510, Organizational Communication (AW) .......... 3

Electives: 17

Total Required Credits: 128
Prospective classroom teachers must also complete courses required of all secondary school teachers. Students who plan to teach in secondary schools should consult with the College of Education and Counseling before their sophomore year.

Requirements for Communication Studies and Theatre Major – Theatre specialization, Bachelor of Science in Arts and Sciences
Minimum Theatre hours required for major — 40 hours
Maximum Activities Credit toward major — 8 hours
(from THEA 135, THEA 145, THEA 195, and THEA 480)

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ........ 6
Goal #2 Oral Communication: SPCM 101 ............................ 3
Goal #3 Social Sciences/Diversity ........................................ 3
Goal #4 Arts and Humanities/Diversity: (Not in CST) .......... 6
Goal #5 Mathematics ........................................................ 3
Goal #6 Natural Sciences .................................................... 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ................. 3
Goal #2 Personal Wellness ................................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ........................................................................ 3

College Requirements: 34
Natural Science .................................................................... 14
Social Sciences .................................................................. 12
Humanities ........................................................................ 8

Theatre Specialization Requirements: 34-38
THEA 100, Introduction to Theatre * .................................. 3
THEA 131, Introduction to Acting * .................................... 3
THEA 241-241L, Stagecraft and Lab ................................ 3
THEA 243, Make-Up .......................................................... 3
THEA 410-510, Dramatic Literature (AW) ......................... 3
THEA 460-560, History of Theatre ...................................... 3
THEA 480, Summer Theatre .............................................. 1-5
THEA 375, Theatre Arts Management ............................... 3
THEA 441, Scene Design or THEA 445, Lighting ............... 3
THEA 351, Directing .......................................................... 3
SPCM 470, Intercultural Communication (G) ...................... 3

Electives: 23-28

Total Required Credits: 128
All students must demonstrate advanced Information Technology Literacy (ITL). Numerous departmental courses fulfill this requirement, as do courses from other departments.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

Students must take the proficiency examination after completing 48 credits. ENGL 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.

Communication Studies and Theatre Minor

Requirements for Communication Studies and Theatre Minor: 20 cr
20 semester credits including:
SPCM 101, approved by the department head.
Not more than 8 credits chosen from activity courses
(SPCL 281 and 491, THEA 135, 145, 195, and 491) may be counted.

Required courses in Theatre Minor to include:
THEA 100, THEA 131, THEA 241, THEA 351, and THEA 480.
One additional course must be selected from the following:
THEA 243, THEA 355, THEA 375, THEA 441, or THEA 445.
Computer Science (CSC)
(See Electrical Engineering and Computer Science)

Construction Management (CM)
(See Engineering Technology & Management)

Consumer Affairs (CA)
(See Design, Merchandising, and Consumer Sciences)

Counseling and Human Resource Development (CHRD)
Jay Trenhaile, Head
Department of Counseling and Human Resource Development
Wenona Hall 312
605-688-4190
e-mail: jay.trenhaile@sdstate.edu

Faculty
Associate Professor Trenhaile, Department Head; Professors Britzman, Davis, Harper, Muxen; Assistant Professors H. Briddick, W. Briddick, Fellner (HEC- WR).

Programs
M.Ed. Administration of Student Affairs
The 36 credit-hour M.Ed. program is designed for students that seek non-counseling professional roles in student affairs or related areas of higher education in any post-secondary setting. Please see the Graduate Bulletin for more information.

M.S. Counseling and Human Resource Development
Choose a 48 credit-hour specialization in School Counseling, Agency (Community) Counseling, College Student Personnel Counseling or Rehabilitation and Mental Health Counseling. Three of these specializations are Council for Accreditation of Counseling and Related Educational Programs (CACREP) accredited; accreditation for the Rehabilitation and Mental Health Counseling specialization will be sought through Council on Rehabilitation Education (CORE) in 2009.

Criminal Justice (CJUS)
(See Rural Sociology)

Curriculum and Instruction
Kenneth S. Rasmussen, Head
Department of Educational Leadership
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605-688-4368
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Web site: http://learn.sdstate.edu/edgrad/programs.html

See Graduate Catalog for requirements.

Dairy Manufacturing
(See Dairy Science)

Dairy Production
(See Dairy Science)

Dairy Science (DS)
Vikram V Mistry, Head
Department of Dairy Science
Dairy-Microbiology Building 109A
605-688-4116
fax: 605-688-6276
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Faculty
Professor Mistry, Head; Professors Baer, Hippen, Distinguished Professor Schingoethe; Professor Emeritus Parsons; Associate Professor Emeritus Henning; Associate Professors Anand, Garcia, Hassan, Kalscheur, and Metzger; Instructor Bonnemann; Lecturer Laubaeh.

Programs
Dairy Science is an application of the sciences, engineering and technology, and business for the study of milk production and processing. Dairy Science students may choose a major in Dairy Production, Dairy Manufacturing, or both. Dairy Production is the study of production of milk, management of the farm, feeding, breeding and herd health. Dairy Manufacturing is the study of processing and merchandising of milk and milk products. In addition, specialization in Science or Business is available with both majors as well as a Manufacturing-Microbiology specialization.

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 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. Most students work part-time at the processing plant and/or at the DRTF. Both are opportunities for students to work part-time and gain practical experience while earning a pay. Both facilities are also extensively used for research. 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.

Dairy Science degrees are designed to prepare students for a wide range of outstanding, challenging and rewarding career opportunities in both majors ranging from industry to private enterprise, government, research and others.

Dairy Manufacturing (DS) Major
Requirements for Dairy Manufacturing Major, Bachelor of Science in Agriculture
System General Education Requirements*: 31
Goal #1 Written Communication: ENGL 101 and ENGL 201 .............6
Goal #2 Oral Communication: SPCM 101 ..................................3
Goal #3 Social Sciences/Diversity: ECON 202 and an additional non ECON class .........................................................6
Goal #4 Arts and Humanities/Diversity .........................................6
Goal #5 Mathematics: MATH 102 or MATH 115 .........................3
Goal #6 Natural Sciences: CHEM 106-106L or CHEM 112-112L and BIOL 103-103L ......................................................7

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship: BIOL 101-101L ...3
Goal #2 Personal Wellness ..........................................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ....3

College Requirements: 11
DS 130-130L, Introduction to Dairy Science and Lab ..................3
MICR 311-311L, Food Microbiology and Lab ..............................4
Group 1 Electives ........................................................................4

Major Requirements: 47
ACCT 210, Principles of Accounting I .........................................3
AST 443-443L, Food Processing and Engineering Fundamentals and Lab (fall) .................................................................4
CHEM 108-108L, Organic and Biochemistry and Lab*, or
CHEM 120-120L Elementary Organic Chemistry and Lab* .......4-5
DS 101, Opportunities in Dairy Science (fall) ..............................6
DS 202, Dairy Products Judging (spring) .....................................6
DS 301-301L, Dairy Microbiology and Lab (odd spring) ..........3
DS 313-313L, Technical Control of Dairy Products I and Lab (fall).3
DS 321-321L, Dairy Product Processing I and Lab (odd fall) ....5
DS 322-322L, Dairy Product Processing II and Lab (even spring) ....5
DS 421, Dairy Plant Management (even fall) .............................3
DS 422-422L, Technical Control of Dairy Products II and Lab (spring) ..............................................................................4
DS 490, Seminar (AW) OR MICR 490, Seminar (AW) (fall) .......1
DS 496, Field Experience .............................................................3
MICR 231-231L, General Microbiology and Lab .....................4
MICR 310-310L, Environmental Microbiology and Lab (spring even) ..........................................................4
MICR 311-311L, Food Microbiology and Lab (fall) ....................4
MICR 332-332L, Microbial Physiology and Lab (spring) .........4
MICR 436, Molecular and Microbial Genetics (fall) .................4
MICR 439, Medical and Veterinary Immunology (fall) ..........3
STAT 281, Introduction to Statistics ...........................................3

Electives: 0-1
Total Required Credits: 128

Business Specialization Requirements: 21
ACCT 210, Principles of Accounting I .........................................3
BADM 360, Organization and Management .............................3
ECON 201, Principles of Microeconomics * .............................3
Plus 12 hours to be chosen from:
ACCT 211, Principles of Accounting II .....................................3
AGEC 354, Agricultural Marketing and Prices .........................3
BADM 280, Personal Finance ....................................................3
BADM 310, Business Finance ...................................................3
ECON 330, Money and Banking ...............................................3
ECON 370, Marketing ...............................................................3
ECON 476-576, Marketing Research ........................................3
STAT 281, Introduction to Statistics ...........................................3

Science Specialization Requirements: 13
Chemistry, Mathematics and/or Physics .................................11
Biological Science to be selected from the following areas:
Botany, Entomology-Zoology or Plant Pathology ....................2

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.

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.
Dairy Production (DS) Major

Requirements for Dairy Production Major, Bachelor of Science in Agriculture

System General Education Requirements*: 31
Goal #1 Written Communication: ENGL 101 and ENGL 201 ..........6
Goal #2 Oral Communication: SPCM 101 ..................................3
Goal #3 Social Sciences/Diversity: ECON 202 and an additional non ECON class ..........6
Goal #4 Arts and Humanities/Diversity ...........................................6
Goal #5 Mathematics: MATH 102 or MATH 115 ..................3
Goal #6 Natural Sciences: CHEM 106-106L or CHEM 112-112L and BIOL 103-103L ..........7

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship: BIOL 101-101L ........3
Goal #2 Personal Wellness .........................................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..........3

College Requirements: 11
AGEC 271-271L, Farm and Ranch Management and Lab ............4
PS 103-103L, Crop Production and Lab ..................................3

Major Requirements: 53
AS 323, Advanced Animal Nutrition .....................................3
AS 433-433L, Livestock Reproduction and Lab .................3
BIOL 371, Genetics .................................................................3
CHEM 108-108L, Organic and Biochemistry and Lab* or CHEM 120-120L, Elementary Organic Chemistry and Lab* ....4-5
DS 101, Opportunities in Dairy Science (fall) ......................1
DS 130-130L, Introduction to Dairy Science and Lab .........3
DS 202, Dairy Products Judging (spring) .........................1
DS 212, Dairy Cattle Evaluation (spring) .........................1
DS 301-301L, Dairy Microbiology and Lab (odd spring) ....2
DS 411-411L, Dairy Breeds and Breeding and Lab (odd fall) ....3
DS 412-412L, Dairy Farm Management and Lab (odd spring) ....4
DS 413-513, Physiology of Lactation (even spring) ..........3
DS 432, Dairy Cattle Feeding (even fall) .........................3
DS 490, Seminar (AW) (fall) .................................................1
DS 496, Field Experience .........................................................3
MICR 231-231L, General Microbiology and Lab .................4
PHYS 101-101L, Survey of Physics and Lab* or
PHYS 111-111L, Introduction to Physics I and Lab* or PHYS 211-211L, University Physics I and Lab* ..........4
VET 223-223L, Anatomy and Physiology of Domestic Animals and Lab (spring) .(4)

Electives: 25
Communications Elective (to be selected from: ENGL 379; courses prefixed MCOM; courses prefixed SPCM numbered 200 or above) .......2

Plant Science Elective (to be selected from PS 213-213L or 313-313L) ..........3

General Electives ....................................................................20

Total Required Credits: 128

Specializations
The following specializations have been approved for the curricula in Agriculture. Students may use elective credits in the major to fulfill Requirements for the specialization.

Business Specialization Requirements: 21
ACCT 210, Principles of Accounting I ..................................3
BADM 360, Organization and Management ....................3
ECON 201, Principles of Microeconomics * ..................3

Plus 12 hours to be chosen from:
ACCT 211, Principles of Accounting II .........................3

AGEC 354, Agricultural Marketing and Prices .....................3
BADM 280, Personal Finance .................................................3
BADM 310, Business Finance .................................................3
ECON 330, Money and Banking .........................................3
ECON 370, Marketing .........................................................3
ECON 476-576, Marketing Research ..................................3
STAT 281, Introduction to Statistics ....................................3

Science Specialization Requirements: 13
Chemistry, Mathematics and/or Physics ................................11
Biological Science to be selected from the following areas:
Botany, Entomology-Zoology or Plant Pathology ..........................2

** The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Dance (DANC)
(See Health, Physical Education and Recreation)

(Pre-) Dental
Greg Heiberger, Coordinator and Advisor
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Area of Study
Dental schools are looking for bright, articulate students who have a well rounded education and are able to relate to a range of personalities. Dental schools require at least three years of college, but most now require that applicants have received 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.

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.

The College of General Studies is an excellent place to begin the process of investigating Dentistry as a career and to begin the process of...
focusing the students on their pre-dental curriculum. The College of General Studies is also an excellent place to look through the course catalogues of a variety of dental programs in order to secure additional information and admission requirements to a school of his/her choice. A pre-dentistry adviser is also available to help guide the pre-dental student through these processes. Financial aid is available through a wide variety of scholarship programs.

Suggested Pre-Dental Coursework
See your Pre-Dental Adviser for a complete listing

Suggested Courses
GS 100, University Experience .................................................. 1
BIOL 290, Seminar ....................................................................... 1

Biology
BIOL 151-151L, General Biology I and Lab * ................................. 4
BIOL 153-153L, General Biology II and Lab * ............................... 4
BIOL 202-202L, Genetics and Organismal Biology ....................... 4
BIOL 204-204L, Genetics and Cellular Biology and Lab .............. 4
BIOL 221-221L, Human Anatomy and Lab .................................. 4
BIOL 325-325L, Physiology and Lab ........................................... 4
MICR 231-231L, General Microbiology and Lab ......................... 4

Chemistry
CHEM 112-112L, General Chemistry I and Lab * ........................ 4
CHEM 114-114L, General Chemistry II and Lab * ....................... 4

Organic Chemistry
CHEM 326-326L, Organic Chemistry I and Lab ............................ 4
CHEM 328-328L, Organic Chemistry II and Lab .......................... 4

Biochemistry
CHEM 464, Biochemistry I .......................................................... 3
CHEM 466, Lab Methods - Biochemistry ...................................... 1

Mathematics: Calculus and Statistics
MATH 121-121L, Survey of Calculus and Lab * or
MATH 123-123L, Calculus I and lab * ........................................... 5
STAT 281, Introduction to Statistics .............................................. 3

Physics
PHYS 111-111L, Introduction to Physics I and Lab * ...................... 4
PHYS 113-113L, Introduction to Physics II and Lab * .................... 4

Design, Merchandising, and Consumer Sciences (DMCS) Department

Jane E. Hegland, Head
Department of Design, Merchandising, and Consumer Sciences
SNF 229
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Faculty
Professor Hegland, Head; Professors Enevoldsen, Isham, Nussbaumer; Professors Emeriti Kamstra, Semeniuk, Stoflet; Associate Professors Gorham, Lyons, Strickler; Associate Professor Emerita Yost; Assistant Professors Cho, Morrison; Adjunct Assistant Professor McKillip; Assistant Professor Emerita Swedlund; Instructors, Boersma, Saboe-Wounded Head, Trautman.

Programs
The Department of Design, Merchandising, & Consumer Sciences enhances the quality of life for consumers in each of the three programs, with particular emphasis on the sustainable management of resources in a global context. DMCS will be known for high quality, dynamic, and innovative teaching, scholarship, and outreach in its quest to develop successful professionals in the areas of Apparel Merchandising (AM), Consumer Affairs (CA), and Interior Design (ID) – and Bachelor of Science degrees are offered in all three majors.

Three major themes underpin the DMCS vision and mission: commerce- DMCS students learn about design and production processes, and consumption patterns and behavior in the global marketplace; creativity- DMCS students engage in conceptual development and produce experimental work within project constraints that is a result of creative collaboration; and resource management-DMCS students understand the need for prioritization of resources to help consumers and businesses make optimal decisions.

In all our work, faculty and students commit themselves to fostering scholarship and outreach efforts that reflect local, regional, national, 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, commerce, and the environment; and celebrating diversity.

While some courses are offered twice yearly (in CA), most are offered once a year, while a few are offered alternate years. Work experience is recommended before the Professional Practicum or Internship (AM 495, CA 494, ID 495). To enroll in the Professional Practicum for AM or ID, students must have 90 semester credits and a 2.2 GPA. CA students must hold a 2.5 GPA in order to enroll in their internship. Consult your advisor for assistance and current information.

Apparel Merchandising (AM)
The Apparel Merchandising program at SDSU focuses on the process of delivering apparel products to the global consumer. It is broad based in its approach and provides students problem-solving experiences. The degree provides educational experiences and skill development to enable graduates to successfully obtain entry-level employment in any part of the nation. Local and regional retail professionals are involved in the educational process in order to enrich the program and maintain currency with regional practices. Courses include issues of national and global importance so that students will graduate with an awareness of the challenges and opportunities in their professional futures.

The apparel merchandising curriculum provides students with information and competencies applicable to careers in the fashion industry including production, wholesaling and retailing, and consumer acquisition and use of apparel and household textiles. Cultural and scientific aspects of apparel and textiles are examined with emphasis on aesthetic, economic, historic, sociological, and psychological factors. A 7-week (280-hour) full-time practicum compatible with career goals is a program requirement.

Fashion Institute of Technology
The Department of Design, Merchandising and Consumer Sciences is affiliated with the Fashion Institute of Technology (FIT) in New York City. Students may enroll in a two-semester Visiting Scholar Program at FIT. Emphasis areas include Fashion Design (a portfolio is required), Fashion Merchandising, and several others. FIT courses transfer to SDSU and substitute for program requirements if approved prior to enrollment. Upon graduation from SDSU, students receive an associate degree from FIT. Upper division status and a minimum 3.0 GPA (on a 4.0 scale) is required for FIT consideration. Acceptance into the FIT Visiting Scholar Program is competitive and planning should begin early in the first semester of the
sophomore year. For more information, contact the apparel merchandising academic advisor.

Minors in Apparel Merchandising

Apparel Merchandising has two areas of study, apparel (the product) and merchandising (the business), and also offers two minors that focus on these areas: Apparel Studies and Merchandising. Both minors require eighteen credit hours. Plan your minor with an academic advisor early in your program.

Consumer Affairs (CA)

The Consumer Affairs program focuses on the development of abilities in management, planning, organizing, and problem-solving for students who will assist individuals and families to improve their economic well-being. The curriculum focuses on the interaction between consumers and the marketplace, the family financial planning process, the management of resources, public policy affecting individuals and families, and consumer behavior.

The consumer affairs curriculum prepares students to qualify for employment or graduate study in family financial planning, consumer behavior, consumer law, consumer product marketing, consumer economics, and business management. Career opportunities also exist in non-profit organizations and government. An 8-week (320-hour) full-time summer internship compatible with career goals is a program requirement.

Minor in Consumer Affairs

Eighteen credit hours are required for a minor in Consumer Affairs. Plan your minor with an academic advisor early in your program.

Interior Design (ID)

The Interior Design Program at SDSU is an accredited program though the Council of Interior Design Accreditation which focuses on designs that promote the health, safety, and well-being of people in the built environment with an emphasis on sustainability. The program prepares graduates to succeed in the profession throughout the region, nationally and internationally.

The Interior Design Program prepares graduates for practice in the interior design profession and educates them by enriching their personal and professional lives. This is accomplished by providing a broad-based education, travel studies, international travel opportunities, service learning experiences, opportunities for various minors, and collaboration among various disciplines. The curriculum infuses sustainability practices, develops and increases creativity through concept development, and offers various learning environments that use appropriate technologies.

Interior Design faculty will maintain currency in their fields of knowledge, uses of technology, and understanding of current issues. By this means, faculty will inform students, regional professionals, and the citizens of the state and region of the importance design plays in quality of life issues.

A 7-week (280-hour) summer practicum compatible with career goals is a program requirement. Students are also required to buy a laptop computer and software for use in the beginning of their sophomore year. Contact a member of the Interior design faculty to learn more about system specifications before purchasing the computer.

Minor in Interior Design

Eighteen credit hours are required for a minor in Interior Design. Plan your minor with an academic advisor early in your program.

Field Trips and Travel Studies

Faculty in the Department of Design, Merchandising, & Consumer Sciences are committed to intensifying students’ comprehension of major areas of study through off-campus experiences. DMCS regularly schedules field trips and travel study experiences. Field trips take students to design studios, merchandising businesses, marketing and public relations firms, and financial organizations in the region. Travel study experiences take students to US and international metropolitan areas. Recent university and department-sponsored trips include Australia, China, England, France, Germany, India, Italy, New York City, Chicago, Las Vegas, Dallas, Denver, Minneapolis, and St. Paul.

Apparel Merchandising (AM) Major

Requirements for Apparel Merchandising Major, Bachelor of Science in Family and Consumer Sciences:

System General Education Requirements*: 30

Goal #1 Written Communication:
ENGL 101, Composition I * ................................................................. 3
ENGL 201, Composition II * ................................................................. 3

Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech or
SPCM 215*, Public Speaking ................................................................. 3

Goal #3 Social Sciences/Diversity:
ECON 201, Principles of Microeconomics * or
ECON 202, Principles of Macroeconomics * (G) .................................. 3
PSYC 101, General Psychology * ** or
SOC 100, Introduction to Sociology * (G) ........................................ 3

Goal #4 Arts and Humanities/Diversity:
ARTH 100, Art Appreciation * ** (G) .................................................. 3
HIST 121, Western Civilization I * ** or
HIST 122, Western Civilization II * ** (G) ........................................ 3

Goal #5 Mathematics: MATH 102, College Algebra * ...................... 3

Goal #6 Natural Sciences ................................................................. 6

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship ................................ 3

Goal #2 Personal Wellness ................................................................. 2-3

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
AM 381, Professional Behavior at Work ........................................... 3

College Requirements: 4

FCS 101, FCS-Professional Foundations ........................................... 1
HDFS 241, Family Relations ................................................................. 3

Major Requirements: 48

AM 172, Introduction to Apparel Merchandising .................................... 2
AM 231-231L, Ready-To-Wear Analysis and Lab ................................... 3
AM 242-242L, Textiles I and Lab .......................................................... 3
AM 274-274L, Fashion Promotion and Lab .......................................... 3
AM 315-315L, Apparel Design and Studio ........................................... 3
AM 331-331L, Aesthetics of Dress and Lab .......................................... 3
AM 352, History of Dress in the Western World .................................... 3
AM 372, Buying ............................................................................... 3
AM 453, Socio-Psychological Aspects of Dress .................................... 3
AM 462, Retailing ........................................................................... 3
AM 472-472L, Merchandising and Lab .............................................. 1-5
AM 480, Travel Studies ..................................................................... 1-7
AM 482, Trends Analysis (AW) ............................................................. 3
AM 487, Workplace Strategies ............................................................. 2
AM 490, Seminar ........................................................................... 3
AM 495, Practicum ........................................................................... 1-7

Electives: 37-38

Electives in ACCT, CA, CSC, BADM, ECON, ENTR, MCOM, PSYC, SOC ................................................................. 15

General Electives ............................................................................. 22-23

Total Required Credits: 128

* 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 an 8-9 credit Institutional Graduation Requirement (IGR).
Family Financial Management Specialization requirements: 36
ECON 201, Principles of Microeconomics * 3
BADM 350, Legal Environment of Business 3
ACCT 210, Principles of Accounting I 3
CA 350, Family Financial Management: Theory and Practice 3
CA 450, Family Financial Management: Applications 3
ECON 201, Principles of Microeconomics * 3

Total Required Credits: 128

Electives: 23-24
Choose a specialization below

Support Courses: Must take 21 credits from the following list:
ACCT 211, Principles of Accounting II 3
ACCT 430, Income Tax Accounting 3
BADM 310, Business Finance 3
BADM 334, Small Business Management 3
BADM 351, Business Law 3
BADM 360, Organization and Management 3
BADM 411, Investments 3
BADM 474, Personal Selling 3
ECON 330, Money and Banking 3
ECON 370, Marketing 3
ENGL 379, Technical Communication (AW) 3
HDFS 210, Lifespan Development * 3
LEAD 210, Foundations of Leadership 3
SPCM 201, Interpersonal Communication 3
STAT 281, Introduction to Statistics 3

Consumer Services Management Specialization Requirements: 36
BADM 350, Legal Environment of Business 3
BADM 360, Organization and Management 3
CA 442, Family Resource Management Lab 3
FCSE 421, Adult Education 3
HMGT 455, Meeting and Convention Management 3

Support Courses: Must take 21 credits from the following list:
BADM 334, Small Business Management 3
BADM 351, Business Law 3
BADM 474, Personal Selling 3
ECON 370, Marketing 3
ENGL 379, Technical Communication (AW) 3
HDFS 210, Lifespan Development * 3
HMGT 171, Introduction to Hospitality Industry 3
HMGT 361, Hospitality Industry Law 3
HMGT 482, Hospitality Marketing 3
LEAD 210, Foundations of Leadership 3
MCOM 161-161L, Fundamentals of Desktop Publishing and Lab 3
MCOM 314, Sales, Promotion and Marketing 3
MCOM 370, Advertising Principles 3
MCOM 475, Public Relations 3
SPCM 201, Interpersonal Communication 3
STAT 281, Introduction to Statistics 3

A grade of "C" or better is required in all courses with a CA prefix.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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 Minor
Requirements for Consumer Affairs Minor: 18 cr
(select 18 credits from the list below)
CA 230, Consumer Behavior 3
CA 289, Consumers in the Market 3
CA 340, Work Family Interface (AW) 3
CA 345, Foundations in Financial Management 3
CA 442, Family Resource Management Lab 3
CA 492-592, Topics 1-3
FCSE 421, Adult Education 3

† These courses are only offered once a year. Deviations from the established program schedule can extend the time required to complete the program.
Interior Design (ID) Major
Requirements for Interior Design Major, Bachelor of Science in Family and Consumer Sciences:

**System General Education Requirements***: 30
Goal #1 Written Communication:
- ENGL 101, Composition I * 3
- ENGL 201, Composition II * 3
Goal #2 Oral Communication:
- SPCM 101, Fundamentals of Speech* or SPCM 222, Argumentation and Debate * 3
Goal #3 Social Sciences/Diversity:
- SOC 100, Introduction to Sociology * (G)(recommended) 3
- PSYC 101, General Psychology * ** (recommended) 3
Goal #4 Arts and Humanities/Diversity:
- ARTH 100, Art Appreciation * ** (G) 3
- HIST 122, Western Civilization II * ** (G)(recommended) 3
Goal #5 Mathematics:
- MATH 102, College Algebra * 3
Goal #6 Natural Sciences:
- GEOG 131-131IE, Physical Geography1 (recommended) 3
- GEOG 132-132L, Physical Geography II (recommended) 3

**Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship:
- PSYC 244, Environmental Psychology (recommended) , 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
- AM 381, Professional Behavior at Work 3

**College Requirements**: 4
- FCS 101, FCS-Professional Foundations 1
- HDFS 241, Family Relations 3

**Major Requirements**: 64-68
- ID 150-150L, Introduction to Interior Design 1 and Lab 4
- ID 151-151L, Introduction to Interior Design 11 and Lab 4
- ID 215, Materials and Lab 3
- ID 222, Interior Design Studio I 4
- ID 223, Interior Design Studio II 4
- ID 224, History of Interiors 4
- ID 290, Seminar: Sustainable Issues in Design 1
- ID 317, Professional Practices in Interior Design 2
- ID 319-319L, Building Systems 1 and Lab 2
- ID 320-320L, Lighting and Acoustics and Lab 2
- ID 322, Interior Design Studio III (AW) 4
- ID 323, Interior Design Studio IV 4
- ID 329-329L, Building Systems II and Lab 2
- ID 422, Interior Design Studio V 4
- ID 423, Interior Design Studio VI 4
- ID 477-477L, Portfolio and Senior Exhibit and Lab 2
- ID 480, Travel Studies 1-5
- ID 495, Practicum 7
- AM 242-242L, Textiles I and Lab 3
- ART 122, Design II Color 3

**Electives**: 18-22
- General Electives 14-18
- ID 492, Topics 1
- Electives in ECON, ACCT, AM, BADM, ENTR 3

**Total Required Credits**: 128

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The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)

**South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)**

**Globalization Requirement. (See page 46 for details.)**

**Advanced Writing Requirement. (See page 47 for details.)**

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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 Minor**
Requirements for Interior Design Minor: 18 cr
- ID 150-150L, Introduction to Interior Design I and Lab 4
- ID 151-151L, Introduction to Interior Design II and Lab 4

**Merchandising (MRCH) Minor**
Requirements for Merchandising Minor: 18 cr
- AM 372, Buying 3
- AM 462, Retailing 3
- AM 472-472L, Merchandising and Lab 3
- AM 482, Trends Analysis (AW) 3
- Choose 6 credits from the following:
  - BADM 310, Business Finance 3
  - BADM 334, Small Business Management 3
  - BADM 350, Legal Environment of Business 3
  - BADM 360, Organization and Management 3
  - BADM 474, Personal Selling 3
  - ECON 370, Marketing 3
  - ECON 440-540, Economics of International Sector 3
  - ECON 476-576, Marketing Research 3

**Dietetics**
(See Nutrition, Food Science and Hospitality)

**Early Childhood Education**
(See Human Development)

**Economics Department**

Evert Van der Sluis, Head
Department of Economics
Scobey Hall 138
605-688-4141
e-mail: evert.vandersluis@sdstate.edu
http://www.sdstate.edu/econ/

**Faculty**
Professor Van der Sluis, Head; Professors Beutler, Cumber, Diersen, Fausti, Janssen, Klein, Lyons, O’Brien, Pflueger, Santos, Sondey, Warmann, Zimmerman; Professors Emeriti Allen, Dobbs, Greenbaum, Kim, Lambert, Lundeen, Murra, Peterson, Shane, Taylor, Thompson; Associate Professors Adamson, Davis, Gustafson, Langelett, Qasmi, Taylor; Assistant Professors Chang, Li, Miller, Swain, Wang; Instructors Ellingson, Heine, Heller; Marketing Specialist May; Management Specialist Davis.

**Programs**
The Department of Economics’ teaching objectives are to:
1. present the economic principles necessary for understanding the complexities of the global economy;
2. educate students to apply economic concepts and techniques for
decision-making in agricultural business, agricultural and resource economics, economics, business, and entrepreneurship; and,
3. provide a foundation for graduate work in economics, agricultural and resource economics, business administration, management, finance, law, entrepreneurial studies, and related areas of study.

The Department of Economics offers majors leading to:
1. a Bachelor of Science Degree in Agricultural Business from the College of Agriculture and Biological Sciences.
2. a Bachelor of Science Degree in Agricultural and Resource Economics from the College of Agriculture and Biological Sciences. Bachelor of Science or Bachelor of Arts Degree in Economics from the College of Arts and Sciences.
3. Bachelor of Science or Bachelor of Arts Degree in Economics with a Business Specialization.
4. a Bachelor of Science degree in Entrepreneurial Studies from the College of Arts and Sciences.

Courses in the Department of Economics are offered in the following areas: Accounting (ACCT), Agricultural and Resource Economics (AGEC), Business Administration (BADM), Economics (ECON), and Entrepreneurial Studies (ENTR). See the Course Descriptions section of this catalog. These programs provide students with a background in agribusiness, agricultural finance, banking, business finance, business management, entrepreneurship, farm and ranch management, marketing, public service, research, sales, and related fields.

Accelerated Master's Program
The Department of Economics offers an accelerated Master's program, which allows qualified students to study towards a Master's degree while completing their undergraduate degree. By combining course requirements for the Bachelor's and Master's degrees, students enrolled in the accelerated Master's program may be able to complete a Master's degree within five years.

Students may apply for admission into the accelerated Master's program as early as the end of their sophomore year, but must have a GPA of at least 3.5 in Department of Economics courses to be considered for acceptance in the accelerated program.

Students interested in the accelerated program should contact the Department of Economics graduate coordinators to obtain application requirements. Application and admission to the Graduate School is required.

Minors
The following minors are available through the Department of Economics: Accounting, Agricultural Business, Agricultural Marketing, Economics, Entrepreneurial Studies, Business, and Marketing. A minimum 2.0 GPA over courses taken in the minor is required for each department minor.

Entry Requirement
Formal application is required for admission into each departmental major, except for Entrepreneurial Studies. 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 above requirements are met.

Accounting (ACCT) Minor
Requirements for Accounting Minor: 21 cr
ACCT 210, Principles of Accounting I ......................................3
ACCT 211, Principles of Accounting II .....................................3
ACCT 310, Intermediate Accounting I ...................................3
ACCT 311, Intermediate Accounting II .................................3
ACCT 320, Cost Accounting ...............................................3
ACCT 430, Income Tax Accounting .................................3
ECON 201, Principles of Microeconomics or
ECON 202, Principles of Macroeconomics .......................3

Note: A minimum GPA of 2.0 is required in the minor.

Agricultural and Resource Economics (AGEC) Major
Requirements for Agricultural and Resource Economics Major, Bachelor of Science in Agriculture:

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I ..............................................3
ENGL 201, Composition II ..............................................3
Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ........................................3
Goal #3 Social Sciences/Diversity ...........................................6
Goal #4 Arts and Humanities/Diversity .....................................6
Goal #5 Mathematics: MATH 102, College Algebra ..................3
Goal #6 Natural Sciences ....................................................6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ............3
Goal #2 Personal Wellness ....................................................3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ...3

College Requirements: 4
Major Requirements: 66
ACCT 210, Principles of Accounting I .................................3
ACCT 211, Principles of Accounting II ................................3
ECON 201, Principles of Microeconomics * ........................3
ECON 202, Principles of Macroeconomics * (G) .................3
ECON 301, Intermediate Microeconomics ..........................3
ECON 302, Intermediate Macroeconomics ............................3
ECON 330, Money and Banking .........................................3
ECON 423, Statistics II ...................................................3
ECON 428, Mathematical Economics ...............................3
ECON 472, Resource and Environmental Economics ** ....3
Choice one of the following:
ECON 403, History of Economic Thought ............................3
ECON 405, Comparative Economic Systems .......................2-3
ECON 440, Economics of International Sector ......................3
ECON 450, Industrial Organization .....................................3
ECON 460, Economic Development (G) ............................3
AGEC 271-271L, Farm and Ranch Management and Lab ..........3
AGEC 354, Agricultural Marketing and Prices .....................3
AGEC 421, Farming and Food Systems Economics ** ..........3
AGEC 478-478L, Agricultural Finance and Lab ...................3
AGEC 479, Agricultural Policy (AW) (G) ...........................3
MATH 121-121L, Survey of Calculus and Lab * or
MATH 123, Calculus I * .................................................4-5
STAT 281, Introduction to Statistics ....................................3
CSC 105, Introduction to Computers or
CSC 205, Advanced Computer Applications .....................3
ENGL 379, Technical Communication (AW) ......................3
SPCM 201, Interpersonal Communication or
SPCM 215*, Public Speaking or
SPCM 222, Argumentation and Debate* ...........................3

Department and Program Descriptions and Requirements 125
Electives: 19-20
Group I Elective† ..............................................5
General Electives .........................................14-15
Total Required Credits: 128

Environmental Economics Emphasis:
PS 213-213L, Soils and Lab ** ................................3
WL 110, Environmental Conservation ** (G) ...............3
BIOL 383, Bioethics ** (G) or ................................4
PHIL 100, Introduction to Philosophy ** or .................3
PS 446-546, Agroecology (G) ................................3
PS 475, Water Quality in Agriculture ........................3

Two of the following:
One of these courses may be substituted for ECON 428, Mathematical Economics.
ABS 475-475L, Integrated Natural Resource Management and Lab (AW) ........................................3
BIOL 475, Water Quality in Agriculture .................3
PS 362-362L, Environmental Soil Management and Lab ** 3
PS 446-546, Agroecology (G) ................................3
PS 475, Water Quality in Agriculture ........................3

Accelerated Master’s Degree:
Outstanding students majoring in Agricultural and Resource Economics, Agricultural Business, Economics, or Economics with a Business Economics specialization may complete their Baccalaureate degree and Master of Science in Economics combined in five years. Students may apply for admission to the Accelerated Master’s program at the end of their sophomore year. After maintaining at least a 3.5 GPA in their major, completing at least 96 credit hours, and obtaining three letters of recommendation, the Department of Economics will review student applications for acceptance into the program. Accelerated Master’s students may apply for departmental assistantships, but no assistantships will be awarded before completing 128 credits. Those admitted as graduate students may take dual listed 400-500 level courses at the graduate (500) level during their fourth (senior) year (see below). See the SDSU Graduate Catalog or the Department’s Graduate Coordinators Dr. Santos or Dr. Zimmerman for complete details for the fifth year.

Fourth Year (Replaces Senior Year):
General Electives .............................................4-7
AGEC 421-521, Farming and Food Systems Economics ** 3
AGEC 479, Agricultural Policy (AW) (G) ...............3
ECON 423, Statistics II .........................................3
ECON 428, Mathematical Economics ........................3
ECON 472-572, Resource and Environmental Economics ** 3

Two of the following:
AGEC 471-571, Advanced Farm and Ranch Management ........3
ECON 403-503, History of Economic Thought ..........3
ECON 420-520, Economics of the Public Sector ........3
ECON 431-531, Managerial Economics ....................3
ECON 440-540, Economics of International Sector ........3
ECON 450-550, Industrial Organization .....................3
ECON 460-560, Economic Development (G) ...............3

† Group I courses are listed on p. 64.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.) 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
Requirements for Agricultural Business Major, Bachelor of Science in Agriculture:
System General Education Requirements*: 30
Goal #1 Written Communication ................................6
Goal #2 Oral Communication ....................................3
Goal #3 Social Sciences/Diversity ..............................6
Goal #4 Arts and Humanities/Diversity .........................6
Goal #5 Mathematics .............................................3
Goal #6 Natural Sciences .........................................6
Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ...........3
Goal #2 Personal Wellness .........................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .......3

College Requirements: 4
Major Requirements: 56-57
ACCT 210, Principles of Accounting I ....................3
ACCT 211, Principles of Accounting II .................3
ECON 201, Principles of Microeconomics * ...............3
ECON 202, Principles of Macroeconomics * (G) .......3
ECON 301, Intermediate Microeconomics .................3
ECON 302, Intermediate Macroeconomics .................3
ECON 330, Money and Banking ...............................3
BADM 350, Legal Environment of Business ............3
BADM 360, Organization and Management .............3
BADM 424, Operations Research .........................3
AGEC 271-271L, Farm and Ranch Management and Lab ........3
AGEC 354, Agricultural Marketing and Prices ..........3
AGEC 478-478L, Agricultural Finance and Lab ..........3
AGEC 479, Agricultural Policy (AW) (G) ..................3
MATH 121-121L, Survey of Calculus and Lab * or
MATH 123, Calculus I * ...........................................5-4
STAT 281, Introduction to Statistics .......................3
CSC 105, Introduction to Computers, or
CSC 205, Advanced Computer Applications ............3
ENGL 379, Technical Communication (AW) ............3
Electives: 28-30
General Electives .............................................22-23
One Additional course prefixed AGEC .....................3
Electives prefixed ACCT, AGEC, BADM, or ECON ....3
Total Required Credits: 128

Accelerated Master’s Degree
Outstanding students majoring in Agricultural and Resource Economics, Agricultural Business, Economics, or Economics with a Business Economics specialization may complete their Baccalaureate degree and Master of Science in Economics combined in five years. Students may apply for admission to the combined program during the Fall Semester of their junior year. Those admitted as graduate students may take dual listed 400-500 level courses at the graduate (500) level during their fourth (senior) year (see below). See the SDSU Graduate Catalog or the Department’s Graduate Coordinators Dr. Santos or Dr. Zimmerman for complete details for the fifth year.

Fourth Year (Replaces Senior Year)
Adjustments to baccalaureate course requirements are as follows:
General Electives .............................................4-10
BADM 360, Organization and Management .............3
ECON 423, Statistics II .........................................3
ECON 428, Mathematical Economics ........................3
Four of the following:
AGEC 421-521, Farming and Food Systems Economics ** 3
AGEC 471-571, Advanced Farm and Ranch Management ....3
These majors. Business Area Studies represent a multidisciplinary management, economics, entrepreneurial studies, geography, mathematics, mass communications, psychology, and speech.

Accounting:
- ACCT 310, Intermediate Accounting I: 3
- ACCT 320, Cost Accounting: 3
- ACCT 430, Income Tax Accounting: 3
- ACCT 210, Principles of Accounting I: 3
- ACCT 211, Principles of Accounting II: 3
- ACCT 311, Intermediate Accounting II: 3

Agricultural and Resource Economics:
- AGEC 352, Agricultural Law: 3
- AGEC 354, Agricultural Marketing and Prices: 3
- AGEC 473-473L, Rural Real Estate Appraisal and Lab: 2
- AGEC 478-478L, Agricultural Finance and Lab: 3
- AGEC 271-271L, Farm and Ranch Management and Lab: 4
- AGEC 454, Economics of Grain and Livestock Marketing: 3

Design, Merchandising, and Consumer Sciences:
- AM 372, Buying: 3
- AM 462, Retailing: 3
- AM 473, International Trade in Textiles and Apparel: 3

Business Administration:
- BADM 310, Business Finance: 3
- BADM 334, Small Business Management: 3
- BADM 350, Legal Environment of Business: 3
- BADM 351, Business Law: 3
- BADM 360, Organization and Management: 3
- BADM 424, Operations Research: 3
- BADM 474, Personel Selling: 3
- BADM 482, Business Policy and Strategy: 3
- BADM 483, Small Business Consulting: 1-3
- BADM 280, Personal Finance: 3
- BADM 416, Commercial Bank Management: 3

Computer Science:
- CSC 330, Cobol I: 3

Economics:
- ECON 467, Labor Law and Economics: 3
- BADM 370, Marketing: 3
- BADM 476-576, Marketing Research: 3
- ECON 330, Money and Banking: 3
- ECON 370, Marketing: 3
- ECON 476-576, Marketing Research: 3

Engineering Technology and Management:
- BADM 260, Principles of Production and Operations Management: 3
- CM 443, Construction Planning and Scheduling: 3
- MNET 260, Principles of Production and Operations Management: 3

Entrepreneurial Studies:
- ENTR 336, Entrepreneurship I: 3
- ENTR 410, Financing Innovative Ideas: 3
- ENTR 438-538, Entrepreneurship II: 3

Geography:
- GEOG 487, Geographic Information Systems I: 3
- GEOG 488-588, Geographic Information Systems II: 3

Mathematics:
- MATH 440, Mathematics of Finance: 3

Mass Communications:
- MCOM 370, Advertising Principles: 3
- MCOM 313, Publicity Methods: 2

Psychology:
- PSYC 331, Industrial and Organizational Psychology: 3

Agricultural Business Minor

Requirements for Agricultural Business Minor: 21-22 cr
- ECON 201, Principles of Microeconomics: 3
- ECON 202, Principles of Macroeconomics: 3

Choose two of the following:
- ACCT 210, Principles of Accounting I: 3
- AGEC 271-271L, Farm and Ranch Management and Lab: 4
- AGEC 354, Agricultural Marketing and Prices: 3
- BADM 310, Business Finance: 3
- BADM 350, Legal Environment of Business: 3
- BADM 360, Organization and Management: 3
- BADM/ECON 370, Marketing: 3
- AGEC 300-level or above: 9

Agricultural Marketing Minor

Requirements for Agricultural Marketing Minor: 21-22 cr
- AGEC 354, Agricultural Marketing and Prices: 3
- AGEC 454, Economics of Grain and Livestock Marketing: 3
- BADM/ECON 370, Marketing: 3
- ECON 201, Principles of Microeconomics: 3

Choose three of the following: 9-10 cr
- AGEC 479, Agricultural Policy: 3
- BADM 474, Personal Selling: 3
- ECON 440-540, Economics of International Sector: 3
- ECON 476-576, Marketing Research: 3

Agricultural and Resource Economics:
- AGEC 454, Agricultural Marketing and Prices: 3
- AGEC 473-473L, Rural Real Estate Appraisal and Lab: 2
- AGEC 478-478L, Agricultural Finance and Lab: 3
- AGEC 271-271L, Farm and Ranch Management and Lab: 4
- AGEC 454, Economics of Grain and Livestock Marketing: 3

Computer Science:
- CSC 330, Cobol I: 3

Economics:
- ECON 467, Labor Law and Economics: 3
- BADM 370, Marketing: 3
- BADM 476-576, Marketing Research: 3
- ECON 330, Money and Banking: 3
- ECON 370, Marketing: 3
- ECON 476-576, Marketing Research: 3

Engineering Technology and Management:
- BADM 260, Principles of Production and Operations Management: 3
- CM 443, Construction Planning and Scheduling: 3
- MNET 260, Principles of Production and Operations Management: 3

Entrepreneurial Studies:
- ENTR 336, Entrepreneurship I: 3
- ENTR 410, Financing Innovative Ideas: 3
- ENTR 438-538, Entrepreneurship II: 3

Geography:
- GEOG 487, Geographic Information Systems I: 3
- GEOG 488-588, Geographic Information Systems II: 3

Mathematics:
- MATH 440, Mathematics of Finance: 3

Mass Communications:
- MCOM 370, Advertising Principles: 3
- MCOM 313, Publicity Methods: 2

Psychology:
- PSYC 331, Industrial and Organizational Psychology: 3

The Department of Economics offers majors in Economics, Economics with a Business Economics Specialization, Agricultural Business, Agricultural and Resource Economics, and Entrepreneurial Studies. Courses taken under Business Area Studies may supplement these majors. Business Area Studies represent a multidisciplinary collection of courses in or related to business, and include courses from accounting, agricultural and resource economics, apparel merchandising, business administration, computer science, construction management, economics, entrepreneurial studies, geography, mathematics, mass communications, psychology, and speech.

The following groups of business related courses represent offerings from all academic departments (or in cooperation with other institutions) of interest to majors in the various business related curricula of the University.
Speech:
SPCM 201, Interpersonal Communication .................................. 3
SPCM 215*, Public Speaking .................................................. 3

Business Minor‡

Requirements for Business Minor: 21 cr
ACCT 210, Principles of Accounting I ..................................... 3
ECON 201, Principles of Microeconomics * ................................. 3
ECON 202, Principles of Macroeconomics * (G) ......................... 3
Choose two of the following courses:
BADM 310, Business Finance .................................................. 3
BADM 334, Small Business Management ................................... 3
BADM 350, Legal Environment of Business ............................... 3
BADM 360, Organization and Management ............................... 3
BADM/ECON 370, Marketing ................................................. 3
Two additional courses from Business Area Studies ..................... 6

Note: A minimum GPA of 2.0 is required in the minor.

† This Business minor provides prerequisites for the Master of Science in Industrial Management (MSIM) offered by the Department of Engineering Technology and Management at South Dakota State University (605-688-6417). Careful course selection within this minor helps prepare for a Master’s in Business Administration (MBA) offered by many business schools.

Economics (ECON) Major and Business Specialization

Requirements for Economics Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I * .................................................. 3
ENGL 201, Composition II * .................................................. 3
Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ..................................... 3
Goal #3 Social Sciences/Diversity ........................................... 6
Goal #4 Arts and Humanities/Diversity ................................. 6
Goal #5 Mathematics: MATH 102, College Algebra * ................. 3
Goal #6 Natural Sciences ..................................................... 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ....................... 3
Goal #2 Personal Wellness .................................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

Major Requirements: 42-43
ACCT 210, Principles of Accounting I ..................................... 3
ACCT 211, Principles of Accounting II ..................................... 3
ECON 201, Principles of Microeconomics * ............................... 3
ECON 202, Principles of Macroeconomics * (G) ......................... 3
ECON 301, Intermediate Microeconomics ................................ 3
ECON 302, Intermediate Macroeconomics ................................ 3
ECON 330, Money and Banking ............................................. 3
Choose one of the following: 2-3
ECON 403, History of Economic Thought ................................ 3
ECON 405, Comparative Economic Systems ........................... 2-3
ECON 440, Economics of International Sector .......................... 3
ECON 450, Industrial Organization ......................................... 3
ECON 460, Economic Development (G) .................................. 3
ECON 423, Statistics II ........................................................ 3
ECON 428, Mathematical Economics ...................................... 3
ECON 433, Public Finance (AW) ............................................ 3
Business Economics Specialization Courses or General Electives .... 4-8
Choose four classes for Fall and four classes for Spring:
AGEC 421-521, Farming and Food Systems Economics ** ............ 3
AGEC 471-571, Advanced Farm and Ranch Management .......... 3
ECON 403-503, History of Economic Thought ......................... 3
ECON 420-520, Economics of the Public Sector ....................... 3
ECON 431-531, Managerial Economics .................................. 3
ECON 440-540, Economics of International Sector ................... 3
ECON 450-550, Industrial Organization .................................. 3
ECON 460-560, Economic Development (G) ............................. 3
ECON 472-572, Resource and Environmental Economics ** ........ 3

Adjustments to baccalaureate course requirements are as follows:
Fourth Year (Replaces Senior Year)
Business Economics Specialization Courses or General Electives .... 1
ECON 423, Statistics II ....................................................... 3
ECON 428, Mathematical Economics ...................................... 3
ECON 433, Public Finance (AW) ............................................ 3
Business Economics Specialization Courses or General Electives .... 4-8

Choose four classes for Fall and four classes for Spring:
AGEC 421-521, Farming and Food Systems Economics ** ............ 3
AGEC 471-571, Advanced Farm and Ranch Management .......... 3
ECON 403-503, History of Economic Thought ......................... 3
ECON 420-520, Economics of the Public Sector ....................... 3
ECON 431-531, Managerial Economics .................................. 3
ECON 440-540, Economics of International Sector ................... 3
ECON 450-550, Industrial Organization .................................. 3
ECON 460-560, Economic Development (G) ............................. 3
ECON 472-572, Resource and Environmental Economics ** ........ 3

Requirements for Economics Major, Bachelor of Arts in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I * .................................................. 3
ENGL 201, Composition II * .................................................. 3
Goal #2 Oral Communication:
SPCM 101*, Fundamentals of Speech ..................................... 3
A Modern Language/Business-Economics specialization is available for all students majoring or minoring in Agricultural business. Agricultural and Resources Economics, Business Economics specialization, or Economics. The specialization requires the following courses in addition to specified courses in the major or minor.

**Core Courses:**
- Take B.A. Language requirement
- Take Business French, German or Spanish
- Minors take six additional hours approved by the Economics Department Head

**Economics Minor**

**Requirements for Economics Minor: 21-24 cr**
- ECON 201, Principles of Microeconomics 3
- ECON 202, Principles of Macroeconomics 3
- ECON 301, Intermediate Microeconomics 3
- ECON 302, Intermediate Macroeconomics 3

Choose two courses prefixed:
- AGEC or ECON 6-7

Choose two of the following courses:
- Courses prefixed ACCT, AGEC, BADM, ECON, or ENTR 3-4
- MATH 381, Introduction to Probability and Statistics 3
- STAT 281, Introduction to Statistics 3

Note: A minimum GPA of 2.0 is required in the minor.

**Entrepreneurial Studies (ENTR)**

Barb Heller, Coordinator
Department of Economics
Scobey Hall 115
605-688-6522
e-mail: Barb.Heller@sdstate.edu

Entrepreneurial Studies (ENTR) Major

The Entrepreneurial Studies major seeks to enhance entrepreneurial talent by providing students with the knowledge, skills, and experiences to think entrepreneurially. This interdisciplinary major helps equip students with the knowledge and innovation skills necessary to take on and operate a new or existing enterprise or venture, whether for profit or not-for-profit. Students may choose from the core Entrepreneurial Studies major or pursue a specialization in Social Entrepreneurship or Technology Management.

In the Social Entrepreneurship specialization, students develop competencies in creating social value by utilizing entrepreneurial principles. This specialization provides students with a broad perspective and the skills and knowledge needed to start or find employment in nonprofit organizations or for-profit firms pursuing a social purpose.

The Entrepreneurial Studies - Technology Management specialization prepares students to understand, select and manage technology as it relates to product innovation, entrepreneurial activities, and startup enterprises. This specialization helps students to evaluate and apply technology within venture environments using project and resource management strategies, and functioning as technology managers in business operations. The specialization also prepares students for developing strategies to match technology with an entrepreneurial product or service idea and bring it to market.
Requirements for Entrepreneurial Studies Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication:
  ENGL 101, Composition I * .......................... 3
  ENGL 201, Composition II .......................... 3
Goal #2 Oral Communication: SPCM 101, Fundamentals of Speech* .... 3
Goal #3 Social Sciences/Diversity ............................................. 6
Goal #4 Arts and Humanities/Diversity ....................................... 6
Goal #5 Mathematics: MATH 102, College Algebra * .................... 3
Goal #6 Natural Sciences ...................................................... 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ......................... 3
Goal #2 Personal Wellness .................................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ......... 3
SGR Goal #3: Social Sciences* ............................................... 3
SGR Goal #4: Humanities and Arts* ........................................ 3

College Requirements: 10
Natural Sciences ........................................................................... 8
Humanities ............................................................................... 2

Major Requirements: 64
ECON 201, Principles of Microeconomics * ............................... 3
ECON 202, Principles of Macroeconomics * (G) .......................... 3
ACCT 210, Principles of Accounting I ......................................... 3
ACCT 211, Principles of Accounting II ........................................ 3
ENTR 236, Innovation and Creativity ........................................ 3
SPCM 215*, Public Speaking ..................................................... 3
BADM 334, Small Business Management .................................... 3
ENTR 336, Entrepreneurship I .................................................. 3
BADM 370, Marketing ............................................................. 3
PHIL 320, Professional Ethics ................................................... 3
ENTR 410, Financing Innovative Ideas .......................................... 3
ENTR 438, Entrepreneurship II .................................................. 3
BADM 483, Small Business Consulting ....................................... 1-3
ENTR 489, Business Plan Writing and Competition ....................... 1
BADM 474, Personal Selling ...................................................... 3
BADM 494, Internship ............................................................... 1-12

Choose 18 credits from the following list or choose specialization:
  Any course with ENTR prefix .................................................... 1-3
  AM 372, Merchandising and Buying I ......................................... 3
  AM 381, Professional Behavior at Work ..................................... 3
  AM 462, Retailing .................................................................. 3
  BADM 260, Principles of Production and Operations Mgmt ............ 3
  BADM 310, Business Finance .................................................. 3
  BADM 350, Legal Environment of Business ................................ 3
  BADM 460, Human Resource Management ................................ 3
  CA 230, Consumer Behavior .................................................. 3
  LEAD 310, Leadership for Families and the Food Systems .......... 3
  MCOM 370, Advertising Principles .......................................... 3
  SOC 353, Sociology of Work ................................................... 3
  SOC 433-533, Leadership and Organizations ............................. 3

Electives: 16
Total Required Credits: 128

Social Entrepreneurship Specialization Requirements: 18
SOC 150, Social Problems ....................................................... 3
LMNO 201, Leadership & Mgmt of Non-Profit Organizations .......... 3
CA 230, Consumer Behavior .................................................... 3
ENTR 320, Principles & Practices of Social Entrepreneurship .......... 3
Choose 6 credits from the following list:
  LEAD 320, Leadership in Context ............................................. 3
  PSYC 331, Business and Industrial Psychology .......................... 3
  SOC 240, The Sociology of Rural America ................................ 3

Technology Management Specialization Requirements: 20
GE 121, Engineering Design Graphics ........................................ 1
GE 123, Computer Aided Design ............................................... 1
BADM 260, Prin. of Production and Operations Mgmt ...................... 3
GE 231, Technology & Society ................................................ 3
GE 425, Occupational Safety & Health ....................................... 3
MNET 460, Manufacturing Cost Analysis ..................................... 3
MNET 462, Quality Management .............................................. 3
GE 469-469L, Project Management & Lab .................................. 3

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)
Students must take the proficiency examination after completing 45 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.

Entrepeneurial Studies Minor Requirements for Entrepreneurial Studies Minor: 19-22 cr
BADM 334, Small Business Management ..................................... 3
BADM 370, Marketing ............................................................. 3
BADM 474, Personal Selling ...................................................... 3
ENTR 336, Entrepreneurship I .................................................. 3
ENTR 438-538, Entrepreneurship II .......................................... 3
ENTR 489, Business Plan Writing and Competition ....................... 1
ACCT 210, Principles of Accounting I or ACCT 211, Principles of Accounting II or ACCT 406-506, Accounting for Entrepreneurs ........................................................................ 3

Note: A minimum GPA of 2.0 is required in the minor.

Entrepreneurship Certificate
The Entrepreneurship Certificate offers specialized courses enabling individuals to gain the skills to start their own businesses and pursue entrepreneurial product and service development ideas.
All courses are offered through interactive video at networked sites across South Dakota and are scheduled during evenings and/or weekends. The courses are usually four to six weeks long and offer a practical side of the different aspects of entrepreneurship.
To obtain the Certificate in Entrepreneurship, students are required to take ten of the twelve one-credit courses. Generally, three courses are offered each semester on a two-year rotation.

Required Courses for the Certificate-choose 10 of the following 12
ENTR 202, Human Resource Operations in Entrepreneurship .......... 1
ENTR 203, Intellectual Property in Entrepreneurship ........................ 1
ENTR 204, Finance/ Venture Capital in Entrepreneurship ................. 1
ENTR 205, Legal Issues/Business Structure/Risk Management .......... 1
ENTR 206, Taxation in Entrepreneurship ..................................... 1
ENTR 207, Financial Analysis/Record Keeping/Accounting in Entrepreneurship ................................................................. 1
ENTR 208, E commerce in Entrepreneurship ................................. 1
ENTR 301, Marketing/Promotion in Entrepreneurship .................... 1
ENTR 302, International & Global Marketing in Entrepreneurship .... 1
ENTR 304, Strategy/Pricing/Location in Entrepreneurship ............... 1
ENTR 305, Selling in Entrepreneurship ....................................... 1
ENTR 306, The Harvest in Entrepreneurship .................................. 1

130 Department and Program Descriptions and Requirements
Electrical Engineering and Computer Science Department

Within the Electrical Engineering program, students are prepared to enter a wide range of careers in industry, government, and service-oriented agencies. The program provides 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 businesses, industry, and government.

To be accepted for the Electrical Engineering program, students must:
1. Have established themselves in a diverse range of engineering careers.
2. Have achieved advanced studies in electrical engineering or other engineering/professional fields.

The program begins the first year developing a strong foundation in mathematics, science, and communications. Following this are two intensive years of study in circuit theory, electronics, signal and system theory, material science, and digital systems/microprocessors. The capstone of the program is Senior Design I-II, a two-semester sequence taken in the senior year, that places every student on a team that designs, builds and tests a project. The projects are often in collaboration with industry and provide students valuable "real world" team design experience.

Faculty

Professor Holder, Head; Professors A. Andrawis, M. Andrawis, Brown, Galipeau, Hietpas; Professors Emeriti, Ellerbruch, Knabach, Sander; Associate Professors Fourney, Ropp, Tan; Assistant Professors Baroughi, Bayat, Bommisetty, He, Qiao, Yan.

Program

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 mission of the Electrical Engineering program 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 businesses, industry, and government.

As a practicing electrical engineer, three years or more into their career, our alumni will:

1. Have established themselves in a diverse range of engineering careers.
2. Have achieved advanced studies in electrical engineering or other engineering/professional fields.

The program begins the first year developing a strong foundation in mathematics, science, and communications. Following this are two intensive years of study in circuit theory, electronics, signal and system theory, material science, and digital systems/microprocessors. The capstone of the program is Senior Design I-II, a two-semester sequence taken in the senior year, that places every student on a team that designs, builds, and tests a project. The projects are often in collaboration with industry and provide students valuable "real world" team design experience.

Department and Program Descriptions and Requirements 131
Academic and Graduation Requirements

Realizing that each student is an individual, the degree program is arranged to include 28 credits of elective coursework. This elective flexibility allows a student to pick a technical and non-technical course program that best suits his/her needs and interests. Students will be admitted into junior level EE courses only after they have completed EE 220, 220L, 221, 221L, 245 and 245L with minimum grades of “C.” Students will not be permitted to enroll in subsequent courses for which EE 220, EE 221, 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 1). 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.

The non-technical (18), technical (10 EE 400 level), and required (108) credits comprise the 136 credit degree.

The 18 required non-technical electives must be from a list of approved courses to meet graduation requirements. To meet the 12 credits of the South Dakota Regental System’s General Education requirements, students are required to take a minimum of six approved credits in Social Science/Diversity (SGR Goal 3) and six approved credits in Humanities and Arts/Diversity (SGR Goal 4). To meet the six credits of the Institutional Graduation requirements, students are required to take a minimum of three approved credits in Social Responsibility/Cultural and Aesthetic Awareness (IGR Goal 1) and three approved credits in Land and Natural Resources (IGR Goal 3).

The 10 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.

Many students benefit from the Department's Cooperative Education program which allows students to receive limited technical elective credit for working in industry while they complete their degree in Electrical Engineering. Many such students gain valuable work experience in industry during the summer months without extending the time required to complete the BS degree. The Department of Electrical Engineering and Computer Science provides assistance to students desiring this practical experience. The Department also provides assistance in resume preparation and job placement.

Electrical Engineering (EE) Major

Requirements for Electrical Engineering Major, Bachelor of Science in Electrical Engineering:

(Accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology—ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 410-347-7700)

System General Education Requirements*: 33

Goal #1 Written Communication: ENGL 101, and ENGL 277………..6
Goal #2 Oral Communication: SPCM 101..........................3
Goal #3 Social Sciences/Diversity ......................................6
Goal #4 Arts and Humanities/Diversity ..................................6
Goal #5 Mathematics: Math 123............................................4
Goal #6 Natural Sciences: Chem 112-112L, and Phys 211-211L.....8

Institutional Graduation Requirements**: 8

Goal #1 Land and Natural Resource Stewardship.....................3
Goal #2 Personal Wellness..................................................2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness...3

College Requirements: 32

GE 101, Introduction to Engineering and Technology ...............1

GE 121, Engineering Design Graphics ....................................1
EM 216, Statics and Dynamics ............................................3
MATH 125, Calculus II *....................................................3
MATH 225, Calculus III *....................................................4
MATH 321, Differential Equations .......................................3
MATH 331, Advanced Engineering Mathematics......................3
MATH 381, Introduction to Probability and Statistics ...............3
PHYS 213-213L, University Physics II and Lab ......................4
ME 314, Thermodynamics..................................................3
CSC 218, Introduction to C/C++/Unix for Engineers ..................3

Major Requirements: 53

EE 220-220L, Circuits I and Lab .........................................4
EE 221-221L, Circuits II and Lab .......................................4
EE 245-245L, Digital Systems and Lab ................................4
EE 260, Electronic Materials ..............................................3
EE 316, Signals and Systems I ............................................3
EE 320-320L, Electronics I and Lab ...................................4
EE 347-347L, Microcontroller Systems Design and Lab ............4
EE 360, Electronic Devices..................................................3
EE 315, Linear Control Systems..........................................3
EE 317, Signals and Systems II............................................3
EE 321-321L, Electronics II and Lab ..................................4
EE 385, Electromagnetics ....................................................4
EE 422, Engineering Economy ...........................................2
EE 430-430L, Electromechanical Systems and Lab .................4
EE 464, Senior Design I.....................................................2
EE 465, Senior Design II (AW) ..........................................2

Electives: 10

Technical Electives: All EE majors are strongly advised to select technical electives in a coherent manner to meet desired professional/employment goals. Ten (10) approved EE technical elective credits are required to complete the program, and they must all be EE-400 Level. 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 10 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 ...........................4
BIOL 325-325L, Physiology and Lab ....................................4
EE 420-420L, Electronics III and Lab ....................................4
EE 450-550, Biomedical Signal Processing ...........................3
EE 454-555, Biomedical Instrumentation and Electrical Safety ....3

Communications and Advanced Electronics Emphasis:

CSC 474-574, Computer Networks .......................................3
EE 416-516, Passive and Active Filters ..................................3
EE 420-420L, Electronics III and Lab ....................................4
EE 424-524, RF Electronics ..................................................3
EE 470, Communications Engineering ....................................3
EE 471-471L, Fiber Optic Communications and Lab ................3
PHYS 361, Optics ..............................................................3

Computers-Digital Hardware Emphasis:

CSC 474-574, Computer Networks .......................................3

132 Department and Program Descriptions and Requirements
The Program is structured to serve students in three ways:

1. The program provides educational opportunities so that all students on campus can receive educational literacy in computers.

2. The Program offers a Bachelor of Science degree in Computer Science as well as a degree for Secondary Computer Science teachers. A Certificate Program in Computer Applications sponsored by the Department can be obtained through Capital University Center, Pierre. Computer Science majors must earn at least a "C" in all computer science/software engineering courses. Applied electives should be chosen so as to provide the student with a strong background for graduate study or careers in business, industry or teaching at the secondary level. The choice of such courses should be discussed with the major adviser.

3. For those students who need more support courses, a Computer Science minor is offered. The minor requires three programming courses which permit students to match their Computer Science education with their major area. A grade of "C" or better is required in all minor coursework and a formal application for a Computer Science minor must be filed with the Computer Science Program two semesters before graduation. Failure to meet the deadline may disqualify you from receiving a minor.

Students interested in the Certificate Program in Computer Science should visit with the Dean of Continuing and Extended Education on the SDSU campus or with the Director of the Certificate Program in Computer Applications at Capital University Center in Pierre.

Computer Science (CSC) Major

Requirements for Computer Science Major, Bachelor of Science in Computer Science:

System General Education Requirements*: 33

Goal #1 Written Communication: ENGL 101, and ENGL 277 6
Goal #2 Oral Communication: SPCM 101 3
Goal #3 Social Sciences/Diversity 6
Goal #4 Arts and Humanities/Diversity 6
Goal #5 Mathematics: MATH 123 4
Goal #6 Natural Sciences: PHYS 111, and PHYS 113, or 8
PHYS 211, and PHYS 213, or 8
CHEM 112, and CHEM 114, or 8
BIOL 151, and BIOL 153 8

Institutional Graduation Requirements**: 8
Goal #1 Written Communication: ENGL 101, and ENGL 277 6
Goal #2 Oral Communication: SPCM 101 3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

College Requirements: 27
GE 101, Introduction to Engineering and Technology 1
MATH 125, Calculus I * 4
MATH 253, Elementary Logic and Sets 3
MATH 215, Matrix Algebra 2
MATH 316, Discrete Mathematics 3
MATH 373, Introduction to Numerical Analysis 3
EE 245-245L, Digital Systems and Lab 4
STAT 281, Introduction to Statistics 1 3
Natural Science† † 4

Major Requirements: 45
CSC 150, Computer Science I 3
CSC 250, Computer Science II 3
CSC 300, Data Structures 3
CSC 314, Assembly Language 3
CSC 317, Computer Organization and Architecture 3
CSC 346, Object Oriented Programming 3
CSC 354, Introduction to Systems Programming 3
CSC 445, Introduction to Theory of Computation 3
CSC 303, Ethical and Security Issues in Computing (G) 3
CSC 446, Compiler Construction 3
CSC 456, Operating Systems 3
CSC 470, Software Engineering 3
CSC 485, Software Engineering II (AW) 3
CSC 461, Programming Languages 3
CSC 484, Database Management Systems 3

Electives ‡ ‡: 15
Applied Electives 12

Total Required Credits: 128

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Department and Program Descriptions and Requirements 133
The Computer Science Program offers an emphasis in computer networking. Student interested in Computer Networking Emphasis should take the courses below. This emphasis deals with the hardware and software issues in running a computer system. All EET courses have both lecture and laboratory components, so as the theory is taught, it is immediately reinforced with hands-on lab experience. The student starts with Electricity and Electronics course, which covers topics from basic electronics and microprocessors. This leads to the Computer Systems course, which specifically deals with the electronic hardware side of computers, and also with basic PC set-up software. Finally, there is a 2-semester sequence in the study of personal computer systems, networking, and data communications that will allow students to understand how to develop games for console and handheld gaming systems. Students interested in the Game Programming Emphasis are encouraged to take courses from the list of elective courses below.

**Elective Courses:**
- CSC 450, Game Programming .............................................. 3
- CSC 447, Artificial Intelligence ............................................. 3
- CSC 474, Computer Networks ............................................... 3
- CSC 574, Computer Networks ............................................... 3
- CSC 474-574L, Microcontroller Systems Design ....................... 4
- SE 440 - Embedded Systems Programming .......................... 3

**Information Technology Management Emphasis**

Information is one of the most important assets of any organization. The use of the computer and software in the current Information Age requires business to employ individuals savvy in producing, manipulating, and analyzing data. Business leaders understand that management of the organizational information systems must be entrusted to a competent and knowledgeable person. Students interested in Information Technology Management Emphasis should take courses:

- CSC 205, Advanced Computer Applications ........................................ 3
- CSC 325, Management Information Systems ..................................... 3
- CSC 474-574, Computer Networks ............................................... 3
- CSC 484, Database Management Systems ....................................... 3

**Computer Networking Emphasis**

The Computer Science Program offers an emphasis in computer networking. Student interested in Computer Networking Emphasis should take the courses below. This emphasis deals with the hardware and software issues in running a computer system. All EET courses have both lecture and laboratory components, so as the theory is taught, it is immediately reinforced with hands-on lab experience. The student starts with Electricity and Electronics course, which covers topics from basic electronics and microprocessors. This leads to the Computer Systems course, which specifically deals with the electronic hardware side of computers, and also with basic PC set-up software. Finally, there is a 2-semester sequence in the study of personal computer systems, networking, and data communications that will allow students to understand how to develop games for console and handheld gaming systems. Students interested in the Game Programming Emphasis are encouraged to take courses from the list of elective courses below.

**Elective Courses:**
- CSC 450, Game Programming .............................................. 3
- CSC 447, Artificial Intelligence ............................................. 3
- CSC 474, Computer Networks ............................................... 3
- CSC 474-574L, Microcontroller Systems Design ....................... 4
- SE 440 - Embedded Systems Programming .......................... 3

**Information Technology Management Emphasis**

Information is one of the most important assets of any organization. The use of the computer and software in the current Information Age requires business to employ individuals savvy in producing, manipulating, and analyzing data. Business leaders understand that management of the organizational information systems must be entrusted to a competent and knowledgeable person. Students interested in Information Technology Management Emphasis should take courses:

- CSC 205, Advanced Computer Applications ........................................ 3
- CSC 325, Management Information Systems ..................................... 3
- CSC 474-574, Computer Networks ............................................... 3
- CSC 484, Database Management Systems ....................................... 3

**Computer Networking Emphasis**

The Computer Science Program offers an emphasis in computer networking. Student interested in Computer Networking Emphasis should take the courses below. This emphasis deals with the hardware and software issues in running a computer system. All EET courses have both lecture and laboratory components, so as the theory is taught, it is immediately reinforced with hands-on lab experience. The student starts with Electricity and Electronics course, which covers topics from basic electronics and microprocessors. This leads to the Computer Systems course, which specifically deals with the electronic hardware side of computers, and also with basic PC set-up software. Finally, there is a 2-semester sequence in the study of personal computer systems, networking, and data communications that will allow students to understand how to develop games for console and handheld gaming systems. Students interested in the Game Programming Emphasis are encouraged to take courses from the list of elective courses below.

**Elective Courses:**
- CSC 450, Game Programming .............................................. 3
- CSC 447, Artificial Intelligence ............................................. 3
- CSC 474, Computer Networks ............................................... 3
- CSC 474-574L, Microcontroller Systems Design ....................... 4
- SE 440 - Embedded Systems Programming .......................... 3

**Information Technology Management Emphasis**

Information is one of the most important assets of any organization. The use of the computer and software in the current Information Age requires business to employ individuals savvy in producing, manipulating, and analyzing data. Business leaders understand that management of the organizational information systems must be entrusted to a competent and knowledgeable person. Students interested in Information Technology Management Emphasis should take courses:

- CSC 205, Advanced Computer Applications ........................................ 3
- CSC 325, Management Information Systems ..................................... 3
- CSC 474-574, Computer Networks ............................................... 3
- CSC 484, Database Management Systems ....................................... 3

**Software Engineering Emphasis**

The Computer Science Program offers an emphasis in Software Engineering. This emphasis deals with the engineering design aspects of software such as quality control, software assurance, requirements and specifications as well as the human-machine interface. Students interested in the Software Engineering Emphasis should take the courses below.

- SE 320, Software Requirements and Formal Specifications (AW)3
- SE 330, Human Factors and User Interface (G)3
- SE 410, Software Test and Quality Assurance ............................ 3
- SE 440, Embedded Systems .................................................... 3

**Computer Science (CSC) Minor**

**Requirements for Computer Science Minor: 21 cr**

- Applied Electives† ................................................................. 12
- CSC 150, Computer Science I .................................................. 3
- CSC 250, Computer Science II .................................................. 3
- CSC 300, Data Structures .......................................................... 3

† Courses numbered 300 or above with at least 9 of the credits from CSC and SE courses. 3 credits from one's discipline may be used subject to approval by adviser and department head.

**Software Engineering (SE)**

**Faculty**

Professors: Salehnia, Shin; Associate Professors: Fourny, Hamer; Assistant Professors: Ezenwoye, Liu, Min, Wang.

**Program**

Software Engineering combines the principles of engineering with the science of computing. The Software Engineering Curriculum is designed to provide students with a broad background of knowledge related to software, its development, architecture, configuration, revision, human interface, and quality assurance. Software Engineering is the application of engineering concepts, methods and tools to the development of software systems.

The mission of the program is to offer a Bachelor of Science degree in Software Engineering providing 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 businesses, industry, and government.

The Software Engineering Program, under the Department of Electrical Engineering and Computer Science at SDSU, has adopted the
following ABET Program Educational Objectives (Criterion 2) for the training of our undergraduates pursuing the Bachelor of Science in Software Engineering:

Objectives

Program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.

As a practicing software engineer three years or more into their career, our alumni will:

• Have achieved higher levels of competency through advanced studies in software engineering or other engineering/professional fields.
• Have achieved advancement in an engineering/professional career path to positions of greater responsibility.

The program begins in the first year by developing abilities in mathematics, science, communications and basic programming skills. Following this are two years of intense study in software engineering topics. A two-semester capstone sequence taken in the senior year, Senior Design I-II, places every student on a design team that designs, builds, tests, and demonstrates a significant design project. The design projects are often solicited from industry and provide students with valuable “real world” team design experience.

Software Engineering students must earn at least a “C” in all software engineering and computer science courses. Technical/applied electives should be chosen to provide depth of study in an emphasis area. The choice of such courses should be discussed with the major advisor.

Software Engineering (SE) Major

Requirements for Software Engineering Major, Bachelor of Science in Software Engineering:

System General Education Requirements*: 33
Goal #1 Written Communication: ENGL 101, and ENGL 277......6
Goal #2 Oral Communication..........................3
Goal #3 Social Sciences/Diversity..........................6
Goal #4 Arts and Humanities/Diversity.......................6
Goal #5 Mathematics: MATH 123............................4
Goal #6 Natural Sciences: PHYS 211-211L, and PHYS 213-213L...8
Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ..............3
Goal #2 Personal Wellness..................................2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness...3

College Requirements: 57
GE 101, Introduction to Engineering and Technology ..........1
MATH 125, Calculus II ....................................4
MATH 253, Elementary Logic and Sets..........................3
MATH 215, Matrix Algebra ...................................2
MATH 316, Discrete Mathematics ..............................3
MATH 321, Differential Equations ...............................3
CSC 150, Computer Science I ..................................3
CSC 250, Computer Science II ................................3
CSC 300, Data Structures ....................................3
CSC 314, Assembly Language ..................................3
CSC 354, Introduction to Systems Programming ................3
CSC 456, Operating Systems ..................................3
CSC 461, Programming Languages .............................3
CSC 484, Database Management Systems .....................3
EE 245-245L, Digital Systems and Lab ........................4
EE 300-300L, Basic Electrical Engineering I and Lab ..........3
EE 302-302L, Basic Electrical Engineering II and Lab ........3
EE 347-347L, Microcontroller Systems Design and Lab .......4
STAT 381, Introduction to Probability and Statistics ..........3

Major Requirements: 34
SE 305, Foundation of Software Engineering ..................3
SE 320, Software Requirements and Formal Specifications (AW) 3
SE 340, Software Architecture ................................3
SE 330, Human Factors and User Interface (G) ...............3
SE 420, Software Project Management ........................3
SE 410, Software Test and Quality Assurance .................3
SE 464, Senior Design I ......................................2
SE 465, Senior Design II ......................................2
SE 440, Embedded Systems ..................................3
Applied or Technical Electives ††................................9

Total Required Credits: 132

Computer Science Emphasis:
The Software Engineering Program offers an emphasis in Computer Science. This emphasis helps Software Engineering students to enhance their understanding of foundations of compiler construction as well as the graphical user-interface programming environments. Students interested in the Computer Science Emphasis should take the courses below:

CSC 303, Ethical and Security Issues in Computing (G) ........3
CSC 346, Object Oriented Programming ........................3
CSC 422-522, GUI Programming ..............................3
CSC 445, Introduction to Theory of Computation ................3
CSC 446, Compiler Construction ................................3
†† Courses numbered 300 or above. Recommended courses: CSC 303, 325, 422, 428, 474, EE 440-440L or MATH 471

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Electronics Engineering Technology (EET)
(See Engineering Technology and Management)

Engineering Mechanics (EM)

Kurt Bassett, Head
Department of Mechanical Engineering
Crothers Engineering Hall 216
605-688-5426
E-mail: kurt.bassett@sdstate.edu

Bruce Berdanier, Head
Department of Civil and Environmental Engineering
Crothers Engineering Hall 120
605-688-2219
605-688-6476 (fax)
E-mail: bruce.berdanier@sdstate.edu

Course objectives in Engineering Mechanics are to develop an educational background by thorough understanding of basic subjects common to various branches of engineering. Courses are designed to emphasize basic theory and to present applications in different areas of engineering.
Engineering Physics
(See Physics)

Engineering Technology and Management (ETM) Department

Teresa Hall, Head
Department of Engineering Technology and Management
Solberg Hall 116
605-688-6417
design: 605-688-5041
e-mail: teresa.hall@sdstate.edu

Faculty
Professor Hall, Head; Professor Lu; Professors Emeriti Heusinkveld, Skubic, Sorensen; Associate Professors Garry, Pannell, Qian; Assistant Professors Steinlicht, M. Tolle, Instructors Christianson, DeWald, Mathews, Nusz-Chandler, Sternhagen, H. Svec, Visser.

Programs
The Department of Engineering Technology and Management offers five Bachelor of Science degree programs which include Construction Management (CM), Electronics Engineering Technology (EET), Industrial Management (IM), Manufacturing Engineering Technology (MNET), Safety Management (SM). Each program offers the student a combination of practical, applications-based and technology management courses. Programs in the ETM Department are developed and continuously updated to enhance career opportunities for students enrolled in these programs. The Department also offers and coordinates a Master's program in Industrial Management (MSIM). For more information about the MSIM, please see the Graduate Catalog.

Additional program information is available from the department office.

Construction Management (CM)
Program Coordinator: Pat Pannell, 605-688-6417
e-mail: pat.pannell@sdstate.edu

Construction, the largest industry in the United States, plays a significant role in the nation's economic life, and continues to grow in size and scope. Employment opportunities are excellent in this highly competitive, exciting and diversified business. Properly educated people can expect exceptional job opportunities.

The Construction Management program prepares graduates for employment in the construction industry to effectively manage various construction projects. The program integrates courses and topics from business management, construction engineering, and construction management. This unique combination of various disciplines provides the graduates of this program to perform effectively as construction managers in the construction industry. Graduates from this program find jobs in many construction management related areas including, but not limited to, cost estimators, project managers, and project superintendents. The CM curriculum has been developed using the guidelines provided by the Associated Schools of Construction (ASC) and the Associated General Contractors (AGC). The exit exam for the CM program is the Certified Professional Constructor (CPC) Level 1 exam from the American Institute of Constructors Certification Commission. Students must take this exam and earn C or better in selected core courses in the program prior to graduation. The CM program is accredited by the American Council for Construction Education (ACCE) which is the accreditation body for construction management programs.

Electronics Engineering Technology (EET)
Program Coordinator: Byron Garry, 605-688-6417
e-mail: byron.garry@sdstate.edu

Electronics and computers permeate every part of our lives, and will continue to grow in importance and in complexity. This growth can provide exciting, challenging, and rewarding career opportunities for forward-looking students in Electronics Engineering Technology. Engineering technology is that part of the technological field that requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities. The mission of the EET program at SDSU is to provide the student a solid foundation in electronics, with the flexibility to engage in technical support, design and development, production or technical management; to provide technical assistance to existing and emerging businesses, industry, and government; and to prepare the student for lifelong learning.

EET program graduates use their technical and practical proficiency to implement and extend current technology, and may develop prototype products, optimize designs, manage system operations, or provide technical customer support. Graduates secure jobs in computer network installation and administration, electronics design, production support, customer support, and test engineering. These electronics professionals take a hands-on approach to applying engineering methods and principles. Their broad range of knowledge prepares them to engage in lifelong learning as new technologies emerge and to progress in their professional responsibilities.

To meet industry's need for this type of worker, the EET program blends theoretical concepts with practical lab work, resulting in graduates who are well-grounded in current technology and in electronics principles and applications. Coursework integrates interpersonal and communication skills and relates electronics theory and applications to the real world. In addition, the student will gain a background in production management skills. Students learn fundamental electronics technology applications and theory during the first two years of their program. During the last half of the program, students focus on one of three emphasis areas: business, computer networking, or industrial electronics. The computer networking emphasis is designed to prepare students to work with the installation of new systems, and the maintenance of existing Local-Area-Networks (LANs), resolving hardware and software issues. An emphasis is placed on the complete system, including management of the system, personnel, and information exchanged.

Cooperative Education Program:
Students have the opportunity to work in industry and receive technical elective credit for the experience through EET 497. A formal work plan must be approved by the Program Coordinator of Electronics Engineering Technology prior to the work experience. Further information can be found in the Program's Cooperative Education policy.

General Engineering (GE)
The ETM department also delivers the non-degree General Engineering program for the College of Engineering. The General Engineering program provides advising for students who are undecided in their choice of a specific engineering, engineering technology, or industry-related management major. Students in the GE program take fundamental courses required in most programs in the College of Engineering while considering their options. Guidance is also provided for those students who are not
pursuing engineering or related degree programs but wish to establish a fundamental understanding in a technical area.

General Engineering (GE) Service Courses
- The ETM Department offers a number of General Engineering (GE) courses in support of programs offered through the College of Engineering. These include courses in the areas of engineering graphics, computer aided design, and manufacturing processes.

Industrial Management (IM)
Program Coordinator: Carrie Steinlicht, 605-688-6417
e-mail: carrie.steinlicht@sdstate.edu

The Industrial Management Bachelor of Science degree program prepare students to transfer their knowledge of technology, engineering, manufacturing management, and business principles to provide technical managerial support for industrial and related business. Individuals selecting the Industrial Management program will be able to apply production/operations management, logistics, lean manufacturing principles, and engineering technology applications to improve workplace productivity, serve as liaison between engineering and management functions, and/or manage projects.

Manufacturing Engineering Technology (MNET)
Program Coordinator: Carrie Steinlicht, 605-688-6417
e-mail: carrie.steinlicht@sdstate.edu

Manufacturing plays an essential role affecting the way we live and use various products, and will do so more in the future. This growth can provide exciting, challenging, and rewarding career opportunities for forward-looking students in Manufacturing Engineering Technology (MNET). Engineering technology is that part of the technological field that requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities. The mission of the MNET program is to provide an excellent nationally recognized education that will produce graduates who possess the technical, academic, leadership, management, and social skills required to facilitate the economic viability and vitality of South Dakota and its industries.

The MNET program provides the students with the opportunity to learn basic and advanced manufacturing technologies, industrial automation, and management techniques for improving the way manufacturing companies operate. Integral to this program are courses and concepts in math, science, communications, social studies, and teamwork, enhancing the employability of the graduates of this program. The graduates of this program are prepared to perform effectively at the entry level as manufacturing engineers in areas such as quality, supervision, production planning, product and process design, work design, plant layout, and plant management. The exit exam for the MNET program is the Certified Manufacturing Technology (CMfgT) exam from the Manufacturing Engineering Certification Institute of the Society of Manufacturing Engineers. Students must take this exam and must earn a C or better in all MNET courses to qualify for graduation. The Manufacturing Engineering Technology curriculum at South Dakota State University has been developed using guidelines provided by the National Center of Excellence for Advanced Manufacturing Education, the Society for Manufacturing Engineers, and input from regional manufacturing businesses. The MNET program is fully accredited by the Accreditation Board for Engineering and Technology – Technology Accreditation Commission (ABET-TAC).

Safety Management (SM)
Program Coordinator: Teresa Hall, 605-688-6417
e-mail: teresa.hall@sdstate.edu

The Bachelor of Science in Safety Management is an interdisciplinary program offering courses in applied industrial technology, industrial management, business principles, health and biological sciences, and human behavior. The program prepares students to hold a variety of positions in business, industry, and the public sector associated with workplace safety and health, hazard analysis, and/or safety and environmental quality issues. Demand for individuals experienced in governmental regulations as they apply to the workplace, required documentation and procedures, and compliance continues to grow as businesses realize that the costs associated with worker illness and injuries continue to grow.

Construction Management (CM) Major
Requirements for Construction Management Major, Bachelor of Science in Construction Management:

System General Education Requirements*: 34
Goal #1 Written Communication: ENGL 101, and ENGL 277 ..........................6
Goal #2 Oral Communication: SPCM 101 ..........................................................3
Goal #3 Social Sciences/Diversity: ECON 201 ....................................................6
Goal #4 Arts and Humanities/Diversity: PHIL 220 .............................................6
Goal #5 Mathematics: MATH 121-121L .........................................................5
Goal #6 Natural Sciences: PHYS 111-111L, and CHEM 106-106L ........8

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ......................................3
Goal #2 Personal Wellness .............................................................................2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..........3

Major Requirements: 68
GE 121, Engineering Design Graphics I .........................................................1
ACCT 210, Principles of Accounting I ...........................................................3
CM 101, Introduction to Construction ............................................................1
MATH 102, College Algebra ......................................................................3
MATH 120, Trigonometry .........................................................................3
ACCT 211, Principles of Accounting II ........................................................3
CSC 101, Introduction to Computers ...............................................................3
GE 101, Introduction to Engineering and Technology ................................1
GE 123, Computer Aided Drawing .................................................................1
MSL 102, Introduction to Tactical Leadership ..............................................1
CM 216, Construction Materials .................................................................3
CM 232, Cost Estimating ............................................................................3
ECON 202, Principles of Macroeconomics *(G) .........................................3
CM 210-210L, Construction Surveying and Lab ........................................3
STAT 281, Introduction to Statistics .............................................................3
BADM 360, Organization and Management ................................................3
CM 333, Mechanical, Electrical, Plumbing Systems ..............................3
CM 332, Building Construction Methods and Systems ............................3
CM 374, Heavy Construction Methods and Systems .................................3
CM 353-353L, Construction Structures and Lab .........................................3
BADM 350, Legal Environment of Business ...............................................3
CM 400, Risk Management and Construction Safety ................................3
CM 443, Construction Planning and Scheduling .......................................3
CM 410, Construction Project Management and Supervision .................3
CM 473, Construction Law and Accounting (AW) ......................................3
CM 320-320L, Construction Soil Mechanics and Lab, or ...................3
PS 243, Principles of Geology** .................................................................3

Electives: 18
Tech Elective Construction ........................................................................9
Tech Elective Construction Science .............................................................6
Tech Elective Business & Management .....................................................6

Total Required Credits: 128

Students in the Construction Management Program will be required to maintain a minimum cumulative GPA of 2.25. Students are required to have a minimum grade of "C" in all of the courses that are designated as prerequisites for the required courses.
Electronic Engineering Technology (EET) Major

Requirements for Electronics Engineering Technology Major, Bachelor of Science in Electronics Engineering Technology

System General Education Requirements*: 32
- Goal #1 Written Communication: ENGL 101, and ENG 277 (preferred) or Eng 201 ..................... 6
- Goal #2 Oral Communication: SPCM 101 ............................................. 3
- Goal #3 Social Sciences/Diversity: Econ 202 ........................................ 6
- Goal #4 Arts and Humanities/Diversity .............................................. 6
- Goal #5 Mathematics: Math 102 ..................................................... 3
- Goal #6 Natural Sciences: Phys 111/111L and Phys 113/113L ........... 8

Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship .................................. 3
- Goal #2 Personal Wellness .................................................................... 2-3
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ......... 3

College Requirements: 1
- GE 101, Introduction to Engineering and Technology ....................... 1

Major Requirements: 67
- GE 121, Engineering Design Graphics I ........................................... 1
- GE 123, Computer Aided Drawing ................................................... 1
- CSC 105, Introduction to Computers or...
  - CSC 205, Advanced Computer Applications 3
  - MATH 121-121L, Survey of Calculus and Lab *
  - STAT 281, Introduction to Statistics .............................................. 3
  - MNET 260, Principles of Production and Operations Management .... 3
  - MNET 462, Quality Management .................................................. 3
- EET 118-118L, DC, and AC Concepts and Lab ............................. 6
- EET 122-122L, Introductory Circuits and Lab ................................ 4
- EET 220-220L, Advanced Circuits and Lab .................................. 4
- EET 230-230L, Introductory Digital and Lab .................................. 4
- EET 232-232L, Advanced Digital and Lab ..................................... 4
- EET 320-320L, Analog Devices and Lab ........................................ 4
- EET 330-330L, Microprocessors and Lab ....................................... 4
- EET 370-370L, Computer Systems and Lab .................................... 4
- EET 380-380L, Prototype Techniques and Lab ............................... 4
- EET 426-426L, Communication Systems and Lab .......................... 4
- EET 470-470L, Project Management and Lab (AW) ....................... 2
- EET 471-471L, Capstone Experience and Lab (AW) ....................... 1

Electives: 15 - 17
Choose one of three Technical Emphasis Electives Areas:

Computer Networking Emphasis:
- EET 472-472L, Networking I and Lab (Fall) and ......................... 4
  - EET 474-474L, Networking II and Lab (Spring) or .................... 4

Choose 3 courses from the following:
- CSC 250, Computer Science II ....................................................... 3
- CSC 300, Data Structures ............................................................... 3
- CSC 325, Management Information Systems .............................. 3
- CSC 474-574, Computer Networks .............................................. 3

Manufacturing and Industrial Automation Emphasis:
- MNET 451-451L, Industrial Electronics and Control and Lab .......... 3
- MNET 453-453L, Manufacturing Automation and Lab ................. 3
- MNET 231-231L, Manufacturing Processes I and Lab ................. 3
- MNET 334-334L, CAM/CNC and Lab ........................................... 3
- MNET 350-350L, Fluid Power Technology and Lab .................... 3

Business Minor:
- BADM 334, Small Business Management ...................................... 3
- BADM 360, Organization and Management ................................... 3

Choose additional courses needed to fulfill the Requirements for the Business Minor offered through the Economics Department .............................................. 9

Total Required Credits: 128
- * The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
- ** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

AW Advanced Writing Requirement. (See page 47 for details.)

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.

Industrial Management (IM) Major

Requirements for Industrial Management Major, Bachelor of Science in Industrial Management

System General Education Requirements*: 34
- Goal #1 Written Communication: Engl 101, and Engl 277 ............... 6
- Goal #2 Oral Communication: Spcm 101 ........................................ 3
- Goal #3 Social Sciences/Diversity: Econ 202, and Soc 100 .......... 6
- Goal #4 Arts and Humanities/Diversity: Phil 220, student selection .. 6
- Goal #5 Mathematics: Math 115 ................................................... 5
- Goal #6 Natural Sciences: Chem 106/106L, and Phys 101/101L ...... 8

Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship ................................ 3
- Goal #2 Personal Wellness: Wel 100 or GS 143 ......................... 2-3
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: Psych 101 ................................................................. 3

College Requirements: 1
- GE 101, Introduction to Engineering ............................................. 1

Major Requirements: 63
- GE 121, Engineering Design Graphics I and .............................. 1
- GE 122, Engineering Design Graphic II and .......................... 1
- GE 123, Computer Aided Drawing or ..................................... 1
- GE 120/120L, Engineering Drawing / CAD .................................. 3
- CSC 105, Introduction to Computers ........................................... 3
- ECON 201, Microeconomics ...................................................... 3
- MNET 231/L, Manufacturing Processes I ................................... 3
- ACCT 210, Principles of Accounting ......................................... 3
- MNET 260, Production / Operations Management .................... 3
- STAT 281, Introduction to Statistics ......................................... 3

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MNET 365, Occupational Safety and Health .................................. 3
BADM 350, Legal Environment of Business Contract .................. 3
MNET 367, Plant Layout and Material Handling ......................... 3
MNET 460, Manufacturing Cost Analysis .................................... 3
MNET 463, Production and Inventory Management ....................... 3
MNET 470/L, Project Management ........................................... 2
MNET 494, Internship ....................................................... 3
MNET 471/L, Capstone ..................................................... 1
MNET 462, Quality Management ............................................ 3
MNET 492, Special Topics .................................................. 3
SOC 353, Sociology of Work .............................................. 1
CSC 325, Management Information Systems 1 .......................... 3
BADM 334, Small Business Management 1 .............................. 3
BADM 360, Organization and Management 1 ............................. 3
ECON 467, Labor, Law and Economics 1 ................................ 3

Electives: 16-22
Electives ............................................................................. 4
Technical Electives ......................................................... 12-18

Total Required Credits: 128

1 Students in the Industrial Sales Specialization are not required to take this course. Please see the Industrial Sales specialization requirements listed below for more information.

** Industrial Sales Specialization Requirements: 15-21
The courses for the Bachelor of Science in Industrial Management – Industrial Sales Specialization are the same as the Industrial Management degree. The following represents the program of study students should follow to satisfy the requirements for the Industrial Sales Specialization.

MNET 334/L, CAM/CNC .................................................... 3
MNET 251/L, Electricity and Electronics I & Lab .......................... 3
ECON 370, Marketing ...................................................... 3
MNET 252/L, Electricity and Electronics II & Lab ......................... 3
BADM 474, Personal Selling ............................................. 3
ECON 476, Marketing Research ......................................... 0-3
MNET 451/L, Industrial Electronics and Control & Lab ............... 0-3

** The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Manufacturing Engineering Technology (MNET) Major
Requirements for Manufacturing Engineering Technology Major,
Bachelor of Science in Manufacturing Engineering Technology

** System General Education Requirements*: 34
Goal #1 Written Communication: ENGL 101, and ENGL 277............. 6
Goal #2 Oral Communication: SPCM 101 .................................. 3
Goal #3 Social Sciences/Diversity: ECON 202 ............................. 6
Goal #4 Arts and Humanities/Diversity: PHIL 220 ...................... 6
Goal #5 Mathematics: MATH 115 ........................................... 5
Goal #6 Natural Sciences: CHEM 106/L, PHYS 111/L .................. 8

** Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ..................... 3
Goal #2 Personal Wellness: Wel 100 or GS 143 ......................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

College Requirements: 1
GE 101, Introduction to Engineering ...................................... 1

Major Requirements: 75
GE 121, Engineering Design Graphics I, and .......................... 1
GE 122, Engineering Design Graphic II, and ........................... 1
GE 123, Computer Aided Drawing or .................................... 1
GE 120/L, Engineering Drawing / CAD .................................. 3
MNET 231/L, Manufacturing Processes I .................................. 3
Math 121/L, Survey of Calculus .......................................... 5
MNET 251/151L, Electricity and Electronics I & Lab ..................... 3
MNET 260, Production / Operations Management ....................... 3
MNET 243/243L, Introduction to Materials Science ..................... 3
PHYS 113/113L, Introduction to Physics II & Lab ......................... 4
MNET 365, Occupational Safety and Health ............................. 3
STAT 281, Introduction to Statistics ..................................... 3
MNET 367, Plant Layout and Material Handling ......................... 3
MNET 460, Manufacturing Cost Analysis ................................ 3
MNET 463, Production and Inventory Management .................... 3
MNET 470/470L, Project Management ................................... 2
MNET 494, Internship ...................................................... 3
MNET 471/471L, Capstone ................................................ 1
MNET 462, Quality Management ......................................... 3
MNET 241, Applied Mechanics ........................................... 3
MNET 334/334L, CAM/CNC .............................................. 3
MNET 320/320L, Computer Aided Design / Drawing ................. 3
MNET 320/L, Departmentally approved computer programming course .................................................. 3
MNET 252/252L Electricity and Electronics II & Lab .................... 3
MNET 436/436L Production Tooling Methods and Measurement .... 3
MNET 453/453L Manufacturing Automation ............................ 3
MNET 451/451L Industrial Electronics and Control & Lab ........... 3
MNET 350/350L Fluid Power Technology ............................... 3

Electives: 10
Electives ............................................................................. 4
Technical Electives ......................................................... 6

Total Required Credits: 128

Cooperative Education Program:
Students have the opportunity to work in industry and receive technical elective credit for the experience through MNET 497. A formal work plan must be approved by the Program Coordinator of Manufacturing Engineering Technology prior to the work experience. Further information can be found in the Program's Cooperative Education policy.

Note: A grade of “C” or above is required in all MNET courses.
† System General Education Core requires a total of 6 credits to meet Goal #7, International/Global Diversity. One of these 3 classes does not have to meet Goal #7 criteria, but must meet the guidelines for Goal #3, Social Sciences or Goal #4, Humanities and Arts.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Safety Management (SM) Major
Requirements for Safety Management Major, Bachelor of Science in Safety Management:

** System General Education Requirements*: 32
Goal #1 Written Communication: ENGL 101, and ENGL 277............. 6
Goal #2 Oral Communication: SPCM 101 .................................. 3
Goal #3 Social Sciences/Diversity: ECON 202, and PSYC 101 ........ 6

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Goal #5 Mathematics: MATH 115.................................3
Goal #6 Natural Sciences: CHEM 106-106L, and PHYS 111-111L...8

Institutional Graduation Requirements**: 8-9
Goal #1 Language and Natural Resource Stewardship ..........3
Goal #2 Personal Wellness...........................................2-3
Goal #3 Social Responsibility/Cultural & Aesthetic Awareness: HSC 433-533 3

College Requirements: 1
GE 101, Introduction to Engineering and Technology..............1

Major Requirements: 62
GE 120-120L, Engineering Drawing/CAD and Lab or ................3
GE 121, Engineering Design Graphics I, and ................................1
GE 122, Engineering Design Graphics II, and ..............................1
GE 123, Computer Aided Drawing .........................................1
GE 241, Applied Mechanics ..............................................3
GE 410-510, Human Factors in Design .................................3
GE 425-525, Occupational Safety and Health Management ..........3
AST 225, Principles of Environmental Science and Engineering ..3
BADM 310, Business Finance ...........................................3
BADM 350, Legal Environment of Business ............................3
CM 333, Mechanical, Electrical, Plumbing Systems ..................3
ECON 467, Labor Law and Economics ..................................3
HSC 445, Epidemiology ..................................................3
HSC 455, Epidemiology ..................................................3
HLTH 250-250L, Pre-Professional First Aid and CPR and Lab .......2
HLTH 479-479L, Health Promotion Programming and Evaluation and Lab 2
MNET 470-470L, Project Management and Lab (AW) .................2
MNET 471-471L, Capstone Experience and Lab (AW) .................1
MNET 492, Topics.......................................................1-3
MNET 494, Internship (AW) ............................................1-3
STAT 281, Introduction to Statistics ....................................3
CSC 105, Introduction to Computers ....................................3
PSYC 331, Industrial and Organizational Psychology ...............3

Electives: 24-25

Total Required Credits: 128

** The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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 (ENGL) Department

Kathleen Donovan, Head
Bruce E. Brandt, Program Coordinator
Department of English
Scobey Hall 014
605-688-5191
e-mail: kathleen.donovan@sdstate.edu

Faculty
Professor Donovan, Head; Distinguished Professor Woodard; Professors Brandt, Danka, Keller, Landes, O'Connor, Taylor; Professors Emeriti Alexander, Brown, Duggan, Evans, Flynn, Kildahl, Ryder, Williams, Witherington, West, Yarbrough; Associate Professor Emerita Mary Haug; Associate Professor McEntee, Negy; Assistant Professors Baggett, Barst, Falik, Palo, Stewart-Nuñez; Instructors Brown, Ferrell, Michael Haug, Hublou, Serfling.

Programs
Courses in the English Department are divided into two areas: English (ENGL) and Linguistics (LING); see the Course Descriptions section of this catalog. 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. 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.

Students may major in English. The English Major leads to a Bachelor of Arts (B.A.) degree in one of three ways: (1) English major, (2) English Major - Writing Emphasis, and (3) English Major - English Education Specialization. English Education Specialization majors also register with the College of Education and Human Sciences before beginning Education courses, usually in the Sophomore or Junior year, and fulfill the Education Curriculum for Teachers of Academic Subjects.

All English majors must take either World Civilizations I and II (HIST 111 and 112) or Western Civilization I and II (HIST 121 and 122), ENGL 151, and ENGL 479 (the "capstone" course), as well as the modem language courses required for the B.A. ENGL 101, 201, and 283 fulfill SGE requirements, but do not count towards the English majors or minors, nor does non-honors Engl 210. Minimum college and university requirements are given in the appropriate sections of this catalog and are incorporated in the curriculum plans listed in the Requirements Section. Advisers assist students to ensure that all department, college, and university requirements are met.

The English Minor. The English minor requires 20 credits in English (not counting ENGL 101 and 201), of which 9 hours must be in British literature, and 6 hours in American literature. Minors also must take one of the following courses: ENGL 379, 383, LING 203, 425, 420, 443, 452.

The Minor in Professional Writing. The Minor in Professional Writing requires 18 credits. Four courses are required: LING 203, ENGL 277 (for Engineering majors) or ENGL 379 (for all other majors), MCOM 161, and ENGL 492 Topics: Issues in Professional Writing: Visual Rhetoric. An additional six credits are required from the following list of electives: ARTD 202, ENGL 383, ENGL/GLST 380; LING 420, LING 452, MCOM 220, MCOM 225, ENGL 492 Topics: Issues in Professional Writing: Writing for the Professions in the Sciences and Humanities, and ENGL 494.

The Master of Arts (M.A.) Degree. The Department offers the Master of Arts in English. For details consult the Graduate Catalog.

To count toward an English Major, the English Minor or the Minor in Professional Writing, a course must be passed with a minimum grade of "C."

English (ENGL) Major

Requirements for English Major, Bachelor of Arts in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101............................6
Goal #2 Oral Communication: SPCM 101..............................3
Goal #3 Social Sciences/Diversity ........................................6
Goal #4 Arts and Humanities/Diversity ................................6
Goal #5 Mathematics ......................................................3
Goal #6 Natural Sciences ..................................................6

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Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship3 ...........................................3
Goal #2 Personal Wellness .................................................................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness4 .................3

College Requirements: 5-16
Modern Languages: Competency at the 202 level ...........................................3-14
Social Science ....................................................................................................2

Major Requirements: 39
HIST 111, World Civilizations I *, and .........................................................3
HIST 112, World Civilizations II *, or .........................................................3
HIST 121, Western Civilizations I *, ** and .................................................3
HIST 122, Western Civilizations II ** ............................................................3
ENGL 151, Introduction to English Studies ....................................................3
ENGL 221, British Literature I * ** (G) ..........................................................3
ENGL 241, American Literature I * ** ............................................................3
ENGL 222, British Literature II * ** (G), or ..............................................3
ENGL 242, American Literature II * ** ..........................................................3
ENGL 240, Juvenile Literature * ** .................................................................3
ENGL 242, American Literature II * ** ..........................................................3
ENGL 424, 7-12 Language Arts Methods (AW) ..............................................3
ENGL 379, Technical Communication (AW) ..................................................3
ENGL 383, Creative Writing .........................................................................3
ENGL 447, American Indian Literature of the Present ..................................3
ENGL 445, American Indian Literature, or ..................................................3
ENGL 447, American Indian Literature of the Present ..................................3
ENGL 479, Capstone Course and Writing in the Discipline (AW) ..................3

Electives: 34-46
Total Required Credits: 128

English Education Specialization Requirements: 49-64
LING 203, English Grammar .........................................................................3
ENGL 222, British Literature II * ** (G) ..........................................................3
ENGL 240, Juvenile Literature * ** .................................................................3
ENGL 242, American Literature II * ** ..........................................................3
ENGL 330, Shakespeare ................................................................................3
ENGL 424, 7-12 Language Arts Methods (AW) ..............................................3
ENGL 445, American Indian Literature, or ..................................................3
ENGL 479, Capstone Course and Writing in the Discipline (AW) ..................3

Electives: 34-46
Total Required Credits: 128

Requirements for the Minor in Professional Writing: 18cr
ENGL 492-592, Topics ....................................................................................1-5
LING 203, English Grammar .........................................................................3
MCOM 161-161L, Fundamentals of Desktop Publishing and Lab ...............3
ENGL 277, Technical Writing in Engineering* or .......................................3
(Engineering majors)
ENGL 379, Technical Communication (AW) ................................................3
(All other majors)
Choose six credits from the following: ENGL/GLST 399, Futuristic Communications .........................................................3
ARTD 202, Computer Graphics I ..................................................................3
ENGL 383, Creative Writing .........................................................................3
ENGL 492-592, Topics ....................................................................................1-5

Professional Writing Minor
David Faflik, Coordinator, Professional Writing

Note: English majors must meet the College of Arts and Sciences requirements for a B.A., and the 128 semester credits must include at least 33 hours at the 300-level or higher.

Note: English majors take three out of four Literature survey courses: ENGL 221 and 241 are required. Students elect either ENGL 222 or 242, and also take one 300-400 level course representing the survey not taken. (i.e., ENGL 222 plus a 300-400 level American Lit course, or ENGL 242 plus a 300-400 level English literature course).

Note: To count toward the English Major (option A or B), the English Minor or the Minor in Professional Writing, a course must be passed with a minimum grade of "C."

1 English Ed majors should take Psy 101 or Soc 100 as part of SGR Goal #3.
2 Goal #4 can be fulfilled by the History and English courses required for the English Major. For students in the Writing Emphasis, any ENGL course on the SGR Goal # 4 list, except a non-honors ENGL 210 are acceptable.
European Studies Minor (EURS)

Gordon Tolle, Coordinator
Department of History and Political Science
Scobey Hall 304
605-688-4912
e-mail: gordon.tolle@sdstate.edu

This minor appears on the transcripts of students. The EURS minor may be taken with a major in Global Studies or combined with any other major.

European studies combines the insights of many disciplines as they are focused on Europe. These disciplines include language and literature, history, art history, philosophy, music, sociology, economics, political science, geography, health science, education, family studies, business and public administration. The topics for the two core courses, Topics in European Culture and Topics in European Society, will vary. A faculty committee appointed from many related disciplines advises the Coordinator.

The benefits of this interdisciplinary program are as follows. Cultural Understanding: European Studies provides students with an opportunity to develop greater understanding of the European cultures which have had a great influence on American culture and on the entire world. Social Awareness: Appreciation of the character of various European countries as well as insight into alternative social arrangements comes through examination of the social institutions and policies of other “developed” or “first world” countries. Careers: Students whose career interests focus on Europe through jobs such as trade and commerce, tourism, primary and secondary teaching, positions in multi-national firms and various international agencies will find the European Studies Program provides an introduction to many cultural and social facets of countries where they may later work, tour, live, or study. Travel: Background information about European countries, their languages, history, and people, prepares students for travel on the continent.

Students are required to take courses in both humanities and social sciences. Many of the courses in the program can be used to satisfy the University core requirements (e.g., FREN 101 fulfills part of a language or humanities requirement.) The students must take the interdisciplinary topics courses: EURS 300, Topics in European Culture, and/or EURS 301, Topics in European Society (6 credits).

While it is not a requirement, living and studying in Europe may also be used to earn some credits. To enroll in this program, contact the coordinator, Dr. Gordon Tolle, Political Science, phone 605-688-4912.

European Studies (EURS) Minor

Requirements for the Minor in European Studies: 23cr

Required Courses:
- EURS 300, Topics in European Culture and/or EURS 301, Topics in European Society .................................................. 6
- HIST 122, Western Civilization II * ** (G) .............................................. 3
- Modern European language (other than English)* ................................. 8
- Minimum Sub Total ........................................................................ 17

Electives:
- Social science course from the list below .............................................. 3
- Humanities course from the list below ................................................ 3
- Minimum Sub Total ........................................................................ 6
- Total.................................................................................................. 23

Social Science Electives:
- ECON 405, Comparative Economic Systems ........................................ 2-3
- ECON 440-540, Economics of International Sector ................................. 3
- EURS 301, Topics in European Society† ............................................ 3
- EURS 321, European Studies-Social Sciences: .................................... 1-6
- GEOG 320, Regional Geography .......................................................... 3
- POLS 165, Political Ideologies * ** ...................................................... 3
- POLS 341, Europe Democratic Government .............................................. 3
- POLS 352, European Union.................................................................. 3

Humanities Electives:
- ARTH 212, History of World Art II * ** (G) ........................................... 3
- ENGL 212, World Literature II * ** (G) ................................................ 3
- ENGL 439-539, Modern English Literature ............................................ 3
- ENGL 440-540, Contemporary English Literature ............................... 3
- EURS 300, Topics in European Culture† ............................................ 3
- EURS 320, European Studies-Humanities: ........................................... 1-6
- EURS 322, European Studies-Fine Arts: ............................................. 1-6
- FREN 333, Topics in Francophone Culture ............................................ 3
- FREN 353, Exploring Literature in French ............................................. 3
- GER 433, German Civilization I (AW) ................................................ 3
- GER 434, German Civilization II (AW) ............................................... 3
- GER 453, Survey of German Literature I .............................................. 3
- GER 454, Survey of German Literature II ............................................ 3
- HIST 420, Contemporary Europe ...................................................... 3
- HIST 441, History of Modern Britain ..................................................... 3
- HIST 448, Nazi Germany .................................................................... 3
- MFL 101, Introduction to Foreign Language and Culture I * ** (G) ......... 4
- MFL 102, Introduction to Foreign Language and Culture II * ** (G) ...... 4
- MFL 134, Foreign Cultures ** .............................................................. 3
- MFL 196, Field Experience ................................................................ 1-3
- PHIL 215, Introduction to Social-Political Philosophy * ** ................. 3
- PHIL 424, Modern Political Philosophy (AW) ..................................... 3
- REL 402-502, History of Western Religious Thought II ** ..................... 3
- SPAN 353, Introduction to Spanish Literature I .................................... 3
- SPAN 433, Spanish Civilization and Culture (AW) .............................. 3
- SPAN 476, 19th and 20th Century Spanish Literature ............................ 3
- Total number of hours required for major, minor, or specialization: 23

† Must be in addition to the six required credits of EURS 300 and/or EURS 301. EURS 300 and 301 may be repeated if topic is different.
General Agriculture Major

Requirements for Associate of Science in Agriculture

The two-year program is designed for the student who does not find it advisable or possible to enter a regular four-year college program. A typical student in this situation could be one who desires some education but not necessarily four years before entering the work force or returning to the farm or ranch. The core requirements are as follows:

- **Mathematics**: (minimum level: MATH 102 or 104) 3
- **SGR Goal 3**: Social Science 3
- **SGR Goal 4**: Humanities and Arts 3
- **SGR Goal 6**: Natural Science 3
- **Major field of concentration**: 16
- **General electives**: 28
- **ENGL 101, Composition I**: 3
- **SPCM 101*, Fundamentals of Speech**: 3
- **GS 143, Mastering Lifetime Learning Skills**: 2
- **WEL 100-100L, Wellness for Life and Lab**: 2

Students must take the proficiency examination after completing 32 credits. ENGL 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.

Requirements for General Agriculture Major, Bachelor of Science in Agriculture

System General Education Requirements*: 31

- **Goal #1 Written Communication**:
  - ENGL 101, Composition I 3
  - ENGL 201, Composition II 3
- **Goal #2 Oral Communication**:
  - SPCM 101*, Fundamentals of Speech 3
- **Goal #3 Social Sciences/Diversity**: 3
  - ECON 201, Principles of Microeconomics 3
  - ECON 202, Principles of Macroeconomics (G) 3
- **Goal #4 Arts and Humanities/Diversity**: 6
- **Goal #5 Mathematics**: MATH 102, College Algebra 3
- **Goal #6 Natural Sciences**:
  - BIOL 103-103L, Biology Survey II and Lab 3
  - CHEM 106-106L, Chemistry Survey and Lab 4

Institutional Graduation Requirements**: 8-9

- **Goal #1 Land and Natural Resource Stewardship**:
  - BIOL 101-101L, Biology Survey I and Lab 3
- **Goal #2 Personal Wellness**: 2-3
- **Goal #3 Social Responsibility/Cultural and Aesthetic Awareness**: 3

College Requirements: 13

- **AS 101-101L, Introduction to Animal Science and Lab** or
- **DS 130-130L, Introduction to Dairy Science and Lab** 3
- **AGEC 271-271L, Farm and Ranch Management and Lab** 4
- **PS 103-103L, Crop Production and Lab** 3
- **PS 213-213L, Soils and Lab** 3

Major Requirements: 22

- **ABS 100, Exploring Ag and the Food System** or
- **AS 100, Opportunities in Animal and Range Sciences** or
- **PS 101, Opportunities in Plant Science** 3
- **ACCT 210, Principles of Accounting** or
- **STAT 281, Introduction to Statistics** 3
- **AGEC 354, Agricultural Marketing and Prices** 3
- **AS 233-233L, Applied Animal Nutrition and Lab** 4
- **BIOL 371, Genetics** or
- **PS 383-383L, Principles of Crop Improvement and Lab (AW)** 4-5
- **CHEM 120-120L, Elementary Organic Chemistry and Lab** or
- **CHEM 108-108L, Organic and Biochemistry and Lab** 4-5
- **PHYS 101-101L, Survey of Physics and Lab** or
- **MICR 231-231L, General Microbiology and Lab** 4

Department and Program Descriptions and Requirements 143
Electives: 53-54

Agriculture Electives: at least 6 credits to be selected from the following:
- PS 223-223L, PS 307-307L
- ABE, ABS, AST, DS, HO, LA, PR, PRM, RANG, or VET

Ag Product Elective: Choose one from the following:
- PS 308-308L, PS 312, DS 231
- 2-4

Capstone Requirement Choose one from the following:
- ABS 475-475L, Integrated Natural Resource Management and Lab
- AGEC 421, Farming and Food Systems Economics
- AS 474-474L, Cow/Calf Management and Lab
- AS 477-477L, Sheep and Wool Production and Lab
- AS 478-478L, Swine Production and Lab
- AST 303-303L, Design Management Experience and Lab
- DS 412-412L, Dairy Farm Management and Lab
- PS 440-440L, Crop Management with Precision Farming and Lab
- RANG 485-485L, Advanced Integrated Ranch Management and Lab

Communications Elective (AW): Choose one from the following:
- ABS 475-475L or
- Engl 379 or
- PS 383-383L

Program Concentration Electives or General Electives
- 37-40

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 40-42 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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)

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College of General Studies
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Program

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 Associate of Arts 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. Many courses necessary to fulfill the requirements of the AA in General Studies are available by distance education. The Associate of Arts degree requires 64 credits.

Requirements for Associate of Arts in General Studies: 64

ENGL 101, Composition I * .......................... 3
ENGL 201, Composition II .................................. 3
SPCM 101*, Fundamentals of Speech .......................... 3
SGR Goal 3 *: Social Sciences/Diversity ...................... 6
SGR Goal 4 *: Humanities and Arts/Diversity ............... 6
SGR Goal 5 *: Mathematics .................................. 3
SGR Goal 6 *: Natural Sciences ................................ 6
Selected Electives ........................................... 34
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

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.

Genetics

Donald Marshall, Associate Dean
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133
e-mail: academic.programs@abs.sdstate.edu

Though there is no separate instructional department, a student wishing to specialize in Genetics can obtain an excellent program by selecting among the courses listed below. Also, a major and minor in Biotechnology are available (see requirements elsewhere in this Catalog).

ABS 205 - Biotechnology in Agriculture and Medicine .................. 2
AS 332 - Principles of Animal Breeding .................................. 3
AS 332L - Principles of Animal Breeding Lab .................................. 0
BIOL 202 - Genetics and Organismal Biology ............................... 3
BIOL 202L - Genetics and Organismal Lab .................................. 1
BIOL 204 - Genetics and Cellular Biology .................................. 3
BIOL 204L - Genetics and Cellular Lab .................................. 1
BIOL 371 - Genetics (COM) ........................................... 3
BIOL 373 - Evolution (COM) ........................................... 3
BIOL 453-553 - Advanced Genetics ........................................ 3
BIOL 483 - Developmental Biology ........................................ 4
BIOL 483L - Developmental Biology Lab .................................. 0
CHEM 464, Biochemistry I ........................................... 3
CHEM 466, Lab Methods - Biochemistry .................................. 1
CHEM 465 - Biochemistry II (COM) ..................................... 3
HO 312 - Plant Propagation ........................................... 3
HO 312L - Plant Propagation Lab ..................................... 0
HO 383 - Principles of Crop Improvement ................................. 3
HO 383L - Principles of Crop Improvement Lab ............................. 0
MICR 436 - Molecular and Microbial Genetics ......................... 4
MICR 438 - Molecular Microbial Genetics Lab ........................... 2
PS 383 - Principles of Crop Improvement (AW) ............................ 2
PS 383L - Principles of Crop Improvement Lab ............................. 1
PS 453-553 - Advanced Genetics ........................................ 3
ZOOL 483 - Developmental Biology (COM) ................................ 4
ZOOL 483L - Developmental Biology Lab (COM) ............................ 0

Geographic Information Sciences (GIS)
(See also Geography)

Geographic Information Sciences
Center of Excellence
Matthew C. Hansen
Thomas Loveland
Co-Directors
Wecota Hall 115F
605-688-6848
e-mail: matthew.hansen@sdstate.edu

Program

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 new collaboration between SDSU and the US Geological Survey EROS Data Center (EDC) with a focus on the science of earth observation and monitoring. EDC 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 EDC scientists which 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, 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 which focus on the resultant effects of change on 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. A student can earn graduation 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. Graduate students must have a cumulative GPA of 3.2 for GISc and all other coursework at the 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. A final student portfolio will be assembled and submitted for approval to the GIScCE portfolio review committee. Graduates of the program will be qualified to work as GISc professional scientists in government, education, business and industry throughout the state, nation and world. The Center is also a major player in the Ph.D. in Geospatial Science and Engineering.

Geography (GEOG) Department

George White, Head
Department of Geography
Scobey Hall 232
605-688-4511
e-mail: george.white@sdstate.edu

Faculty
Professor White, Head; Professors Berg, J. Gritzner, Hansen, Napton; Associate Professor Watrel; Assistant Professor Millett; Adjunct Faculty Bliss, Eidsenshink, Fonight, Fouberg, Giri, Holm, Loveland, Wood, Yang; Professors Emeritus Hogan and Sandness. Distinguished Professor Emeritus C. Gritzner.

Programs
Geography is the scientific study of the distribution of both physical and human features of the Earth’s surface. Geographers seek to describe, analyze and synthesize the natural and cultural phenomena that distinguish places around the world. Geographical study focuses on three principal questions: what is there? why is it there? and how does it relate to other phenomena? The processes of change and examinations of how humans modify the Earth are a continual emphasis.

The Department of Geography provides coursework leading to the Bachelor of Science degree in Geography and also in Geographic Information Sciences. The Geography major requires 35 credit hours which includes GEOG 131, 132, 200, 210, 382, and 487 with 18 credits of upper division credit. In addition to the standard degree programs, there is an Environmental Planning and Management emphasis available. The Environmental Planning and Management emphasis is designed to prepare students for careers in governmental, industrial, managerial, recreational areas, and commercial corporations. Minors in Geography and Geographic Information Sciences are also offered by the Department.

Geographic Information Sciences (GIS)

Faculty
Professor White, Head; Distinguished Professor C. Gritzner; Professors Berg, Cochrane, J. Gritzner, Hansen, Henebry, Napton, Roy, Wimberly, Zhang; Associate Professor Watrel; Assistant Professor Millett; Adjunct Faculty Bliss, Eidsenshink, Fonight, Fouberg, Giri, Holm, Liu, Loveland, Vogelmann, Wood, Yang, Zhu; Professors Emeritus Hogan and Sandness. Distinguished Professor Emeritus C. Gritzner.

Program
Geographic Information Sciences (GISc) is the science of geographic and spatial analysis. It is concerned with the basic elements of spatial information including data acquisition, description, manipulation, analysis, modeling, interpretation, and presentation. The knowledge gained from GISc is used to help make decisions about spatial phenomena that are distributed on the earth’s surface. This major includes the necessary courses to prepare the graduate to use the tools of GIS in business or governmental agencies.

The GISc graduate will be able to apply the tools of GISc to analyze spatial data in the natural and social sciences. This program gives students an opportunity to become professionals in a career area that has been growing and will continue to expand in opportunities. GISc is a highly technical field. Graduates will find themselves on the cutting edge of an important sub-discipline and will be able to find highly rewarding and remunerative jobs.

The Department of Geography provides coursework leading to the Bachelor of Science degrees in Geographic Information Sciences and Geography. The Bachelor of Science in Geographic Information Sciences major requires 41 credit hours and includes GEOG 131, 132, 200, 210, 382, 383, 483, 484, 487, 488, and 489. MATH 120 and STAT 281 are also required and included in the 41 credit hours.

Minors in Geography and Geographic Information Sciences are also offered by the Department.

A Certificate in Geographic Information Sciences is available to those who hold a bachelor’s degree in areas other than geography.

A Ph.D. in Geospatial Science and Engineering is now available. Geography faculty participate in that doctoral program as teachers and advisers.

Geographic Information Sciences Certificate

The certificate in Geographic Information Sciences (GISc) 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.

Geographic information sciences (GISc) are concerned with geographic concepts, the basic elements used to describe, analyze, model, and make decisions on phenomena distributed on the earth.

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surface. This GISc certificate includes the necessary courses to prepare the graduate to function in geographic information science.

Geographic information sciences are utilized by many local, state, and federal governmental agencies, including the US Geologic Survey. Nearly every job advertisement for geographers requests a GIS background. 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 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.

A total of 15 to 21 credits are required. Total credits for persons holding degrees in environmental sciences are 15, while 21 credits are required for those with degrees other than in environmental science. Courses would include:

- GEOG 383-383L, Cartography and Studio
- GEOG 415-515, Environmental Geography
- GEOG 483-483L, Air Photo Interpretation and Lab
- GEOG 484-484L, Remote Sensing and Lab
- GEOG 487, Geographic Information Systems I
- GEOG 488-588, Geographic Information Systems II
- GEOG 489-589, Geographic Information Systems III
- STAT 281, Introduction to Statistics

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.

Students must earn at least a “C” in each course used to meet the departmental requirements of all majors, minors, and certificates.

Geographic Information Sciences (GISc) Major

Requirements for Geographic Information Sciences Major, Bachelor of Science in Geographic Information Sciences:

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201
- Goal #2 Oral Communication: SPCM 101
- Goal #3 Social Sciences/Diversity
- Goal #4 Arts and Humanities/Diversity
- Goal #5 Mathematics
- Goal #6 Natural Sciences

**Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship
- Goal #2 Personal Wellness
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness

**College Requirements**: 11
- Humanities
- Natural Sciences

**Major Requirements**: 41
- GEOG 131-131L, Physical Geography I and Lab
- GEOG 132-132L, Physical Geography II and Lab
- GEOG 131-131L, Physical Geography I and Lab
- GEOG 132-132L, Physical Geography II and Lab
- GEOG 200, Introduction to Human Geography
- GEOG 210, World Regional Geography
- GEOG 282, Geographic Research Methods (AW)
- GEOG 383-383L, Cartography and Studio
- GEOG 483-483L, Air Photo Interpretation and Lab
- GEOG 484-484L, Remote Sensing and Lab
- GEOG 487, Geographic Information Systems I
- GEOG 488-588, Geographic Information Systems II
- GEOG 489-589, Geographic Information Systems III
- STAT 281, Introduction to Statistics

Total Required Credits: 128

Total 128 credits, 35 credits in Geography, minimum 18 upper division credits. GEOG 382 meets the Advanced Writing Requirement.

Students must earn at least a “C” in each course used to meet the departmental requirements of all majors, minors, and certificates.

- The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
- South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
- (G) Globalization Requirement. (See page 46 for details.)
- (AW) Advanced Writing Requirement. (See page 47 for details.)

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 (GISc) Minor

Requirements for Geographic Information Sciences Minor: 18 cr

Courses from Electives Lists I and II available at the department...9 (Three out of the four)
- CEE 304, Land Surveying
- GEOG 487, Geographic Information Systems I
- GEOG 488-588, Geographic Information Systems II
- GEOG 489-589, Geographic Information Systems III

Students must earn at least a “C” in each course used to meet the departmental requirements of all majors, minors, and certificates.

Geography (GEOG) Major

Requirements for Geography Major, Bachelor of Science in Arts and Sciences:

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201
- Goal #2 Oral Communication: SPCM 101
- Goal #3 Social Sciences/Diversity
- Goal #4 Arts and Humanities/Diversity
- Goal #5 Mathematics
- Goal #6 Natural Sciences

**Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship
- Goal #2 Personal Wellness
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness

**College Requirements**: 11
- Humanities
- Natural Sciences

**Major Requirements**: 20
- GEOG 131-131L, Physical Geography I and Lab
- GEOG 132-132L, Physical Geography II and Lab
- GEOG 200, Introduction to Human Geography
- GEOG 210, World Regional Geography
- GEOG 382, Geographic Research Methods (AW)
- GEOG 487, Geographic Information Systems I

**Electives**: 58-59
- Geography Electives

Total Required Credits: 128
Environmental Planning and Management Emphasis

It is strongly suggested that environmental geographers choose a minor from the list of recommended minors available in the Geography Department. The upper division credits within the department should be selected from the following:

- GEOG 310-310L, Soil Geography and Land Use Interpretation and Studio **(G) 3
- GEOG 337, Atmospheric Sciences ........................................... 3
- GEOG 339, Geomorphology ................................................... 3
- GEOG 343, Environmental Disasters and Human Hazards ........ 3
- GEOG 351, Economic Geography ........................................... 3
- GEOG 365, Land Use Planning ............................................... 3
- GEOG 383-383L, Cartography and Studio ................................. 3
- GEOG 425, Population Geography ........................................... 3
- GEOG 484-484L, Remote Sensing and Lab .................................. 3
- GEOG 488-588, Geographic Information Systems II .................. 3
- GEOG 489-589, Geographic Information Systems III................... 3

Greater Emphasis

For those students wishing to pursue a greater emphasis in planning, the upper division hours should be selected from the following courses:

- GEOG 365, Land Use Planning ............................................... 3
- GEOG 461, Urban Geography ................................................ 3
- GEOG 464, Local and Regional Planning .................................. 3
- GEOG 483-483L, Air Photo Interpretation and Lab ..................... 3
- GEOG 484-484L, Remote Sensing and Lab .................................. 3
- GEOG 488-588, Geographic Information Systems II .................. 3
- GEOG 489-589, Geographic Information Systems III................... 3

Electives

Recommended electives outside of the Department:

- PLAN 471-571, Principles of State, Regional and Community Planning...3
- PLAN 472-572, Techniques of State, Regional and Community Planning.3

Global Agriculture Minor

Don Marshall, Associate Dean
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133
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Minor in Global Agriculture

Minimum total required: 22 credits
Required courses: 5 credits
ABS 203, Global Food Systems **(G) ........................................ 3
ABS 482-582, International Experience **(G) ............................ 2-4
Elective Courses: minimum 17 credits
Must take at least 1 but no more than 2 courses from the Group A Electives list and the remainder from the Group B Electives list. No more than 9 credits may have the same prefix. At least 9 credits must be 300 level or higher.

Group A Electives

- ABE 353-353L, Physical Climatology and Meteorology and Lab **........ 3
- AGEC 354, Agricultural Marketing and Prices ................................ 3
- AST 333-333L, Soil and Water Mechanics and Lab **.................... 3
- BIOL 475, Water Quality in Agriculture .................................... 3
- ENVM 275, Introduction to Environmental Science **(G) ............. 3
- LA 241, History of Landscape Architecture.................................. 3
- PS 446-546, Agroecology (G) .................................................. 3
- PS 475, Water Quality in Agriculture ........................................ 3
- WL 110, Environmental Conservation **(G) .................................. 3

Group B Electives

Any modern foreign language course (prefixes include FREN, GER, MFL, RUSS, or SPAN) numbered 102 or higher.

- AGEC 454, Economics of Grain and Livestock Marketing .............. 3
- ANTH 210, Cultural Anthropology ......................................... 3
- ECON 101, Global Economy **(G) .......................................... 3
- ECON 405, Comparative Economic Systems ................................ 2-3
- ECON 440-540, Economics of International Sector ....................... 3
- EURS 300, Topics in European Culture ..................................... 3
- EURS 301, Topics in European Society ..................................... 3
- GEOG 200, Introduction to Human Geography **(G) .................... 3
- GEOG 210, World Regional Geography **(G) ............................. 3
- GEOG 310-310L, Soil Geography and Land Use Interpretation/Studio **(G) 3

Geography (GEOG) Minor

Requirements for Geography Minor: 20 cr

Upper-division courses or substitutions approved by the Department ....... 6

- GEOG 131-131L, Physical Geography I and Lab * .......................... 4
- GEOG 132-132L, Physical Geography II and Lab * ........................ 4
- GEOG 200, Introduction to Human Geography **(G) ..................... 3
- GEOG 210, World Regional Geography **(G) .............................. 3

Students must earn at least a "C" in each course used to meet the departmental requirements of all majors, minors, and certificates.

German (GER)

(See Modern Languages)

Gerontology (GERO)

(See Human Development)
Global Studies (GLST)

Nels H. Granholm, Coordinator
College of Arts and Sciences
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Web site: http://www.sdstate.edu/globalstudies/

Faculty
Distinguished Professor Granholm, Coordinator.

Mission
The Global Studies major fits with the Land-Grant Mission of South Dakota State University to develop, maintain and encourage student self development in international and intercultural understanding consistent with the continually increasing cultural, economic and political interdependence of the modern world. In the 21st century, relationships between people and nations will be affected more by interdependence of the world as a whole than by national boundaries. By embracing two broad themes- intercultural competence and authentic global citizenship-the Global Studies major will:

1. 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;
2. enable students to apply analytical and philosophical tools for interpretation of and critical thinking about global issues and data;
3. 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;
4. provide the training, tools, and experiences for global studies majors to become authentic global citizens; and
5. utilize the international resources of SDSU to benefit the citizens of South Dakota, the United States, and the world.

Programs
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.

Two required courses, Global Studies I (GLST 201, 3 credits) and Global Studies II (GLST 401, 3 credits) provide a theoretical base to view the world holistically. In Global Studies II, students will integrate information and ideas from previous courses, analyze experiences, and develop a solid global perspective.

Because background from many disciplines is fundamental, the major utilizes courses from several departments that each contribute to breadth of knowledge and understanding. Elective courses are grouped into three foci - globalization, societies, and culture. Within each group, students select courses to fulfill graduation requirements. The choices are grouped by lower and upper division, allowing students to select emphases of their choice.

Global Studies Major (B.S. and B.A.)
Students must complete 128 credit hours including the 30 credit System General Education Core (Gen Ed) and the 8 credit SDSU Institutional Graduation Requirements (IGR) leading to the Bachelor of Arts or the Bachelor of Science degree.

Modern language is required for both degrees. Students earning the B.A. degree will complete 21-22 hours concentrated in one modern, foreign language — French, German or Spanish. For the B.S. degree, 14-16 hours of one of these languages are required. Students entering the University with a background in languages are strongly recommended to request a copy of the Modern Languages Department placement policy. Students who are prepared to take courses beyond 101 (up to 310 or 311, except Spanish 211, 213) may apply to receive credit for all previous courses up to 202.

The number of free electives varies from 27-35, depending upon the student's choice of B.A. or B.S. degree, and options selected to fulfill General Education and Institutional Graduation Requirements. This flexibility provides an excellent opportunity for students to fulfill requirements for a second major or a minor in another discipline; global studies students are encouraged to do so.

Cross-Cultural Experiential Education
For Global Studies majors, first-hand, cross-cultural experience is mandatory. At least three credits must be earned outside the United States. Students can choose the program they prefer from several options provided by the Office of International Affairs, Department of Modern Languages, and individual colleges:

1. full time study abroad at a university for one semester;
2. a one-semester, paid or unpaid, internship or volunteer service learning project;
3. an intense modern language immersion program worth at least 3 credit hours; or
4. a study abroad seminar or travel experience that includes pre-and post-travel/study orientation worth 3 hours of credit.

The coordinator of the Global Studies Program advises students regarding the selection of an appropriate plan for this requirement based upon the student's interests, time frames, and budget.

Additional information identifying the exact requirements for this major is found in the “Major and Minor Requirements” section of this catalog.

Global Studies Minor
The minor in Global Studies, which can be completed with any SDSU major, consists of 21 credits (18 core credits and one elective). The minor is outlined in the section on Major and Minor Requirements.

Related Minors
Three minors with content tied directly to Global Studies complement the Global Studies major:
European Studies
Global Agriculture
Latin American Studies

International Students
International students enrolled at SDSU are strongly encouraged to discuss with the Coordinator of Global Studies possible variations in requirements for the major and the minor that take into consideration their mastery of foreign language and previous international experiences.

Global Studies Major
Requirements for Global Studies Major, Bachelor of Arts in Arts and Sciences:
System General Education Requirements*: 30

Goal #1 Written Communication: ENGL 101 ...................... 6
Goal #2 Oral Communication ........................................... 3
Goal #3 Social Sciences/Diversity ................................. 6
Goal #4 Arts and Humanities/Diversity ......................... 6
Goal #5 Mathematics .................................................. 3
Goal #6 Natural Sciences ............................................. 6

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship ............... 3
Goal #2 Personal Wellness .......................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

Major Requirements: 61-65

FREN, GER, or SPAN 101 ............................................ 4
HIST 112, World Civilizations II * (G), or ............... 3
HIST 122, Western Civilization II ** (G) .................. 3
FREN, GER, or SPAN 102 ............................................ 4
GLST 201, Global Studies I ** (G) .............................. 3
POLS 253, Current World Problems ** (G) ............... 3
FREN, GER, or SPAN 201 ............................................ 3-4

Lower Division Culture: 3 credits from the following:

ANTH 210, Cultural Anthropology ......................... 3
ENGL 212, World Literature II ** (G) ................. 3
PHIL 215, Introduction to Social-Political Philosophy ** 3
REL 250, World Religions ** (G) .......................... 3
FREN, GER, or SPAN 202 ............................................ 3-4

Lower Division Societies: 6 credits from the following:

ABS 203, Global Food Systems ** (G) ..................... 3
ECON 101, Global Economy * (G) ......................... 3
GEOG 210, World Regional Geography ** (G) .... 3
POLS 165, Political Ideologies ** ............................ 3

Modern Language:

FREN 310, French Language Skills (AW), or ............... 3
GER 311, Composition and Conversation I, or ............ 3
SPAN 211, Intermediate Oral Practice I .................. 2

Upper Division Globalization – 3 credits from the following:

ECON 405, Comparative Economic Systems or .............. 2-3
ECON 440-540, Economics of International Sector or .... 3
ECON 460-560, Economic Development (G) or ............. 3
POLS 350, International Relations ......................... 3

Modern Language:

FREN 333, Topics in Francophone Culture, or .............. 3
GER 312, Composition and Conversation II, or .............. 3
SPAN 212, Intermediate Oral Practice II ................. 2

Upper Division Culture – 6 credits from the following:

ECON 405, Comparative Economic Systems or .............. 2-3
ECON 440-540, Economics of International Sector or .... 3
ECON 460-560, Economic Development (G) or ............. 3
POLS 350, International Relations ......................... 3

Advanced Writing Requirement:

ENGL 410, Mythology and Literature (AW), or ............... 3
PHIL 424, Modern Political Philosophy (AW), or ............ 3
POLS 462, Modern Political Philosophy (AW) ............... 3
GLST 401, Global Studies II (G) .............................. 1

Upper Division Societies – Select 6 credits from at least two disciplines from the following:

ECON 405, Comparative Economic Systems .................. 2-3
ECON 440-540, Economics of International Sector ............ 3
ECON 460-560, Economic Development (G) ................. 3
POLS 350, International Relations ............................ 3

Requirements for Global Studies Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30

Goal #1 Written Communication: ENGL 101 ...................... 6
Goal #2 Oral Communication ........................................... 3
Goal #3 Social Sciences/Diversity ................................. 6
Goal #4 Arts and Humanities/Diversity ......................... 6
Goal #5 Mathematics .................................................. 3
Goal #6 Natural Sciences ............................................. 6

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship ............... 3
Goal #2 Personal Wellness .......................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

College Requirements: 8

Natural Science ...................................................... 8

Major Requirements: 53-56

FREN, GER, or SPAN 101 ............................................ 4
HIST 112, World Civilizations II * (G), or ............... 3
HIST 122, Western Civilization II ** (G) .................. 3
FREN, GER, or SPAN 102 ............................................ 3-4
GLST 201, Global Studies I ** (G) .............................. 3
POLS 253, Current World Problems ** (G) ............... 3
FREN, GER, or SPAN 201 ............................................ 3-4

Lower Division Culture: 3 credits from the following:

ANTH 210, Cultural Anthropology ......................... 3
ENGL 212, World Literature II ** (G) ................. 3
PHIL 215, Introduction to Social-Political Philosophy ** 3
REL 250, World Religions ** (G) .......................... 3
FREN, GER, or SPAN 202 ............................................ 3-4

Lower Division Societies – 6 credits from the following:

ABS 203, Global Food Systems ** (G) ..................... 3
ECON 101, Global Economy * (G) ......................... 3
GEOG 210, World Regional Geography ** (G) .... 3
POLS 165, Political Ideologies ** ............................ 3

Modern Language (300 or 400 level) ....................... 3

Advanced Writing Requirement:

ENGL 410, Mythology and Literature (AW), or ............... 3
PHIL 424, Modern Political Philosophy (AW), or ............ 3
POLS 462, Modern Political Philosophy (AW) ............... 3
GLST 401, Global Studies II (G) .............................. 1

Upper Division Globalization – 3 credits from the following:

ECON 405, Comparative Economic Systems .................. 2-3
ECON 440-540, Economics of International Sector ............ 3
ECON 460-560, Economic Development (G) ................. 3
POLS 350, International Relations ............................ 3

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A one-semester, paid or unpaid, international internship or volunteer service learning project outside the United States.

Higher education outside the United States.

Post-travel/study orientation and carries 3 hours of credit. (In special cases for international travel/study.

One intense language immersion program for at least 3 hours of credit at an institution of higher education.

Requirements for Global Studies Minor

Electives: 25-29

Total Required Credits: 128

† 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 estimated fee to the Academic Evaluation and Assessment Office.

Global Studies majors are required to complete a cross-cultural experience outside the United States that includes at least 3 credits of coursework.

Examples are:

Full-time study abroad for one semester at a university outside the United States.

A one-semester, paid or unpaid, internship or volunteer service learning project outside the United States.

One intense language immersion program for at least 3 hours of credit at an institution of higher education outside the United States.

Study abroad seminar or travel experience outside the United States that includes pre-and post-travel/study orientation and carries 3 hours of credit. (In special cases for international students attending SDSU, an individualized plan of study will be developed for the major.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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 Minor

Requirements for Global Studies Minor

ECON 101, Global Economy * (G)........................................3
GEOG 200, Introduction to Human Geography * ** (G)........3
GLST 201, Global Studies I * ** (G)...............................3
POLS 253, Current World Problems * ** (G)......................3
REL 250, World Religions * ** (G).................................3
IIIST 112, World Civilizations II * (G) or ......................3
HIST 122, Western Civilization II * ** (G).......................3

Three credits selected from the following:

ECON 300, Topics in European Culture................................3
ECON 301, Topics in European Society..............................3
GE OG 415-515, Environmental Geography..........................3

GEOG 425, Population Geography.......................................3
LAS 301, Latin American Cultures.....................................2-3
LAS 302, Latin American Societies.....................................3
POLS 350, International Relations.....................................3
POLS 454, International Law and Organization......................3
ABS 381, Multicultural Agriculture/................................2-4
Biological Science Experience or.....................................

Other travel/study experience outside the United States........3

Health, Physical Education and Recreation (HPER) Department

Bernadette Olson, Acting Department Head
Department of Health, Physical Education and Recreation
Physical Education Center 123A
605-688-4668

Faculty

Assistant Professor Olson, Head; Professor Hacker; Professors Emeriti Booher, Forsyth, Huether; Associate Professor Fokken, Vukovich; Assistant Professor Fountaine, Meendering, Roiger, Zwart; Instructors Hauschild-Mark, Kirby, Kopriva, Nelson

Programs

Four undergraduate majors are offered within the Department. These include Athletic Training, Health Promotion, HPER, and Park and Recreation Management. Four undergraduate minors are offered including Dance, Health Education, Physical Education, and Recreation Administration. Additional programs include Physical Education Teacher Education (PETE).

The Department of Health, Physical Education and Recreation offers courses leading to a Master of Science in HPER. See Graduate School Catalog for details.

WEL 100 – Wellness for Life

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. The 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.

PE 100 – Activity Courses

Up to two credits of activity courses may be taken as electives in students’ plans of study. The courses are designed to complement the WEL 100 course, promoting the development of lifelong wellness through physical activity. Through participation in these activities students may work on further developing their skills in social responsibility, as well as enhancing their ability to embrace change in positive ways.

Course Cross Referencing

The Department cross references some courses with other consenting departments within the University. Students may use the prefix they desire.
Athletic Coaching Certification
Tracy Nelson, Coordinator
Department of Health, Physical Education and Recreation
Physical Education Center 119
605-688-4034
e-mail: tracy.nelson@sdstate.edu

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 HPER to verify the specific requirements for each state. SDSU does require an American Sports Education Program Workshop for those interested in obtaining coaching certification.

Athletic Training (AT)
Trevor Roiger, Coordinator
Department of Health, Physical Education and Recreation
Physical Education Center 265
605-688-5824
e-mail: trevor.roiger@sdstate.edu

Faculty
Assistant Professor Olson, Roiger, Zwart; Instructors Kopriva; Adjunct Professors Looby, Warren.

Program
The Athletic Training major is accredited by the Commission on Accreditation of Athletic Training Education (CAATE). The professional portion of the Athletic Training curriculum takes two years to complete and implements competencies and proficiencies as defined by the Executive Council on Education of the National Athletic Trainers’ Association. As a competency based program, instruction occurs through didactic (classroom), clinical education and field experience components. Upon successful completion of the Athletic Training curriculum, a student is eligible to write the National Athletic Trainers’ Association Board of Certification (BOC) national certifying examination to become an Athletic Trainer.

South Dakota State University offers three options for students to complete the Athletic Training Education Program (ATEP).

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 ATEP. Application for admission into the athletic training major can begin during or after a student’s sophomore year (approximately 32 credit hours). During the application year students must have completed BIOL 221 Human Anatomy and enroll in PE 354 Prevention and Care of Athletic Injuries. Transfer students must complete the same or equivalent requirements. (See additional admission requirements and process below).

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 his/her with observation hours and taping competency completion. These students preferably have some experience as an “athletic training student” at their current institution.

Admission into the Athletic Training Major
In addition to meeting course requirements, the application process for regular option students includes: attendance at monthly meetings, observations of the ATEP at SDSU, outside observations, proficiencies in taping skills, letter of interest, health assessment, three letters of recommendation, formal application, and a two part interview that includes a personal interview and a demonstration of skill in taping. The number of students accepted into the clinical experience each year is based on the availability of clinical experience opportunities and certified staff. Each year, there are more students applying than can be accepted, so the process may be competitive. Therefore, completion of basic requirements does not guarantee entrance into the ATEP. The minimum selection criteria are as follows: student should display an interest and desire to become an athletic trainer; successful completion (C or better) of AT 164 Introduction to Athletic Training, BIOL 221 Anatomy, and PE 354 Prevention and Care of Athletic Injuries; completed application process which culminates with a letter of interest; three letters of reference; personal interview; cumulative GPA of 2.75 or better; completed Health Assessment; and the verification and demonstration of technical standards.

For the qualified transfer student, application for admission into the ATEP 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 adviser in the ATEP 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 ATEP. 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, 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 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.

A complete description of the application processes and the technical standards can be found on the SDSU Web site, or by contacting the program coordinator.
Athletic Training (AT) Major

Requirements for Athletic Training Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication:
  ENGL 101, Composition I * .......................... 3
  ENGL 201, Composition II * .......................... 3
Goal #2 Oral Communication:
  SPCM 101, Fundamentals of Speech * .......................... 3
Goal #3 Social Sciences/Diversity:
  HDFS 210, Lifespan Development * .......................... 3
  PSYC 101, General Psychology* .......................... 3
Goal #4 Arts and Humanities/Diversity: 6
Goal #5 Mathematics: MATH 102, College Algebra * .......................... 3
Goal #6 Natural Sciences:
  CHEM 106-106L, Chemistry Survey and Lab * and .......................... 4
  CHEM 120-120L, Elementary Organic Chemistry and Lab *or* .......................... 5
  CHEM 108-108L, Organic and Biochemistry and Lab * .......................... 4

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ...................... 3
Goal #2 Personal Wellness: PHA 201, Medications and Wellness ..... 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness... 3

College Requirements: 16
BIOL 221-221L, Human Anatomy and Lab ...................... 4
BIOL 325-325L, Physiology and Lab .......................... 4
Humanities and Arts ........................................... 2-3
Social Sciences/Diversity ........................................ 6

Major Requirements: 59
AT 164, Introduction to Athletic Training ...................... 2
HLTH 250, Pre-Professional First Aid and CPR ...................... 2
NFS 221, Survey of Nutrition ...................................... 3
NURS 201, Medical Terminology .................................... 1
PE 354, Prevention and Care of Athletic Injuries ...................... 2
AT 371, Athletic Training Clinical Experience I ...................... 2
AT 372, Athletic Training Clinical Experience II ...................... 2
AT 373, Athletic Training Clinical Experience III ...................... 2
AT 374, Athletic Training Clinical Experience IV ...................... 2
AT 441, Athletic Training Techniques I ...................... 3
AT 442, Athletic Training Techniques II ...................... 3
AT 443, Athletic Training Techniques III ...................... 3
AT 444, Athletic Training Techniques IV ...................... 3
AT 454, Athletic Injury Assessment-Lower Extremity .............. 2
AT 456, Athletic Injury Assessment-Upper Extremity .............. 2
AT 464, Therapeutic Modalities in Athletic Training .............. 2
AT 474, Rehabilitation of Athletic Injuries (AW) .............. 2
AT 471, Fall Clinical Experience ................................... 1
AT 490, Seminar .............................................. 2
PSYC 454, Psychology of Abnormal Behavior ...................... 3
HLTH 443, Public Health Science (G) ...................... 3
NURS 323, Introduction to Pathophysiology ...................... 3
PE 454, Biomechanics ........................................... 3
PE 350, Exercise Physiology .................................... 2-3
PE 400, Exercise Test and Prescription ...................... 3

Electives: 15
Total Required Credits: 128

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

Dance (DANC) Minor
Melissa Hauschild-Mork, Coordinator
Department of Health, Physical Education and Recreation
Physical Education Center 605-688-5023
e-mail: melissa.mork@sdstate.edu

The Department of Health, Physical Education and Recreation offers a minor in Dance. Students interested in pursuing the dance minor are required to take 12 credits of required coursework and choose 6 credits from a selected list of courses.

Requirements for Dance Minor:
DANC 230, Technique 1† (Odd years) ...................... 1
DANC 330, Technique 3† (Odd years) ...................... 1
DANC 430, Composition and Choreography (Even years) ...................... 1
DANC 431, Dance for the Musical Theatre (Even years) ...................... 1
DANC 130, Dance Fundamentals ** ...................... 1
DANC 131, Movement 1 (Odd years) ...................... 2
DANC 132, Movement 2 (Odd years) ...................... 2
DANC 231, Technique 2† (Odd years) ...................... 1
DANC 240, Multicultural Dance Activities ** (Odd years) ...................... 1
DANC 241, Creative Movement for Children (Even years) ...................... 2
DANC 331, Technique 4† (Even years) ...................... 1
†Students need only take 2 credits from the group of these courses—either DANC 230 and 330 or 330 and 331.

Elective Courses in the Minor: (6 credits from this list)
BIOL 221-221L, Human Anatomy and Lab ...................... 4
MUS 100, Music Appreciation * ** ...................... 3
PE 204, Professional Preparation: Rhythm and Dance ...................... 1
PE 454, Biomechanics ........................................... 3
THEA 100, Introduction to Theatre * ...................... 3
THEA 131, Introduction to Acting * ...................... 3
THEA 435, History of American Musical Theater ...................... 3

Health Education (HLTH) Minor
Patty Hacker, Coordinator
Department of Health, Physical Education and Recreation
Physical Education Center 269
605-688-5218
e-mail: patty.hacker@sdstate.edu

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. One purpose of the Health Education minor is to enable those with a teaching degree to teach health education in schools in South Dakota; it also prepares students to pursue a major in health education in other states. All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of “C” is required in each course taken in the minor. Students planning to teach health in a public school will also be required to take and pass the Praxis II Health Education Content Test (0550) prior to teacher certification.

Requirements for Health Education Minor: 21 cr (minimum)
Required Courses (18 credits)
HDFS 210, Lifespan Development * ...................... 3
HDFS 250, Development of Human Sexuality ...................... 3
Health, Physical Education and Recreation (HPER) Major

Patty Hacker, PETE Coordinator
Department of Health, Physical Education and Recreation
Physical Education Center 269
605-688-5218
e-mail: patty.hacker@sdstate.edu

Faculty
Professor Hacker, Instructors Hauschild-Mork, Nelson

The HPER major provides interested students with opportunities to study human movement, health, recreation and related areas. It is a generalist degree, including among 36 credit hours of coursework in the areas of dance, health, physical education and recreation. All HPER majors are encouraged to pursue a minor field of study as well as additional hours in an area of interest to meet the 128 hours required for graduation. If interested, HPER majors may also pursue a specialization in physical education teacher education. A minimum grade of “C” is required in each course in the major.

Health, Physical Education, and Recreation Major

Required courses for the HPER Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication ........................................... 3
Goal #2 Oral Communication ............................................... 3
Goal #3 Social Sciences/Diversity .................................... 6
Goal #4 Arts and Humanities/Diversity ............................... 6
Goal #5 Mathematics .......................................................... 3
Goal #6 Natural Sciences ................................................... 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ......................... 3
Goal #2 Personal Wellness: WEL 100, Wellness for Life * ........... 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

College Requirements: 16
CHEM 106-106L, Chemistry Survey and Lab * .................... 4
CHEM 108-108L, Organic and Biochemistry and Lab * .......... 5
Social Sciences ........................................................................ 6
Humanities ............................................................................. 2

Major Requirements: 44-46
DANC 130, Dance Fundamentals ** ................................... 1
PE 170, Fundamental Movement ........................................... 1
PE 180, Foundations of HPER/A .......................................... 2
HLTH 120, Community Health or ....................................... 2
HLTH 212, Contemporary Health ......................................... 2
PE 252-252L, Fundamentals of Motor Learning and Development and Lab ........................................... 2
BIOL 221-221L, Human Anatomy and Lab ............................ 4
HLTH 250-250L, Pre-Professional First Aid and CPR and Lab or . 2
HLTH 251, First Aid and CPR ............................................... 1
RECR 342, Recreational Sports Programs and Administration ...... 3
PE 354-354L, Prevention and Care of Athletic Injuries and Lab .... 2
PE 454, Biomechanics .......................................................... 3
PE 321, Water Safety Instructor or ....................................... 2
PE 320, Lifeguard Training and PE 322, Lifeguard Instructor ... 2
BIOL 325-325L, Physiology and Lab .................................... 4
PE 350, Exercise Physiology ................................................. 2
PE 490, Seminar (AW) ......................................................... 1
PE course to meet requirements of major ................................ 2
RECR course to meet requirements of major ......................... 1
DANC course to meet requirements of major ......................... 1
HLTH/HSC course to meet requirements of major ................. 1

Electives: 28-30

Total Required Credits: 128

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

Requirements for HPER Major – Teaching Specialization

Bachelor of Science in Arts and Sciences:
Application for admission into the Physical Education teaching specialization is required and can begin during the Spring Semester of the freshman year, providing PE 180, ENGL 101 and SPCM 101 have been completed (with a minimum grade of “C”) or are in progress during the time of application. Additional admission requirements are available from the Physical Education Teacher Education (PETE) Coordinator. All HPER teaching specialization students are strongly encouraged to obtain a health education minor (21-23 hours). Information on courses that fulfill the health education minor is in this catalog. A minimum final grade of “C” is required in each course in the major and specialization area. All teacher education students are required to take the PRAXIS II Physical Education content test (0091), as well as the PRAXIS II Principles of Learning and Teaching test (0524), and be admitted to the College of Education and Counseling Teacher Education program. If pursuing the Health Education minor, the Praxis II Health Education test (0524) must be taken and passed by the time the teacher candidate applies for teaching 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 PLT must be obtained for teaching licensure, and a minimum score on the Praxis II Health test must be obtained for health teaching licensure. Students must maintain a 2.8 GPA in Education courses and a 2.9 GPA in HPER/PETE courses to remain in good standing in the program.

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I * ................................................. 3
ENGL 201, Composition II ................................................... 3
Goal #2 Oral Communication:SPCM 101, Fundamentals of Speech .3
Goal #3 Social Sciences/Diversity:
PSYC 101, General Psychology ........................................... 3
SOC 100, Introduction to Sociology * (G) ............................ 3
Goal #4 Arts and Humanities/Diversity ................................ 6
Goal #5 Mathematics: MATH 102, College Algebra * 3
Goal #6 Natural Sciences: 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship:
  HIST 368, History and Culture of the American Indian * 3
Goal #2 Personal Wellness: WEL 100, Wellness for Life * 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: 3

College Requirements: 16
BIOL 221-221L, Human Anatomy and Lab 4
CHEM 108-108L, Organic and Biochemistry and Lab * 5
Social Sciences 6
Humanities 2

Major Requirements: 41-42
DANC 130, Dance Fundamentals ** 1
PE 170, Fundamental Movement 1
PE 180, Foundations of HPER/A 1
HLTH 120, Community Health or HLTH 212, Contemporary Health 1
PE 252-252L, Fundamentals of Motor Learning and Development and Lab 2
HLTH 250-250L, Pre-Professional First Aid and CPR and Lab 2
RECR 260, Fundamentals of Recreation Leadership 3
RECR 342, Recreational Sports Programs and Administration 3
PE 354-354L, Prevention and Care of Athletic Injuries and Lab 2
PE 454, Biomechanics 3
PE 321, Water Safety Instructor or 1-2
PE 320, Lifeguard Training and PE 322, Lifeguard Instructor 2-3
BIOL 325-325L, Physiology and Lab 4
PE 350, Exercise Physiology 2-3
PE 490, Seminar (AW) 1-3
PE 200, Professional Preparation: Fitness 1
PE 201, Professional Preparation: Gymnastics 1
PE 202, Professional Preparation: Individual and Dual Activities 1
PE 203, Professional Preparation: Team Activities 1
PE 204, Professional Preparation: Rhythm and Dance 1
PE 341, Curriculum Development and Evaluation 2
PE 352, Adapted Physical Education 2
PE 360-360L, K-8 Physical Education Methods and Lab 2
PE 451, Tests and Measurements 2
DANC 240, Multicultural Dance Activities ** or 1
DANC 241, Creative Movement for Children 2
HLTH 420, K-12 Methods of Health Instruction 2
PE 440, Organization and Administration of HPER/Athletics 2

Teaching Specialization: 38-68
EDFN 338, Foundations of American Education 2
EDFN 475, Human Relations 3
EDFN 365, Computer-Based Technology and Learning 2
EDFN 427, Middle School: Philosophy and Application 2
ELED 488, K-8 Student Teaching 6
SEED 488, 7-12 Student Teaching 6
EPSY 302, Educational Psychology 3
SEED 314, Supervised Clinical/Field Experience 1
SEED 450, 7-12 Teaching Reading in Content Area 2

Total Required Credits: 135
* The 20 credit Board of Regents System General Education Requirements (SGERs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 47 for details.)
(AW) Advanced Writing Requirement. (See page 46 for details.)

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.

Health Promotion
September Kirby, Coordinator
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Physical Education Center 119
605-688-5387
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Faculty
Instructor Kirby Coordinator; Assistant Professor Fountain, Meending; Associate Professor Vukovich.

Program
The Health Promotion (HP) graduate possess the knowledge, skills and abilities to enhance awareness, change behavior, and create environments that support good health practices, including, but not limited to exercise and physical activity. The HP 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. Health Promotion professionals work and study in commercial, clinical, and workplace settings to increase health, fitness, and quality of life of the general population. In the area of exercise, HP professionals are able to apply knowledge of acute and chronic physiological responses and adaptations to exercise, which promotes better health or may enhance the performance of athletes.

Admission requirements include: sophomore standing with a 2.75 GPA or higher, completion of PE 180 and WEL 100 and a “C” or better in the following courses: WEL 100, HDFS 210, BIOL 221 and CHEM 108. Students are required to choose classes from a career orientation emphasis area to complete coursework for the major.

The Health Promotion program at South Dakota State University is endorsed and recognized by the American College of Sports Medicine for meeting the knowledge, skills, and abilities expected of an ACSM Health/Fitness Instructor.

Health Promotion Major
Requirements for Health Promotion Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 31
Goal #1 Written Communication:
  ENGL 101, Composition I * 3
  ENGL 201, Composition II * 3
Goal #2 Oral Communication:
  SPCM 101, Fundamentals of Speech * 3
Goal #3 Social Sciences/Diversity:
  HDFS 210, Lifespan Development * 3
  PSYC 101, General Psychology * 3
Goal #4 Arts and Humanities/Diversity:
  Goal #5 Mathematics: MATH 102, College Algebra * 3
Goal #6 Natural Sciences:
  CHEM 106-106L, Chemistry Survey and Lab * and 4
  CHEM 114-114L, General Chemistry 1 and Lab * and 4

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship:
  BIOL 101-101L, Biology Survey I and Lab ** or 4
  NFS 111, Food, People and the Environment ** 3
Goal #2 Personal Wellness: WEL 100-100L, Wellness for Life and Lab ** 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
  HLTH 443, Public Health Science * 3

College Requirements: 16
BIOL 221-221L, Human Anatomy and Lab 4
BIOL 325-325L, Physiology and Lab 4
Park and Recreation Management (PRM) Major-
Recreation Administration Specialization

Park and Recreation professionals are needed to meet recreation demands resulting from expanding populations, increased leisure time, greater mobility and changing social attitudes. The curriculum in Park and Recreation Management is designed to prepare students for professional positions in parks and outdoor recreation, and recreation programming and administration. A minor in Recreation Administration is also offered. Two areas of specialization are available:

1. Students interested in parks and outdoor recreation, and employment with federal, state, county and municipal parks and recreation agencies and with private recreation and tourism enterprises, can tailor their program of study using the Park Management Specialization curriculum, offered through the Horticulture, Forestry, Landscape and Parks department.

2. Students interested in recreation programming and administration, and employment with municipal recreation agencies, YMCA/YWCAs, business, and therapeutic recreation in clinical as well as community settings, should follow the Recreation Administration Specialization curriculum, offered through the Health, Physical Education and Recreation department.

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Recreational Sports Programs and Administration 3
Recreation Across the Lifespan 3
Practicum 1-3
Current Issues in Recreation (AW) 3
Administration of Leisure Services 3
Public Speaking 3

Electives: 0-22

Total Required Credits: 128

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Recreation Administration Minor
Requirements for Recreation Administration Minor: 21-22 cr

PE 180, Foundations of HPER/A or
PRM 100, Introduction to Park and Recreation 1-2
PRM 360, Recreation and Outdoor Programming 3
RECR 260, Fundamentals of Recreation Leadership 3
RECR 440, Administration of Leisure Services 3

Take two of the following:

RECR 342, Recreational Sports Programs and Administration 3
RECR 362, Recreation Across the Lifespan 3

Select 3 credits from the following courses:

BADM 350, Legal Environment of Business 3
BADM 360, Organization and Management 3
DANC 130, Dance Fundamentals ** 1
HDFS 141, Individual and the Family * 3
HILTH 250, Pre-Professional First Aid and CPR 2
PE 320, Lifeguard Training 1-2
PE 321, Water Safety Instructor 1-2
POLS 210, State and Local Government *** 3
PR 301-301L, Park Interpretation and Lab 3
PRM 101, Parks and Society 3
PRM 302, Commercial Recreation and Tourism 3
RECR 330, Therapeutic Recreation 3
RECR 395, Practicum 1-3
RECR 410, Current Issues in Recreation (AW) 3

WL 110, Environmental Conservation ** (G) 3
NFS 221, Survey of Nutrition or
NFS 110, Perspectives in Nutrition 3

Physical Education Minor
Patty Hacker, PETE Coordinator
Department of Health, Physical Education and Recreation
Physical Education Center 269
605-688-5218
e-mail: Patty.Hacker@sdstate.edu

The Physical Education Minor is offered to any student at South Dakota State University interested in the area of study of human movement. The coursework provides students with experiences that will raise the level of knowledge and understanding about how people move and learn sport skills, as well as provide a foundation for developing or enhancing movement skill in their own lives and those of others. This minor would be of interest to those pursuing teaching degrees in other content areas, or individuals pursuing a Park and Recreation Management major. All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of "C" is required for all courses taken in the minor.

Health Science (HSC)
(See Nursing)

History and Political Science Department

April Brooks, Head
Department of History and Political Science
Scobey Hall 310
605-688-4311
e-mail: april.brooks@sdstate.edu

Faculty
Professor Brooks, Head; Professors Berg, Schmidt; Professors Emeriti Bell, Crain, Funchion, Miller, Sweeney; Assistant Professor Agostini, Brewer, Fisher, Johnson, Vollan, York.

History (HIST) Program

Majors may choose either the Bachelor of Arts or the Bachelor of Science degree. The requirements in either program are 36 credits of HIST prefixed courses, which must include 121, 122 or 111, 112 plus 151, 152, and 480.

The Department also offers a History Minor. See the Major and Minor Requirements section of this catalog.

Mission Statement

The Department of History and Political Science 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. 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.

The courses offered by the Department of History will prepare majors for careers in various professional occupations, and provide a necessary background for graduate work or other specialized training.

Core Curriculum

In addition to departmental requirements, a student must complete the University and College of Arts and Sciences core curriculum appropriate to the degree desired. See separate sections of this catalog for these requirements.

Teaching Specialization

Majors who wish to teach in the secondary schools are required to enroll in the teacher education program; for details, contact the College of Education and Counseling.
History (HIST) Major

Requirements for History Major, Bachelor of Arts in Arts and Sciences

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 .............. 6
Goal #2 Oral Communication: SPCM 101 ..................................... 3
Goal #3 Social Sciences/Diversity: (not History) ............................ 6
Goal #4 Arts and Humanities/Diversity ........................................ 6
Goal #5 Mathematics .................................................................. 3
Goal #6 Natural Sciences .............................................................. 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ............................ 3
Goal #2 Personal Wellness ............................................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

Major Requirements: 36
HIST 151, United States History I * ** ........................................ 3
HIST 152, United States History II * ** ........................................ 3
HIST 111, World Civilizations I *, or ............................................. 3
HIST 121, Western Civilization I * ................................................ 3
HIST 112, World Civilizations II * (G), or .................................. 3
HIST 122, Western Civilization II * ** (G) .................................. 3
HIST 280, Writing History ............................................................ 3
HIST 480, Historical Methods and Historiography (AW) ............ 3
HIST 300-400 level ................................................................. 18

Electives: 54

Total Required Credits: 128

Requirements for History Major, Bachelor of Science in Arts and Sciences

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 .............. 6
Goal #2 Oral Communication: SPCM 101 ..................................... 3
Goal #3 Social Sciences/Diversity: (not History) ............................ 6
Goal #4 Arts and Humanities/Diversity: (not History) .................... 6
Goal #5 Mathematics .................................................................. 3
Goal #6 Natural Sciences .............................................................. 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ............................ 3
Goal #2 Personal Wellness ............................................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

College Requirements: 4
Physical Science: CHEM, GEOG, PHYS, or PS ............................ 4

Major Requirements: 36
HIST 151, United States History I * ** ........................................ 3
HIST 152, United States History II * ** ........................................ 3
HIST 111, World Civilizations I *, or ............................................. 3
HIST 121, Western Civilization I * ................................................ 3
HIST 112, World Civilizations II * (G), or .................................. 3
HIST 122, Western Civilization II * ** (G) .................................. 3
HIST 280, Writing History ............................................................ 3
HIST 480, Historical Methods and Historiography (AW) ............ 3
HIST 300-400 level ................................................................. 18

Electives: 50

Total Required Credits: 128

History (HIST) Minor

History Minor Requirements: 18
Additional 6 credits of upper level courses ................................. 6
HIST 151, United States History I * ** ........................................ 3
HIST 152, United States History II * ** ........................................ 3
HIST 111, World Civilizations I *, or ............................................. 3
HIST 121, Western Civilization I * ................................................ 3
HIST 112, World Civilizations II * (G), or .................................. 3
HIST 122, Western Civilization II * ** (G) .................................. 3

Electives: 4

Total Required Credits: 22

Professional Science (POLs)

Gordon Tolle, Program Coordinator
Department of History and Political Science
Scobey Hall 304
605-688-4912
e-mail: gordon.tolle@sdstate.edu

Faculty
Distinguished Professor Emeritus Burns; Professors Lonowski, Tolle; Professor Emeritus Cheever; Associate Professor Aguiar.

Programs
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,
Political Science Major

Political science majors may work toward either a Bachelor of Arts or a Bachelor of Science degree. All are required to take 36 hours in political science including POLS 100 and at least 21 upper division credits (300 level and above). POLS 210 is required for all majors who take the education block (see below). All must complete 6 hours in Political Science comparative government and/or international courses, either upper division or lower division. Further, all majors must complete POLS 461 or POLS 462 to satisfy the Advanced Writing Requirement. Majors may not apply Political Science credits toward general education requirements. Up to 6 credits of POLS 491-591 Independent Study may be applied to the POLS Major or Minor. POLS 494 Internship is graded Satisfactory/Unsatisfactory and will not be counted toward the Major or Minor. Finally, the B.S. degree in political science requires 6 additional humanities credits for a total of 12 credits. Students who complete MATH 123 or MATH 121 may apply a total of 6 credits from CSC 205, STAT 281, SOC 307, and SOC 308 toward the 36 credit hours required for the political science major. You are encouraged to select at least one upper division course in each of the following fields within the major: American Government and Politics, Public Administration, Public Law, Comparative Government, International Relations, and Political Philosophy. Students must meet the University and College of Arts and Sciences requirements. Finite Math (MATH 104) may be used to satisfy B.A. and B.S. requirements in Political Science. Refer to the Majors and Minors Requirements section for SGE, IGR, Globalization, and Advanced Writing requirements.

Teaching Specialization

If you are preparing to teach secondary school, take education block prerequisite courses in the sophomore and junior years. You must consult with the Dean of the College of Education and Counseling prior to your junior year. Set aside one semester for the education block and off-campus teaching assignment during your senior year.

Pre-law Emphasis

Law schools require a bachelor's degree for entrance. Although a particular major is not specified, Political Science is a common choice because of its flexibility.

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.

Criminal Justice Emphasis

Consult advisers for minor requirements.

General Political Science Emphasis

You may 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. Students with this focus might pursue the Applied Information Technology 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.

Political Science (POLS) Major

Requirements for Political Science Major, Bachelor of Arts in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201........6
Goal #2 Oral Communication: SPCM 101..................3
Goal #3 Social Sciences/Diversity: (except POLS).............6
Goal #4 Arts and Humanities/Diversity.........................6
Goal #5 Mathematics..................................3
Goal #6 Natural Sciences.................................6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship..............3
Goal #2 Personal Wellness................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: (except POLS)..........................3

College Requirements: 5-16
Modern Language: (proficiency at the 202 level)..............3-14
Social Sciences...........................................2

Major Requirements: 36
POLS 100, American Government * **..........................3
Comparative or International Requirement †..................6
POLS 461 (AW), or POLS 462 (AW)..............................3
POLS Electives (21 must be Upper Division).................24

Electives: 33-49
POLS 253 (G), or other globalization requirement..........3
General Electives.........................................34-46

Total Required Credits: 128

Requirements for Political Science Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201........6
Goal #2 Oral Communication: SPCM 101..................3
Goal #3 Social Sciences/Diversity: (except POLS).............6
Goal #4 Arts and Humanities/Diversity.........................6
Goal #5 Mathematics..................................3
Goal #6 Natural Sciences†.................................6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship..............3
Goal #2 Personal Wellness................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: (except POLS)..........................3

College Requirements: 20
Natural Sciences..........................................8
Humanities..............................................6
Social Sciences: (except POLS)..........................6

Major Requirements: 36
POLS 100, American Government * **..........................3
Comparative or International Requirement †..................6
POLS 461 (AW), or POLS 462 (AW)..............................3
POLS Electives (21 must be Upper Division).................24

Electives: 33-34
POLS 253 (G), or other globalization requirement..........3
General Electives.........................................30-31

Total Required Credits: 128

Note: Graduate School Emphasis (Students who complete MATH 123 or MATH 121 may apply a total of 6 credits from CSC 205, STAT 281, SOC 307 and 308 toward the required 36 POLS credits.)
† For the Comparative or International Requirement, choose from among POLS 165, 253, 341, 343, 347, 350, 352, 417, 454.

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Horticulture, Forestry, Landscape and Parks (HO, LA, PR, PRM) Department

David Graper, Head
Department of Horticulture, Forestry, Landscape and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
fax: 605-688-4713
e-mail: david.graper@sdstate.edu

Faculty
Professor Graper, Head; Professors Ball, Fennell, Johnson, Maca, Schaefer, Schleicher, Stubbles; Professors Emeritt Collins, Peterson; Associate Professors Burrows, Fokken; Associate Professor Emeriti Johnson; Instructor James; Instructor Emeritus Evers; Adjunct Faculty
Doolittle (PS), Shuang (EROS), Fokken (HPER).

Programs

The Department offers instruction leading to the Bachelor of Science in Agriculture degree with majors in Horticulture, Landscape Architecture, and Park and Recreation Management. Courses are offered in Horticulture (HO), Landscape Architecture (LA), Park Management (PR), and Park and Recreation Management (PRM). See the Course Descriptions section of this catalog.

Horticulture (HO)

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. Four areas of specialization are available:

1. 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 Specialization curriculum.
2. Students interested in pursuing careers in managing nurseries, landscape maintenance, arboriculture, or garden center or greenhouse businesses should follow the Business Specialization curriculum.
3. Students interested in pursuing careers in food crop production and marketing should follow the Food Crops Specialization curriculum.
4. Students interested in pursuing careers in turf management should follow the Turfgrass Specialization curriculum.

Landscape Architecture (LA)

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 manmade 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.

Park and Recreation Management (PRM)

Park and Recreation professionals are needed to meet recreation demands resulting from expanding populations, increased leisure time, greater mobility and changing social attitudes. The curriculum in Park and Recreation Management is designed to prepare students for professional positions in parks and outdoor recreation, and recreation programming and administration. A minor in Recreation Administration is also offered. Two areas of specialization are available:

1. Students interested in parks and outdoor recreation, and employment with federal, state, county and municipal parks and recreation agencies and with private recreation and tourism enterprises, can tailor their program of study using the Park Management Specialization curriculum, offered through the Horticulture, Forestry, Landscape and Parks department.
2. Students interested in recreation programming and administration, and employment with municipal recreation agencies, YMCA/YWCAs, business, and therapeutic recreation in clinical as well as community settings, should follow the Recreation Administration Specialization curriculum, offered through the Health, Physical Education and Recreation department.
Horticulture (HO) Major
Leo Schleicher, Coordinator
Department of Horticulture, Forestry, Landscape and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
e-mail: leo.schleicher@sdstate.edu

Requirements for Horticulture Major, Bachelor of Science in Agriculture:

System General Education Requirements*: 31
Goal #1 Written Communication:
   ENGL 101, Composition I *.................................3
   ENGL 201, Composition II .................................3
Goal #2 Oral Communication:
   SPCM 101, Fundamentals of Speech * ......................3
Goal #3 Social Sciences/Diversity:............................6
Goal #4 Arts and Humanities/Diversity........................6
Goal #5 Mathematics: MATH 102, College Algebra * .......3
Goal #6 Natural Sciences:
   BOT 201-201L, General Botany and Lab * .........3
   CHEM 106-106L, Chemistry Survey and Lab ..........4

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship:
   BIOL 101-101L, Biology Survey I and Lab ** ........3
Goal #2 Personal Wellness....................................2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ........3

College Requirements: 12
HO 111-111L, Biology of Horticulture and Lab ........3
PS 213-213L, Soils and Lab * .................................3
PS 223-223L, Principles of Plant Pathology and Lab ....3
PS 305-305L, Insect Biology and Lab ....................3

Major Requirements: 47
BOT 327-327L, Plant Physiology and Lab ................4
CHEM 108-108L, Organic and Biochemistry and Lab *...5
HO 100, Survey of Horticulture............................1
HO 221-221L, Turfgrasses and Lab .........................1
HO 222-222L, Fundamentals of Turf Management and Lab ...2
HO 231, Greenhouse Production ......................2
HO 250-250L, Woody Plants: Trees and Lab ............3
HO 260, Woody Plants: Shrubs and Vines ...........3
HO 290, Professionalism in Horticulture Seminar ....2
HO 311-311L, Herbaceous Plants and Lab .............3
HO 312-312L, Plant Propagation and Lab .............3
HO 330, Arboriculture .......................................2
HO 350, Environmental Stewardship in Horticulture ....3
HO 440/540, Vegetable Crop Systems or
   HO 411/511, Fruit Crop Systems ....................3
HO 464, Senior Project I (AW) ..............................1
HO 465, Senior Project II (AW) ............................1
HO 494, Internship or HO 496, Field Experience ....1
PHYS 101-101L, Survey of Physics and Lab * .......4
STAT 281, Introduction to Statistics* ......................4

Specialization Credits: Choose a specialization below 29-31

Total Required Credits: 128

Production Specialization: 29-30
HO 383-383L, Principles of Crop Improvement and Lab ....3
HO 412-412L, Greenhouse Management and Lab .........3
HO 415, Nursery Management .............................3
HO 440/540, Vegetable Crop Systems or
   HO 411/511, Fruit Crop Systems† ..................1-3

Electives: 9
Choose 10 credits from the following:

ACCT 210, Principles of Accounting I ..................3
AST 434-434L, Landscape Irrigation and Lab ..........3
BADM 360, Organization and Management .............3
HO 322-322L, Turfgrass Pests and Lab ..................2
HO 331, Arboricultural Operations .....................1
HO 430, Urban Forest Management ......................3
HO 440/540, Vegetable Crop Systems or
   HO 411/511, Fruit Crop Systems† .................3
LA 201, Introduction to Landscape Design ..........3
LA 321, Golf Course Design ............................3
PS 343-343L, Weed Science and Lab ....................3

† Modules must be different than those used to satisfy core curriculum.

Business Specialization: 30-31
ACCT 210, Principles of Accounting I ..................3
BADM 360, Organization and Management .............3
ECON 201, Principles of Microeconomics .............3
Choose 6 credits from the following:
   AST 434-434L, Landscape Irrigation and Lab .......3
   HO 322-322L, Turfgrass Pests and Lab ...........2
   HO 331, Arboricultural Operations ..................1
   HO 383-383L, Principles of Crop Improvement and Lab ....3
   HO 412-412L, Greenhouse Management and Lab ....3
   HO 415, Nursery Management .........................3
   HO 421, Turfgrass Stress Physiology ....................2
   HO 430, Urban Forest Management ....................3
   HO 440/540, Vegetable Crop Systems or
      HO 411/511, Fruit Crop Systems† ...............3
   LA 201, Introduction to Landscape Design ..........3
   LA 321, Golf Course Design ............................3
   PS 343-343L, Weed Science and Lab ....................3

Choose 9 credits from the following:††
   ACCT 211, Principles of Accounting II ............3
   AGEC 354, Agricultural Marketing and Prices ......3
   BADM 280, Personal Finance ..........................3
   BADM 310, Business Finance ..........................3
   BADM 334, Small Business Management ..............3
   BADM 350, Legal Environment of Business .........3
   BADM 351, Business Law ...............................3
   ECON 330, Money and Banking .......................3
   ECON 370, Marketing ....................................3
   ECON 476-576, Marketing Research .................3

Electives: 6
†† Students seeking a Business Minor must take either BADM/ECON 370, BADM 310, or BADM 350.

Food Crops Specialization: 29-30
AST 434-434L, Landscape Irrigation and Lab ..........3
ENTR 202, Human Resource Operations in Entrepreneurship ....1
ENTR 204, Finance/ Venture Capital in Entrepreneurship ....1
ENTR 301, Marketing/Promotion in Entrepreneurship ....1
HO 412-412L, Greenhouse Management and Lab ....3
HO 440/540, Vegetable Crop Systems or
   HO 411/511, Fruit Crop Systems† .................2

Choose 10 credits from the following:
   ABS 203, Global Food Systems ** (G) ...............3
   BADM 334, Small Business Management ..............3
   CA 230, Consumer Behavior ............................3
   ENTR 205, Legal Issues/Business Structure/Risk Management ....1
   ENTR 207, Financial Analysis/Record Keeping/Accounting in Entrepreneurship ....1
   ENTR 304, Strategy/Pricing/Location in Entrepreneurship ....1
   ENTR 336, Entrepreneurship I .........................3
   ENTR 489, Business Plan Writing and Competition ....1
Department and Program Descriptions and Requirements 161

Landscape Architecture (LA) Major
Martin Maca, Coordinator
Department of Horticulture, Forestry, Landscape and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
e-mail: martin.maca@sdstate.edu

Requirements for Landscape Architecture Major, Bachelor of Science in Agriculture:

System General Education Requirements*: 31
Goal #1 Written Communication:
   ENGL 101, Composition I ............................................. 3
   ENGL 201, Composition II ............................................ 3
Goal #2 Oral Communication:
   SPCM 101, Fundamentals of Speech ................................ 3
Goal #3 Social Sciences/Diversity:
   ECON 202, Principles of Macroeconomics * (G) ................. 3
Goal #4 Arts and Humanities/Diversity .............................. 6
Goal #5 Mathematics: MATH 102, College Algebra * or
   MATH 120, Trigonometry ........................................... 3
Goal #6 Natural Sciences:
   BOT 201-201L, General Botany and Lab * or
   CHEM 106-106L, Chemistry Survey and Lab .................. 3-4

Institutional Graduation Requirements**: 8-10
Goal #1 Land and Natural Resource Stewardship:
   BIOL 101-101L, Biology Survey I and Lab ** or
   BIOL 151-151L, General Biology I and Lab * .................. 3-4
Goal #2 Personal Wellness .................................................. 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

College Requirements: 11
HO 111-111L, Biology of Horticulture and Lab .................. 3
LA 201, Introduction to Landscape Design ......................... 3
PS 213-213L, Soils and Lab ** ......................................... 3
Choose also at least 2 more credits from the College of ABS Group 1
Courses in Agriculture. (The course listed below also appears in
the lists of LA Technical Electives.)
   PS 305-305L, Insect Biology and Lab ............................. 3

Major Requirements: 57
   AST 434-434L, Landscape Irrigation and Lab .................. 3
   CEE 106-106L, Elementary Surveying and Lab or ............. 4
   CM 210-210L, Construction Surveying and Lab ............... 3
   ENGL 379, Technical Communication (AW) ..................... 3
   ENGL 101, Composition I * or
   BIOL 101-101L, Biology Survey I and Lab ** or
   CHEM 326-326L, CHEM 464, and CHEM 466. Remaining credits
   should be used to support a focus area in horticulture.

Horticulture Minor

Requirements for Horticulture Minor: 18 cr
HO 100, Survey of Horticulture ........................................ 1
HO 111-111L, Biology of Horticulture and Lab .................. 3
HO 250-250L, Woody Plants: Trees and Lab or .................... 3
HO 311-311L, Herbaceous Plants and Lab ........................ 3
Choose 11 additional credits from the following:
   HO 221-221L, Turfgrasses and Lab ................................ 1
   HO 222-222L, Fundamentals of Turf Management and Lab ... 2
   HO 231, Greenhouse Crop Production .............................. 2
   HO 330, Arboriculture ................................................ 2
   HO 331, Arboricultural Operations ................................ 2
   HO 350, Environmental Stewardship in Horticulture .......... 3
   HO 383-383L, Principles of Crop Improvement and Lab .... 3
   HO 390, Professionalism in Horticulture Seminar .......... 3
   HO 392-392L, Plant Propagation and Lab ......................... 3
   HO 393-393L, Golf Course Management and Lab ............... 3
   HO 394-394L, Turfgrass Pests and Lab .......................... 3
   HO 430, Urban Forest Management ................................ 3
   HO 440, Vegetable Crop Systems or
   HO 411, Fruit Crop Systems ......................................... 1-3

Electives: 23
   General Elective ......................................................... 1-3
   Technical Electives: 15 credits must be selected from one of the
   following emphasis areas:
   Students wishing to complete a Business Minor should take ECON
201 and additional 15 credits from ACCT and BADM below. Students wishing to complete a Horticulture Minor should take an additional 12 credits of HO courses.

**Design/Build Emphasis (15 credits)**

- ACCT 210, Principles of Accounting I — 3 credits
- ACCT 211, Principles of Accounting II — 3 credits
- BADM 280, Personal Finance — 3 credits
- BADM 310, Business Finance — 3 credits
- BADM 334, Small Business Management — 3 credits
- BADM 350, Legal Environment of Business — 3 credits
- BADM 360, Organization and Management — 3 credits
- BADM 474, Personal Selling — 3 credits
- ECON 201, Principles of Microeconomics — 3 credits
- HO 221-221L, Turfgrasses and Lab — 1 credit
- HO 222-222L, Fundamentals of Turf Management and Lab — 2 credits
- HO 312-312L, Plant Propagation and Lab — 3 credits
- HO 314-314L, Turf Management and Lab — 3 credits
- HO 321-321L, Golf Course Management and Lab — 3 credits
- LA 321, Golf Course Design — 1 credit
- PS 305-305L, Insect Biology and Lab — 3 credits

**Professional Practice Emphasis (15 credits)**

- ART 111, Drawing I — 3 credits
- ART 121, Design 1D — 3 credits
- ART 123, Three Dimensional Design — 3 credits
- BIOL 311, Principles of Ecology — 3 credits
- BOT 419-419L, Plant Ecology and Lab — 3 credits
- GEOG 487, Geographic Information Systems I — 3 credits
- GEOG 488-588, Geographic Information Systems II — 3 credits
- GEOG 489-589, Geographic Information Systems III — 3 credits
- LA 440-440L, Restoration Ecology and Lab — 4 credits
- LA 560, Landscape Ecology — 4 credits
- PHIL 220, Introduction to Ethics — 3 credits
- PHIL 320, Professional Ethics — 3 credits
- PS 243, Principles of Geology — 3 credits
- RANG 210-210L, Range Plant Identification and Lab — 2 credits
- SOC 240, The Sociology of Rural America — 3 credits
- SOC 440, Urban Sociology — 3 credits

**Total Required Credits: 128**

† Course requires completion of one or more prerequisites.

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**Park and Recreation Management Major - Park Management Specialization**

Russel Stubbles, Coordinator
Department of Horticulture, Forestry; Landscape and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
e-mail: sdsu.hflp@sdstate.edu

Requirements for Park and Recreation Management Major, Recreation Administration Specialization:

- **System General Education Requirements**: 31 credits
  - **Goal #1 Written Communication**: ENGL 101, Composition I — 3 credits
  - ENGL 201, Composition II — 3 credits
  - **Goal #2 Oral Communication**: SPCM 101, Fundamentals of Speech — 3 credits
  - **Goal #3 Social Sciences/Diversity**: SOC 100*, or 150*, or 240* or ANTH 210* — 3 credits
  - PSYC 101, General Psychology — 3 credits

- **Goal #4 Arts and Humanities/Diversity**: 6 credits
- **Goal #5 Mathematics**: MATH 102, College Algebra — 3 credits
- **Goal #6 Natural Sciences**: BIOL 101-101L, Biology Survey I and Lab — 3 credits
  - CHEM 106-106L, Chemistry Survey and Lab — 4 credits

**Institutional Graduation Requirements**: 8-9 credits
- **Goal #1 Land and Natural Resource Stewardship**: PS 213-213L, Soils and Lab — 3 credits
- **Goal #2 Personal Wellness**: 2-3 credits
- **Goal #3 Social Responsibility/Cultural and Aesthetic Awareness**: POLS 100, American Government or POLS 210, State and Local Government — 3 credits

**Major Requirements**: 59 credits
- ACCT 210, Principles of Accounting I — 3 credits
- BIOL 103-103L, Biology Survey I and Lab or BIOL 200-200L, Animal Diversity and Lab or
  - BOT 201-201L, General Botany and Lab — 3 credits
- ECON 202, Principles of Macroeconomics — 3 credits
- ENGL 379, Technical Communication — 3 credits
- HO 111-111L, Biology of Horticulture and Lab — 3 credits
- HO 221-221L, Turfgrasses and Lab — 1 credit
- HO 222-222L, Fundamentals of Turf Management and Lab — 2 credits
- HO 250-250L, Woody Plants: Trees and Lab — 3 credits
- HLTH 251, First Aid and CPR — 1 credit
- PHYS 101-101L, Survey of Physics and Lab — 3 credits
- POLS 320, Public Administration — 3 credits
- PRM 100, Introduction to Park and Recreation — 1 credit
- PRM 101, Parks and Society — 3 credits
- PRM 202-202L, Outdoor Recreation Resource Management and Lab — 3 credits
- PRM 300-300L, Park and Recreation Facility Management and Lab — 3 credits
- PR 301-301L, Park Interpretation and Lab — 3 credits
- PRM 302, Commercial Recreation and Tourism — 3 credits
- PRM 360, Recreation and Outdoor Programming — 3 credits
- PR 494, Internship — 3 credits
- PR 401-401L, Advance Park Management and Lab — 3 credits
- REC 440, Administration of Leisure Services — 3 credits
- SPCM 215*, Public Speaking — 3 credits

**Electives**: 6 credits
- **Resource Management Electives**: Choose 12 credits
  - AST 434-434L, Landscape Irrigation and Lab — 3 credits
  - HO 330, Arboriculture — 2 credits
  - HO 331, Arboriculture Operations — 3 credits
  - HO 430, Urban Forest Management — 3 credits
  - PR 350, Agritourism — 3 credits
  - PS 243-244, Geology and Lab — 4 credits
  - RANG 205, Introduction to Range Management — 3 credits
  - RANG 321, Wildland Ecosystems — 3 credits
  - WL 220, Introduction to Wildlife and Fisheries Management — 3 credits
  - WL 411, Principles of Wildlife Management — 4 credits
  - WL 412, Principles of Fisheries Management — 4 credits
  - WL 430, Human Dimensions in Wildlife and Fisheries — 4 credits
  - LA 440, Restoration Ecology and Lab — 4 credits

- **Economics/Business Electives**: Choose 6 credits
  - ACCT 211, Principles of Accounting II — 3 credits
  - BADM 350, Legal Environment of Business — 3 credits
  - BADM 351, Business Law I — 3 credits
  - BADM 360, Organization and Management — 3 credits
  - BADM 474, Personal Selling — 3 credits
  - ECON 201, Principles of Microeconomics — 3 credits
  - ECON 370, Marketing — 3 credits
  - ECON 433, Public Finance — 3 credits
  - ECON 472, Resource and Environmental Economics — 3 credits
  - STAT 281, Introduction to Statistics — 3 credits

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Land-use Planning Electives: Choose 6 credits
LA 201, Introduction to Landscape Design .............................................. 3
PLAN 471, Principles of State, Regional and Community Planning .. 3
PLAN 472, Techniques of State, Regional and Community Planning P
PS 310-310L, Soil Geography and Land-use Interpretation and Studio ... 3
GEOG 363, Rural Geography .......................................................... 3
GEOG 212, Geography of North America and
GEOG 365, Land-use Planning ......................................................... 3
GEOG 415, Environmental Geography ............................................... 3
GEOG 447, Geography of the Future .................................................. 3
GEOG 464, Local and Regional Planning .............................................. 3
GEOG 487, Geographic Information Systems I .................................... 3
GEOG 488, Geographic Information Systems II .................................. 3
GEOG 489, Geographic Information Systems III ................................. 3
HO 260, Woody Plants: Shrubs and Vines ........................................... 2
HO 311-311L, Herbaceous Plants and Lab .......................................... 3
PE 321-321L, Water Safety Instructor and Lab .................................... 2
PHIL 220, Introduction to Ethics ....................................................... 3
RECR 260, Fundamentals of Recreation Leadership .......................... 2
SOC 308, Research Methods II ......................................................... 3

Total Required Credits: 128
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Hospitality Management (HMGT)
(See Nutrition, Food Science and Hospitality)

Human Development
(ECE, FCS, FCSE, HDFS, LMNO) Department

Andrew Stremmel, Head
Department of Human Development
SNF 369
605-688-6418
e-mail: Andrew.Stremmel@sdstate.edu

Faculty
Professor Stremmel, Head; Professors Gilkerson, Helling, Nichols, Wilson; Professors Emeriti Richardson; Associate Professors Penor Ceglian, Cutler, Daniels, DeBates, Gorham, Oscarson, Rasmussen; Assistant Professors Bates, Bowne, Gillman; Instructors Brokmeier, Ekstrand, Kampmann, Venhuizen.

Programs
The Department offers majors in Early Childhood Education, Family and Consumer Sciences Education, and Human Development and Family Studies. Early Childhood Education students may also enroll in the Cooperative Program in Elementary Education with Black Hills State University, Dakota State University, Northern State University, or University of South Dakota. Minimum college and university requirements are given in the appropriate sections of this catalog and are incorporated into curriculum plans for each major. Advisers assist students in personalizing their curriculum plans and ensuring all requirements are met.

Early Childhood Education Major
The ECE major is designed for students interested in working with young children and their families in early childhood education settings such as child care, preschool, public schools (K-Grade 2), Head Start and related programs. Students may also elect to participate in the Cooperative Elementary Program. This area of study requires a major in Early Childhood Education at SDSU and an additional 2-3 semesters of Elementary Education certification coursework at BHSU, DSU, NSU, or USD.

Family and Consumer Sciences Education Major
Graduates meet certification requirements to teach Family and Consumer Sciences. They develop abilities in management, planning, communication and organization, leading to careers in education, teaching, Cooperative Extension, business, government and community services.

Human Development and Family Studies Major
The major focuses on human development, behavior, and relationships throughout the lifespan. Coursework, observation, and practical experience offer students the knowledge, skills, and experiences necessary for careers in individual and family service settings, child focused human services, and/or continued coursework in graduate school.

Minors
Minors are available in Gerontology; Human Development and Family Studies; and Leadership and Management of Nonprofit Organizations.

Early Childhood Education Major

Requirements for Early Childhood Education Major, Birth to 5 Specialization:

Bachelor of Science in Family and Consumer Sciences

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I .......................................................... 3
ENGL 201, Composition II .......................................................... 3
Goal #2 Oral Communication:
SPCM 101, Fundamentals of Speech ............................................ 3
Goal #3 Social Sciences/Diversity:
HDFS 210, Lifespan Development * ........................................... 3
PSYC 101, General Psychology .................................................. 3
Goal #4 Arts and Humanities/Diversity: choose two different disciplines or modern language sequence ........................................... 6
Goal #5 Mathematics: MATH 102, College Algebra or higher ......... 3
Goal #6 Natural Sciences: BIOL 101-101L, Biology Survey I and Lab ................................................................. 6

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship ........................... 3
Goal #2 Personal Wellness:
WEL 100-100L, Wellness for Life and Lab ** ................................. 2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
AIS/ANTH 421, Indians of North America or
HIST 368 History and Culture of the American Indian or
INED 411 South Dakota Indian Studies ........................................ 3

College Requirements: 4
FCS 101, FCS-Professional Foundations ........................................ 1
HDFS 241, Family Relations .......................................................... 3
Major Requirements: 77
SOC 100, Introduction to Sociology *(G) .......................... 3
CSC 105, Introduction to Computers .................................. 3
DCOM 212, Language Development ................................... 3
EDFN 365, Computer-Based Technology and Learning .............. 2
EDFN 475, Human Relations ............................................. 3
ECE 150-150L, Early Experience and Lab ............................. 2
ECE 220, Health, Safety and Nutrition of Young Child ...... 3
ECE 227, Human Development and Personality I: Childhood .... 3
ECE 228, Guidance with Young Children ................................ 1
ECE 228L, Observation and Participation in Early Childhood Lab ...1
ECE 361-361L, Methods and Materials/Early Childhood Education and Lab (AW)† ......................................................... 4
ECE 362-362L, Early Childhood Education Curriculum and Lab† ........................................................................ 4
ECE 364, Parent/Child Relationships in a Professional Context .... 3
ECE 365-365L, Emergent Literacy in Birth to Eight Education and Lab ................................................................................. 3
ECE 371-371L, Infant and Toddler: Developmentally Appropriate Practices and Lab ................................................................. 3
ECE 441, Professional Issues in Child and Family Studies ........ 3
ECE 455, Administration and Supervision of Early Childhood Setting ....................................................................................... 3
ECE 468, Early Intervention in Family-Centered Practices ........ 3
ECE 470, Early Childhood Inclusion Strategies ......................... 3
ECE 495, Practicum ......................................................... 1-12

Electives: 4-15
ECE 465, Introduction to Developmental Assessment and Teacher- Research with Young Children† ........................................... 2
ECE 487, Orientation to Child and Family Services Practices .... 1
ECE 488, Student Teaching† .................................................. 1-12

Total Required Credits: 128
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 “D” on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS or ECE prefix is considered a course in the major.

A grade of “C” or better is required in PSYC 101, ENGL 101, SPCM 101, MATH 102.
Students must meet all GPA requirements (2.6 for graduation) and be accepted into the ECE Teacher Education program ECE-PSI 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.
† Taken concurrently.

Requirements for Early Childhood Education Major, Birth to 8 Specialization:
Bachelor of Science in Family and Consumer Sciences

System General Education Requirements*: 31-32
Goal #1 Written Communication:
ENGL 101, Composition I ..................................................... 3
ENGL 201, Composition II ..................................................... 3

Goal #2 Oral Communication:
SPCM 101, Fundamentals of Speech ......................................... 3

Goal #3 Social Sciences/Diversity:
HDFS 210, Lifespan Development * ........................................ 3
PSYC 101, General Psychology ............................................. 3

Goal #4 Arts and Humanities/Diversity: choose two different disciplines or modern language sequence ........................................... 6

Goal #5 Mathematics: MATH 102, College Algebra or higher .... 3

Goal #6 Natural Sciences:
GEOG 131-131L, Physical Geography I and Lab * .............. 4
CHEM 106-106L, Chemistry Survey and Lab * or
PHYS 101-101L, Survey of Physics and Lab * or
PHYS 185-185L, Introduction to Astronomy I and Lab * 3-4

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship:
BIOL 101-101L, Biology Survey I and Lab ** .................. 3

Goal #2 Personal Wellness:
WEL 100-100L, Wellness for Life and Lab ** .................. 2

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
AIS/ANTH 421, Indians of North America or
HIST 368 History and Culture of the American Indian or
INED 411 South Dakota Indian Studies.......................... 3

College Requirements: 4
FCS 101, FCS-Professional Foundations .................................. 1
HDFS 241, Family Relations ................................................. 3

Major Requirements: 60-85
ECE 150-150L, Early Experience and Lab .................................. 2
ECE 220, Health, Safety and Nutrition of Young Child ........ 3
ECE 228, Guidance with Young Children .................................. 1
ECE 228L, Observation and Participation in Early Childhood Lab ...1
ECE 361-361L, Methods and Materials/Early Childhood Education and Lab (AW)† ......................................................... 4
ECE 362-362L, Early Childhood Education Curriculum and Lab† ........................................................................ 4
ECE 364, Parent/Child Relationships in a Professional Context .... 3
ECE 365-365L, Emergent Literacy in Birth to Eight Education and Lab ................................................................................. 3
ECE 371-371L, Infant and Toddler: Developmentally Appropriate Practices and Lab ................................................................. 3
ECE 465, Introduction to Developmental Assessment and Teacher- Research with Young Children† ........................................... 2
ECE 470, Early Childhood Inclusion Strategies ........ 3
ECE 473, Orientation to K-3 Student Teaching ......................... 2
ECE 475, Pedagogy and Guidance in Primary Grade Classrooms .... 2
ECE 478-478L, Integrated Curriculum in Birth-to-Age Eight Education and Lab ......................................................... 4
ECE 488, Student Teaching† .................................................. 1-12
ECE 495, Practicum ......................................................... 1-12
EDFN 492-592, Topics ...................................................... 1-3
EDFN 338, Foundations of American Education † ................. 2
EDFN 365, Computer-Based Technology and Learning ................. 2
EDFN 475, Human Relations † ............................................... 3
MATH 141, Survey of Mathematics or
MATH 341, Math Concepts for Teachers I ......................... 3
MATH 342, MATH Concepts ............................................. 3
MUS 351, Elementary School Music Methods ........ 2-3
PE 360-360L, K-8 Physical Education Methods and Lab ........ 2
SOC 100, Introduction to Sociology *(G) ......................... 3

Electives: 0-24

Total Required Credits: 128
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 “D” on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS or ECE department/program prefix is considered a course in the major.

A grade of “C” or better is required in PSYC 101, ENGL 101, SPCM 101, MATH 102.
Students must meet all GPA requirements (2.6 for graduation) and be successfully admitted into ECE-, PSII, III, and IV.

Students must pass the PRAXIS content and Principles of Teaching and Learning Exams in order to be considered a Highly Qualified Teacher.
† Taken concurrently.

Requirements for Early Childhood Education Major- Cooperative Agreement with Black Hills State University:
Bachelor of Science in Family and Consumer Sciences

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System General Education Requirements*: 32
Goal #1 Written Communication:
ENGL 101, Composition I .................................................3
ENGL 201, Composition II ..................................................3
Goal #2 Oral Communication:
SPCM 101, Fundamentals of Speech ......................................3
Goal #3 Social Sciences/Diversity:
HDFS 210, Lifespan Development .........................................3
PSYC 101, General Psychology .............................................3
Goal #4 Arts and Humanities/Diversity:
ART 121, Design 1 2D ** ..................................................3
ENGL 240, Juvenile Literature ** ..........................................3
Goal #5 Mathematics: MATH 102, College Algebra or higher ....3
Goal #6 Natural Sciences:
GEOG 131-131L, Physical Geography I and Lab * ...................4
CHEM 106-106L, Chemistry Survey and Lab * or ............................
PHYS 101-101L, Survey of Physics and Lab * .............................4
Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship:
BIOL 101-101L, Biology Survey I and Lab ** ...........................3
Goal #2 Personal Wellness:
WEL 100-100L, Wellness for Life and Lab ** ............................2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
AIS/ANTH 421, Indians of North America or ........................
HIST 368 History and Culture of the American Indian or ..........................
INED 411 South Dakota Indian Studies .................................
College Requirements: 4
FCS 101, FCS-Professional Foundations ................................1
HDFS 241, Family Relations .................................................3
Major Requirements: 68-80
ECE 150-150L, Early Experience and Lab ................................2
ECE 220, Health, Safety and Nutrition of Young Child .............3
ECE 227, Human Development and Personality I: Childhood ....3
ECE 228, Guidance with Young Children ................................1
ECE 228L, Observation and Participation in Early Childhood Lab ..1
ECE 361-361L, Methods and Materials/Early Childhood Education and Lab (AW) † ...............................................................4
ECE 362-362L, Early Childhood Education Curriculum and Lab† ............................................................4
ECE 364, Parent/Child Relationships in a Professional Context ....3
ECE 365-365L, Emergent Literacy in Birth to Eight Education and Lab ..............................................................3
ECE 371-371L, Infant and Toddler: Developmentally Appropriate Practices and Lab .........................................................3
ECE 400, Orientation to Elementary Education Programs ............0
ECE 441, Professional Issues in Child and Family Studies .........3
ECE 465, Introduction to Developmental Assessment and Teacher- Research with Young Children† ..........................................2
ECE 488, Student Teaching † ................................................1-12
EDFN 338, Foundations of American Education † ........................1-2
EDFN 365, Computer-Based Technology and Learning ...............2
EDFN 475, Human Relations † ..............................................3
EPSY 302, Educational Psychology ..............................................3
HIST 151, United States History I * ** or ..............................3
HIST 152, United States History II * ** ..................................3
GEOG 200, Introduction to Human Geography * ** (G) or GEOG 210, World Regional Geography * ** (G) ................................3
MATH 141, Survey of Mathematics .........................................3
MATH 342, MATH Concepts .................................................3
MUS 351, Elementary School Music Methods ........................2-3
POLI 100, American Government * ** ....................................3
PE 360-360L, K-8 Physical Education Methods and Lab ...............2
SPED 300, Students With Exceptionalities ..............................3
Electives: 4-16
Total Required Credits: 128
Courses taken at BHSU to meet state elementary education certification will require additional semesters. Enroll in ECE 400 (0 cr) while at BHSU.
A pre-graduate check is required 2 semesters before going to BHSU.
At beginning of graduation semester, a graduation application from SDSU must be completed.
A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.
Students are required to have an overall GPA of 2.6 and have a "C" or better in ENGL 101, EPC 101, EPSY 302, EDFN 338, MATH 102.
Students must meet all GPA requirements and successfully be admitted to ECE Teacher Education Program ECE PS11 and ECE PS III.
Students must meet all requirements for admission to Teacher Education Program at BHSU and SDSU. Students must successfully complete the PPST Exam or CAAP Students pass the PRAXIS content and Principles of Teaching and Learning exams to be considered a Highly Qualified Teacher.
† Taken concurrently.

Requirements for Early Childhood Education Major- Cooperative Agreement with Dakota State University:
Bachelor of Science in Family and Consumer Sciences
System General Education Requirements*: 31-32
Goal #1 Written Communication:
ENGL 101, Composition I ..................................................3
ENGL 201, Composition II ..................................................3
Goal #2 Oral Communication:
SPCM 101, Fundamentals of Speech ......................................3
Goal #3 Social Sciences/Diversity:
HDFS 210, Lifespan Development .........................................3
PSYC 101, General Psychology .............................................3
Goal #4 Arts and Humanities/Diversity:
ART 121, Design 1 2D ** ..................................................3
ENGL 240, Juvenile Literature ** ..........................................3
Goal #5 Mathematics: MATH 102, College Algebra or higher ....3
Goal #6 Natural Sciences:
GEOG 131-131L, Physical Geography I and Lab * ...................4
CHEM 106-106L, Chemistry Survey and Lab * or ............................
PHYS 101-101L, Survey of Physics and Lab * .............................4
Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship:
BIOL 101-101L, Biology Survey I and Lab ** ...........................3
Goal #2 Personal Wellness:
WEL 100-100L, Wellness for Life and Lab ** ............................2
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
AIS/ANTH 421, Indians of North America or ........................
HIST 368 History and Culture of the American Indian or ..........................
INED 411 South Dakota Indian Studies .................................
College Requirements: 4
FCS 101, FCS-Professional Foundations ................................1
HDFS 241, Family Relations .................................................3
Major Requirements: 85
GEOG 210, World Regional Geography * ** (G) ........................3
CSC 105, Introduction to Computers .......................................3
ECE 150-150L, Early Experience and Lab ................................2
ECE 227, Human Development and Personality I: Childhood ....3
ECE 228, Guidance with Young Children ................................1
ECE 228L, Observation and Participation in Early Childhood Lab ..............................................................1
ECE 361-361L, Methods and Materials/Early Childhood Education and Lab (AW) † ...............................................................4
ECE 362-362L, Early Childhood Education Curriculum and Lab† ............................................................4

Department and Program Descriptions and Requirements 165
Goal #1 Land and Natural Resource Stewardship:

Institutional Graduation Requirements**: 8

Goal #2 Oral Communication:

Bachelor of Science in Family and Consumer Sciences

System General Education Requirements*: 32

Goal #1 Written Communication:

ENGL 101, Composition I .............................. 3
ENGL 201, Composition II .............................. 3

Goal #2 Oral Communication:

SPCM 101, Fundamentals of Speech .................. 3

Goal #3 Social Sciences/Diversity:

HDFS 210, Lifespan Development .......................... 3
PSYC 101, General Psychology .......................... 3

Goal #4 Arts and Humanities/Diversity:

ART 121, Design I 2D ** .............................. 3
ENGL 240, Juvenile Literature ** ....................... 3

Goal #5 Mathematics: MATH 102, College Algebra or higher ........................................ 3

Goal #6 Natural Sciences:

GEOG 131-131L, Physical Geography I and Lab .......................... 4
PHYS 101-101L, Survey of Physics and Lab * or
CHEM 106-106L, Chemistry Survey and Lab .................. 4

Institutional Graduation Requirements**: 8

Goal #1 Land and Natural Resource Stewardship:

Biol 101-101L, Biology Survey I and Lab ** .................. 3

Goal #2 Personal Wellness:

WEL 100-100L, Wellness for Life and Lab ................. 2

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:

AIS/ANTH 421, Indians of North America or
HIST 368 History and Culture of the American Indian or
INED 411 South Dakota Indian Studies ..................... 3

College Requirements: 4

FCS 101, FCS-Professional Foundations .............................. 1
HDFS 241, Family Relations ..................................... 3

Major Requirements: 85

GEOG 200, Introduction to Human Geography * ** (G) or
GEOG 210, World Regional Geography * ** (G) ............ 3

ECE 101-150L, Early Experience and Lab ................. 2
ECE 220, Health, Safety and Nutrition of Young Child ....... 3
ECE 227, Human Development and Personality I: Childcare 3
HIST 151, United States History I ** or .................. 3
HIST 152, United States History II ** ..................... 3
ECE 228, Guidance with Young Children ......... 1
ECE 229L, Observation and Participation in Early Childhood Lab .......................................................... 1
ECE 361-361L, Methods and Materials/Early Childhood Education and Lab (AW) ........................................ 4
ECE 362-362L, Early Childhood Education Curriculum and Lab .......................................................... 4
ECE 364, Parent/Child Relationships in a Professional Context 3
ECE 365-365L, Emergent Literacy in Birth to Eight Education and Lab .................. 3
ECE 371-371L, Infant and Toddler: Developmentally Appropriate Practices and Lab .................................. 3
ECE 400, Orientation to Elementary Education Programs .............................. 0

Total Required Credits: 128

Courses taken at NSU to meet state elementary education certification will require at least 3 additional semesters. Enroll in ECE 400 (0 cr) while at NSU.

A pre-graduate check is required 2 semesters before going to NSU.

At beginning of graduation semester, a graduation application from SDSU must be completed.

Students are required to have an overall GPA of 2.6 and have a "C" or better in ENGL 101, SPCM 101, PSYC 101, EPSY 302, EDFN 338, MATH 102.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.

Students must meet all requirements for admission to Teacher Education Program at SDSU and SDSU and successfully be admitted to ECE, PSIII.

Students must pass the PRAXIS content and Principles of Teaching and Learning Exams to be considered a Highly Qualified Teacher.

† Taken concurrently.

Requirements for Early Childhood Education Major- Cooperative Program with Northern State University:

Bachelor of Science in Family and Consumer Sciences

System General Education Requirements*: 32

Goal #1 Written Communication:

ENGL 101, Composition I .............................. 3
ENGL 201, Composition II .............................. 3

Goal #2 Oral Communication:

SPCM 101, Fundamentals of Speech .................. 3

Goal #3 Social Sciences/Diversity:

HDFS 210, Lifespan Development .......................... 3
PSYC 101, General Psychology .......................... 3

Goal #4 Arts and Humanities/Diversity:

ART 121, Design I 2D ** .............................. 3
ENGL 240, Juvenile Literature ** ....................... 3

Goal #5 Mathematics: MATH 102, College Algebra or higher ........................................ 3

Goal #6 Natural Sciences:

GEOG 131-131L, Physical Geography I and Lab .......................... 4
PHYS 101-101L, Survey of Physics and Lab * or
CHEM 106-106L, Chemistry Survey and Lab .................. 4

Institutional Graduation Requirements**: 8

Goal #1 Land and Natural Resource Stewardship:

BIOL 101-101L, Biology Survey I and Lab ** .................. 3

Goal #2 Personal Wellness:

WEL 100-100L, Wellness for Life and Lab ................. 2

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:

AIS/ANTH 421, Indians of North America or
HIST 368 History and Culture of the American Indian or
INED 411 South Dakota Indian Studies ..................... 3

College Requirements: 4

FCS 101, FCS-Professional Foundations .............................. 1
HDFS 241, Family Relations ..................................... 3

Major Requirements: 85

GEOG 200, Introduction to Human Geography * ** (G) or
GEOG 210, World Regional Geography * ** (G) ............ 3

ECE 101-150L, Early Experience and Lab ................. 2
ECE 220, Health, Safety and Nutrition of Young Child ....... 3
ECE 227, Human Development and Personality I: Childcare 3
HIST 151, United States History I ** or .................. 3
HIST 152, United States History II ** ..................... 3
ECE 228, Guidance with Young Children ......... 1
ECE 229L, Observation and Participation in Early Childhood Lab .......................................................... 1
ECE 361-361L, Methods and Materials/Early Childhood Education and Lab (AW) ........................................ 4
ECE 362-362L, Early Childhood Education Curriculum and Lab .......................................................... 4
ECE 364, Parent/Child Relationships in a Professional Context 3
ECE 365-365L, Emergent Literacy in Birth to Eight Education and Lab .................. 3
ECE 371-371L, Infant and Toddler: Developmentally Appropriate Practices and Lab .................................. 3
ECE 400, Orientation to Elementary Education Programs .............................. 0

Total Required Credits: 128

Courses taken at NSU to meet state elementary education certification will require at least 3 additional semesters. Enroll in ECE 400 (0 cr) while at NSU.

A pre-graduate check is required 2 semesters before going to NSU.

At beginning of graduation semester, a graduation application from SDSU must be completed.

Students are required to have an overall GPA of 2.6 and have a "C" or better in ENGL 101, SPCM 101, PSYC 101, EPSY 302, EDFN 338, MATH 102.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.

Students must meet all requirements for admission to Teacher Education Program at SDSU and SDSU and successfully be admitted to ECE, PSIII.

Students must pass the PRAXIS content and Principles of Teaching and Learning Exams to be considered a Highly Qualified Teacher.

† Taken concurrently.
System General Education Requirements*: 30
Goal #1 Written Communication:
   ENGL 101, Composition I .................................................. 3
   ENGL 201, Composition II .................................................. 3
Goal #2 Oral Communication:
   SPCM 101, Fundamentals of Speech .................................. 3
Goal #3 Social Sciences/Diversity:
   PSYC 101, General Psychology ........................................ 3
   HDFS 210, Lifespan Development ......................................... 3
Goal #4 Arts and Humanities/Diversity:
   ART 121, Design I 2D ......................................................... 3
   ENGL 240, Juvenile Literature ............................................ 3
Goal #5 Mathematics: MATH 102, College Algebra or higher .... 3
Goal #6 Natural Sciences:
   GEOG 131-131L, Physical Geography and Lab and
   PHYS 101-101L Survey of Physics and Lab (or higher) or
   CHEM 106-106L, Chemistry Survey and Lab (or higher) ........ 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship:
   BIOL 101-101L, Biology Survey I and Lab .......................... 3
Goal #2 Personal Wellness:
   WEL 100-100L Wellness for Life and Lab ......................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: 3

College Requirements: 4
   FCS 101, FCS-Professional Foundations ............................. 1
   HDFS 241, Family Relations .................................................. 1

Major Requirements: 85
   ANTH 421-521, Indians of North America ** ...................... 3
   ECE 150-150L, Early Experience and Lab ........................... 2
   ECE 220, Health, Safety and Nutrition of Young Child .......... 3
   ECE 227, Human Development and Personality I: Childhood .. 3
   ECE 228, Guidance with Young Children ............................ 1
   ECE 228L, Observation and Participation in Early Childhood Lab .1
   ECE 361-361L, Methods and Materials/Early Childhood
   Education and Lab (AW) † ................................................. 4
   ECE 362-362L, Early Childhood Education Curriculum and Lab† .4
   ECE 364, Parent/Child Relationships in a Professional Context 3
   ECE 371-371L, Infant and Toddler: Developmentally Appropriate
   Practices and Lab ............................................................. 3
   ECE 400, Orientation to Elementary Education Programs .... 0
   ECE 441, Professional Issues in Child and Family Studies .... 3
   ECE 465, Introduction to Developmental Assessment and Teacher-
   Research with Young Children† ..................................... 2
   ECE 488, Student Teaching † .............................................. 1-12
   ECE 492-592, Topics ....................................................... 1-3
   EDFN 338, Foundations of American Education † ................ 1-2
   EDFN 365, Computer-Based Technology and Learning .......... 2
   EDFN 475, Human Relations † ............................................. 3
   EPSY 302, Educational Psychology .................................. 3
   GEOG 131-131L, Physical Geography I and Lab * ............... 4
   GEOG 210, World Regional Geography * ** (G) .................. 3
   HIST 151, United States History I * ** or
   HIST 152, United States History II * ** .............................. 3
   MATH 141, Survey of Mathematics ................................... 3
   MUS 351, Elementary School Music Methods .................... 2-3
   MATH Elective (check with adviser) .................................. 3
   PE 360-360L, K-8 Physical Education Methods and Lab ....... 2
   POLS 100, American Government * ** ............................... 3
   SPED 300, Students With Exceptionalities ....................... 3

Courses taken at USD to meet state elementary education certification will require additional semesters. Enroll in ECE 400 (0 cr) while at USD.
A pre-graduate check is required 2 semesters before going to USD.

At beginning of graduation semester, a graduation application from SDSU must be completed.
USD requires at least a grade of "C" or better for all courses required for teacher certification.
An overall cumulative GPA of 2.6 is also required.
A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.
Students must meet all requirements for admission to Teacher Education Program at USD and SDSU and be successfully admitted into ECE-PS III.
† Taken concurrently.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)
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 Kindergarten Education Endorsement
A Kindergarten Education Endorsement Program may be added to the Birth through Age 5 Specialization, Birth through Age 8 Specialization, or Cooperative Programs in the Early Childhood Education major.
Requirements for the Kindergarten Education Endorsement Program: Completion of 9 semester hours in early childhood education, including a course in kindergarten education, a practicum, internship, or student teaching in kindergarten. 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.
Required Coursework:
Other required courses to total 9 credits.
   ELED 412, Kindergarten Education Credit: .......................... 3
   ECE 492-592, Topics ..................................................... 1-3
   ECE 495, Practicum ....................................................... 1-12

Family and Consumer Sciences Education (FCSE) Major
Requirements for Family and Consumer Sciences Education Major
Bachelor of Science in Family and Consumer Sciences
System General Education Requirements*: 30
Goal #1 Written Communication:
   ENGL 101, Composition I .................................................. 3
   ENGL 201, Composition II .................................................. 3
Goal #2 Oral Communication:
   SPCM 101, Fundamentals of Speech .................................. 3
Goal #3 Social Sciences/Diversity:
   PSYC 101, General Psychology ........................................ 3
Goal #4 Arts and Humanities/Diversity:
   Elective from Globalization Requirement List (G) ............... 3
Goal #5 Mathematics: MATH 102, College Algebra or higher .... 3
Goal #6 Natural Sciences: Biology or Chemistry (recommended) 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship: NFS 111, Food,
   People and the Environment .......................................... 3
Goal #2 Personal Wellness: HSC 212 Contemporary Health Problems
   or WEL 100/100L Wellness for Life and Laboratory .......... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
   AIS/ANTH 421, Indians of North America or
   HIST 368 History and Culture of the American Indian or
   INED 411 South Dakota Indian Studies ........................... 3
College Requirements: 4
FCS 101, FCS-Professional Foundations ........................................ 1
HDFS 241, Family Relations ........................................................... 3

Major Requirements: 74-75
AM 231-231L, Ready-To-Wear Analysis and Lab ............................ 3
CA 289, Consumers in the Market .................................................. 3
CA 345, Foundations in Financial Management .............................. 3
CA 442, Family Resource Management Lab ................................... 3
CSE 295, Practicum ................................................................. 1
CSE 405, Philosophy of Career and Technical Education ............... 2
ECE 220, Health, Safety and Nutrition of Young Child .................. 3
ECE 228, Guidance with Young Children ...................................... 1
ECE 228L, Observation and Participation in Early Childhood Lab ..... 1
EDFN 365, Computer-Based Technology and Learning ................. 2
EDFN 427-527, Middle School: Philosophy and Application .......... 2
EDFN 475, Human Relations ..................................................... 3
EPSY 302, Educational Psychology .............................................. 3
FCSE 331, Work Force Preparation in Family and Consumer Sciences 2
FCSE 412-412L, Preparation for Student Teaching and Lab ............. 5
FCSE 473, Supervised Student Teaching ...................................... 10
HDFS 227, Human Development and Personality I: Childhood ..... 3
ID 120-120L, Introduction to Interior Design I and Lab ............... 4
ID 490-590, Seminar ............................................................... 1-3
NFS 141-141L, Foods Principles and Lab .................................... 4
NFS 221, Survey of Nutrition ..................................................... 3
SEED 314, Supervised Clinical/Field Experience .......................... 1
SEED 450, 7-12 Teaching Reading in Content Area ....................... 2
SPED 401, Introduction to Educating Secondary Students with Disabilities .......................................................... 1

Elective Credits: 11
Electives ..................................................................................... 7-8
HDFS/ECE Elective ...................................................................... 3

Total Required Credits: 128

Note: Students must receive a grade of "C" or better in SPCM 101, ENGL 101 and MATH 102 and have a cumulative GPA of 2.5 or above in order to be admitted to the College of Education and Counseling for teacher certification.
† A grade of "D" or better is required in all courses in the minor.

System General Education Requirements*: 30
Goal #1 Written Communication:
ENGL 101, Composition I .......................................................... 3
ENGL 201, Composition II .......................................................... 3

Goal #2 Oral Communication:
SPCM 101, Fundamentals of Speech .......................................... 3

Goal #3 Social Sciences/Diversity:
PSYC 101, General Psychology .................................................. 3
SOC 100, Introduction to Sociology (G) ...................................... 3

Goal #4 Arts and Humanities/Diversity:
Goal #5 Mathematics: MATH 102, College Algebra or higher ...... 3

Goal #6 Natural Sciences:BIOI 101-101L, Biology Survey I and Lab ... 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ........................ 3
Goal #2 Personal Wellness .......................................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
ABS/LEAD 310, Leadership for Families and the Food System or GERO 201, Introduction to Gerontology or SOC 150, Social Problems ...................................................... 3

College Requirements: 4
FCS 101, FCS-Professional Foundations .................................... 1
HDFS 241, Family Relations ....................................................... 3

Major Requirements: 57-61
CA 442, Family Resource Management Lab ................................ 3
ECE 227, Human Development I: Childhood .............................. 3
ENGL 379, Technical Communication (AW) ............................... 3
FCSE 421, Adult Education ......................................................... 3
HDFS 141, Individual and the Family .......................................... 3
HDFS 150-150L, Early Experience and Lab .................................. 2
HDFS 227, Human Development I: Childhood ............................ 3
HDFS 250, Development of Human Sexuality ............................. 3
HDFS 272, The Helping Relationship ......................................... 3
HDFS 337, Human Development II: Adolescence ....................... 3
HDFS 341, Family Theories ........................................................ 3
HDFS 347, Human Development III: Adulthood ......................... 3
HDFS 355, Program Design, Implementation and Evaluation ....... 3
HDFS 410-510, Parenting ............................................................ 3
HDFS 441, Professional Issues in Child and Family Studies ........... 3
HDFS 495, Practicum ............................................................... 8-10
ECON 201, Principles of Microeconomics * or ECON 202, Principles of Macroeconomics *(G) or POLS 100, American Government ** ........................................... 3

Gerontology (GERO) Minor
Renee Oscarson, Coordinator
Department of Human Development
SNF 403
605-688-5954
e-mail: renee.oscarson@sdstate.edu

Interdisciplinary minors in Gerontology are available at the undergraduate and graduate levels. Contact the Coordinator of Gerontology, College of Education and Human Sciences, for further information on these minors.

Requirements for Gerontology Minor: 18 cr
Seminar, Topics, or Independent Study approved by the Gerontology Coordinator. The topic and credits vary by semester.
Requirements for Leadership and Management of Nonprofit Organizations (LMNO) Minor

Cindi Penor Ceglian, Coordinator
Department of Human Development

Human Development, Child and Family Studies (HDFS) Minor

Requirements for Human Development, Child and Family Studies Minor: 18 cr

Leadership and Management of Nonprofit Organizations (LMNO) Minor

Cindi Penor Ceglian, Coordinator
Department of Human Development

Interdisciplinary Studies

Mark Binkley, Coordinator and Advisor
College of General Studies
Medary Commons 124
605-688-4153
e-mail: mark.binkley@sdstate.edu

Human Nutrition

(See Nutrition, Food Science and Hospitality)

Industrial Management (IM)

(See Engineering Technology and Management)

Interdisciplinary Studies Major

Requirements for Interdisciplinary Studies Major, Bachelor of Science in Interdisciplinary Studies:

System General Education Requirements*: 30

Goal #1 Written Communication ..............................................6
Goal #2 Oral Communication ..................................................3
Goal #3 Social Sciences/Diversity .............................................6
Goal #4 Arts and Humanities/Diversity .................................6
Goal #5 Mathematics .............................................................3
Goal #6 Natural Sciences .........................................................3

Department and Program Descriptions and Requirements 169
Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ............................................. 3
Goal #2 Personal Wellness ............................................................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ................. 3

Major Requirements: 40
GS 262, Foundations of Interdisciplinary Studies ........................................ 3
GS 362, Interdisciplinary Inquiry and Integration .......................................... 2
GS 489, Transition to Careers ..................................................................... 1
GS 479, Capstone Course ......................................................................... 2
Plan of study courses selected by student .................................................... 32

Electives: 50

Total Required Credits: 128

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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 (ID)  
(See Design, Merchandising, and Consumer Sciences)

Journalism and Mass Communication (MCOM) Department

Mary Arnold, Head
Yeager Hall 211
605-688-4171
e-mail: mary.arnold@sdstate.edu

Faculty
Professor Arnold, Head; Professors Getz, Giago, Lucchese, Olson;
Professor Emerit Lee; Associate Professors Cecil, Hinde, Paulson;
Associate Professors Emerita Laird, Perpich; Assistant Professor Klock;
Instructor Emeritus Cecil.

Programs
The four-year journalism program awards either a Bachelor of Arts or Bachelor of Science Degree. Students select one of the following specializations within Journalism and Mass Communication: Advertising, Broadcast Journalism, News-editorial Journalism, or Media Production.

The Department cooperates with the College of Agriculture and Biological Sciences to offer a four-year Bachelor of Science degree in Agricultural Education, Communications and Leadership.

Journalism (MCOM)
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). It is one of 105 schools so accredited. The Department has been accredited continuously since accrediting began in 1948. Journalism and Mass Communication students take a minimum of 80 credit hours outside of journalism and mass communication and a minimum of 65 credit hours in the liberal arts and sciences. Journalism and Mass Communication students must have a “C” or better in Freshman Composition; must have a graduation average of 2.5 in journalism and mass communication courses; and must have grades of “C” or better in all major courses.

News-Editorial Journalism Specialization
Students who want to be reporters or editors for newspapers, magazines, wire services or who want to work in photojournalism, public relations, or government information agencies usually take this specialization.

Broadcast Journalism Specialization
Students who want to work in news in radio and television take this specialization.

Advertising Specialization
Students who want to work in marketing communications, advertising sales or production or who want to work in advertising agencies or with advertising departments take this specialization.

Media Production Specialization
Students interested in creating audio and video for traditional and online media take this specialization.

Agricultural Education, Communications and Leadership. Students interested in agriculture and developing a flexible program of study in areas such as leadership and policy in agriculture should take this major.

Minor in Journalism
Available for students majoring in other fields. Courses required are basic newswriting, and other journalism and mass communication courses to total 16 credits.

Graduate Work in Journalism
An M.S. degree is offered. (See the Graduate School Catalog for details.)

Facilities. The Department moved into expanded and renovated facilities in 2000 that cost $2.4 million. There are four computer laboratories — for newswriting; for news editing and digital media; for broadcasting and advertising; and for photojournalism and media production. All have state-of-the-art equipment. Broadcast and advertising courses are in the Joe L. Floyd News Media Laboratory. It is connected to digital video and audio production suites. There are two conference rooms, a reading room, a student lounge, and individual offices for the Department's 10 faculty members. The building has been renamed Yeager Hall in recognition of the contributions of Anson and Ada May Yeager. Mr. Yeager was the longtime editor of the Argus Leader in Sioux Falls.

Journalism (MCOM) Major
Requirements for Journalism Major, Bachelor of Arts in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201.............6
Goal #2 Oral Communication: SPCM 101.................................3
Goal #3 Social Sciences/Diversity: ECON 201 (Advertising Specialization only); POLS 210 (All other specializations)......6
Goal #4 Arts and Humanities/Division..............................................6
Goal #5 Mathematics .....................................................................3
Goal #6 Natural Sciences...............................................................6

170 Department and Program Descriptions and Requirements
Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ...................................... 3
Goal #2 Personal Wellness ......................................................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: 
Option 1 ........................................................................................................ 3

College Requirements: 3-14
Modern Languages ...................................................................................... 3-14

Major Requirements: 16-27
MCOM 155, Information Gathering (also offered Summer) ......................... 2
MCOM 210-210L, Basic Newswriting and Lab ............................................. 3
MCOM 220-220L, Introduction to Digital Media and Lab ............................. 2
MCOM 225-225L, Introduction to Digital Production and Lab ................. 2
MCOM 416-516, Mass Media in Society (G), or ........................................ 3
MCOM 417-517, History of Journalism (G) .................................................. 3
MCOM 450-530, Media Law (even numbered years only) ......................... 3
MCOM 494, Internship (also offered Summer) ............................................ 1-12

Electives: 48-71

Total Required Credits: 128

Advertising Specialization Requirements: 24
ECON 370, Marketing .................................................................................. 3
MCOM 370, Advertising Principles ............................................................. 3
MCOM 371-371L, Video Production and Lab ................................................ 3
MCOM 372-372L, Advertising Copy and Layout and Lab (AW) ................ 3
MCOM 373-373L, Television News Reporting and Lab .............................. 3
MCOM 340-340L, Broadcast Announcing and Performance and Lab ....... 3
MCOM 433-433L, Television News Reporting and Lab .............................. 3
MCOM 370, Advertising Principles ............................................................. 3
MCOM 442L, Integrated Marketing Communication Campaigns Studio .... 0
MCOM Electives ........................................................................................... 9

Broadcast Journalism Specialization Requirements: 21
MCOM 331-331L, Video Production and Lab ............................................. 3
MCOM 332-332L, Broadcast Writing and Reporting and Lab .................... 3
MCOM 333-333L, Television News Reporting and Lab .............................. 3
MCOM 144, Media Production Environments I ........................................ 1
MCOM 160, Introduction to Film .................................................................. 1
MCOM 330-330L, Writing for Electronic Media and Lab ......................... 3
MCOM 331-331L, Video Production and Lab ............................................. 3
MCOM 344, Media Production Environments II ......................................... 1
MCOM 375-375L, Intermediate Media Production and Lab ..................... 3
MCOM 425-425L, Converged Media Production and Lab ......................... 2
MCOM 431-431L, Advanced Media Production and Lab ......................... 3
MCOM Electives ........................................................................................... 2

Media Production Specialization Requirements: 21
MCOM 144, Media Production Environments I ........................................ 1
MCOM 160, Introduction to Film .................................................................. 1
MCOM 330-330L, Writing for Electronic Media and Lab ......................... 3
MCOM 331-331L, Video Production and Lab ............................................. 3
MCOM 344, Media Production Environments II ......................................... 1
MCOM 375-375L, Intermediate Media Production and Lab ..................... 3
MCOM 425-425L, Converged Media Production and Lab ......................... 2
MCOM 431-431L, Advanced Media Production and Lab ......................... 3
MCOM Electives ........................................................................................... 2

All students must demonstrate advanced Information Technology Literacy (ITL). Numerous departmental courses fulfill this requirement, as do courses from other departments.

† MEPR students who do not take MCOM 160 must take an additional three (3) credits from the approved list of Humanities and Arts.

News Editorial Specialization Requirements: 24-25
MCOM 265-265L, Basic Photography and Studio ....................................... 2-3
MCOM 311-311L, News Editing and Lab ..................................................... 3
MCOM 370, Advertising Principles ............................................................. 3
MCOM 438-438L, Public Affairs Reporting and Lab (AW) ...................... 3
MCOM 490, Seminar .................................................................................... 1
MCOM Electives ........................................................................................... 9

Requirements for Journalism Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Leadership (LEAD) Minor
Keith Corbett, Dean
College of General Studies
Medary Commons 124
605-688-4153
e-mail: keith.corbett@sdstate.edu

Requirements for Leadership Minor: 18 cr
LEAD 210, Foundations of Leadership .................. 3
LEAD 310, Leadership for Families and the Food System .. 3
LEAD 410, Leadership: Senior Seminar .................. 1
LEAD 496, Field Experience: Leadership in Action ....... 2
SOC 433-533, Leadership and Organizations .............. 3
Choose one course from the following:
SPCM 201, Interpersonal Communication ................ 3
SPCM 215*, Public Speaking .................................. 3
SPCM 222, Argumentation and Debate ..................... 3
SPCM 410-510, Organizational Communication (AW) .... 3
SPCM 417, Political Communication ....................... 3
SPCM 434, Small Group Communication .................. 3
Choose one course from the following:
MSL 302-302L, Leadership in Changing Environment and Lab .3
MSL 402-402L, Leadership in a Complex World and Lab ...... 4
PHIL 220, Introduction to Ethics ** ......................... 3
PHIL 320, Professional Ethics .................................. 3
PHIL 383, Bioethics (G) ..................................... 4
PHIL 454-554, Environmental Ethics ** ..................... 3

Leadership and Management of Nonprofit Organizations (LMNO) Minor (See Human Development)

Manufacturing Engineering Technology (MNET) (See Engineering Technology and Management)

Marketing (See Economics)
Mathematics and Statistics (MATH, STAT) Department

Kurt Cogswell, Head
Department of Mathematics and Statistics
Harding Hall 101
605-688-6196
e-mail: kurt.cogswell@sdstate.edu
http://mathstat.sdstate.edu

Faculty
Mathematics: Mathematics: Professor Cogswell, Head; Professors Abraham, Flint, Kindermann, Larson, Nielsen, Schaal, Schmidt; Professors Emeriti Ayers, Kranzler, Lacher, Monahan, Yocom; Associate Professors Biesecker, D. Vestal, S. Vestal; Associate Professors Emeriti Broschat, Clever; Assistant Professors Djira, Ge, Ke, Kimn, Roe, Struck; Instructors Ahrendsen, Bahr, Brost, Clark, Law, Leiferman, Omodt, Ulvestad, Werner.
Statistics: Professors Kindermann, Nielsen, Wicks; Associate Professor Ren; Assistant Professors Brandenburger, Djira, Ge, Ke, Roe, Struck, Wu; Instructors Ahrendsen, Bahr, Brost, Ellingson.

Mission
The mission of the SDSU Department of Mathematics and Statistics, in support of the mission of the College of Engineering and the University, 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.

Programs
Mathematics Major (B.S.)
The Department offers the Bachelor of Science in Mathematics through the College of Engineering. This program provides a rigorous preparation for careers in applied mathematics, computational science, financial engineering, or statistics, the prospective mathematics teacher at the high school or middle school level, or the student preparing for graduate or professional programs. Graduates of the program find employment in business, industry, government, and education.
Beginning with MATH 123, Calculus I, 48 mathematics credits are required out of the 128 total credits required for graduation. Majors must earn at least a "C" in MATH 123 and all succeeding mathematics courses.
To complete a degree in mathematics, the student must complete the requirements of the Department, the College, and the University. These requirements are incorporated into the curriculum plans found in the section on Major and Minor Requirements, but students should also read the College of Engineering requirements for the B.S. degree and consult with their adviser who will assist in planning a curriculum and help ensure that all graduation requirements are met.

Teacher Education in Mathematics Specialization
Students interested in teaching mathematics at the high school or middle school level should contact the College of Education and Counseling prior to their junior year to obtain the teacher education requirements. The mathematics requirements for teacher certification are given in the section on Major and Minor Requirements.

Minors
The minor in mathematics consists of 23 credits as outlined in the section on Major and Minor Requirements. The minor in statistics consists of 17 credits as outlined in the section on Major and Minor Requirements. The minor in informatics consists of 18 credits as outlined in the section on Major and Minor Requirements.

Statistics
Statistics courses are offered at the undergraduate and graduate levels to provide SDSU students with the knowledge of statistics necessary in their various fields of study.

Graduate Programs
The department offers a Ph.D. in Computational Science and Statistics, a Master's Degree in Mathematics, and a Master's Degree in Statistics. A specialization in Statistics is available within the Master's Degree program, as are Graduate Minors in Statistics at the MS and PhD level. Please see the Graduate Catalog for more details.

Mathematics (MATH) Major
Requirements for Mathematics Major, Bachelor of Science in the College of Engineering:

System General Education Requirements*: 33
Goal #1 Written Communication: ENGL 101, and ENGL 201 ..........6
Goal #2 Oral Communication: SPCM 101 ..................3
Goal #3 Social Sciences/Diversity: ECON 202 .................6
Goal #4 Arts and Humanities/Diversity .................6
Goal #5 Mathematics: MATH 123.................4
Goal #6 Natural Sciences: PHYS 211-211L, and
PHYS 213-213L, or CHEM 106-106L, or CHEM 112-112L ... 8

Institutional Graduation Requirements**: 8
Goal #1 Land and Natural Resource Stewardship..................3
Goal #2 Personal Wellness ..................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

Major Requirements: 34
CSC 150, Computer Science I ................................3
MATH 198, The Mathematics Profession ..................1
MATH 125, Calculus II * ..................4
MATH 225, Calculus III * ..................4
MATH 215, Matrix Algebra ..................2
MATH 253, Logic, Sets, and Proof ..................3
MATH 315, Linear Algebra ..................3
MATH 321, Differential Equations ..................3
STAT 381, Introduction to Probability and Statistics .............3
MATH 413, Abstract Algebra I ..................3
MATH 425, Real Analysis I ..................3
MATH 401, Senior Capstone and Advanced Writing (AW) ........ 1
MATH 401, Senior Capstone and Advanced Writing (AW) ........ 1

Electives: 53
Mathematics or Statistics Electives (300 level or above) ..........14
Electives (consider Emphasis Area or Minor courses) ............39

Total Required Credits: 128

Notes: A grade of "C" or above is required in all Math courses.
Two sequences must be completed. Possible sequences include: MATH 413-414, MATH 425-426, MATH 253-316, MATH 261-361, STAT 381-482, MATH 355-355L/492 (Teaching Capstone), or other sequences approved by the department.

Teaching Specialization Requirements: 50
PSYC 101, General Psychology * ** or ........................3
SOC 100, Introduction to Sociology * (G) or ..................3
SOC 150, Social Problems * ** (G) ..................3
ANTH 421-521, Indians of North America ** or ................3
HIST 368, History and Culture of the American Indian ** or .......3

Department and Program Descriptions and Requirements 173
INED 411-511, South Dakota Indian Studies ................................................. 3
MATH 316, Discrete Mathematics ................................................................. 3
MATH 261, Geometry for Teachers .............................................................. 3
MATH 371, Technology for Mathematics Educators .................................. 2
MATH 433, Capstone: Mathematics Education ......................................... 3
MATH 355-355L, Methods of Teaching Mathematics and Lab .................. 3
EPSY 302, Educational Psychology .......................................................... 3
EDFN 365, Computer-Based Technology and Learning ............................ 2
EDFN 475, Human Relations ........................................................................ 3
EDFN 427-527, Middle School: Philosophy and Application ..................... 2
SEED 450, 7-12 Teaching Reading in Content Area .................................. 2
SEED 314, Supervised Clinical/Field Experience ....................................... 1
SEED 499, General Method ......................................................................... 2
SEED 410, Social Foundations, Management and Law ............................. 2
SEED 401, Introduction to Educating Secondary Students with Disabilities ................................................................. 1
SEED 488, 7-12 Student Teaching ............................................................... 2-16

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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 Majors who are not pursuing an Education Specialization are encouraged to choose an Emphasis Area as early as possible. Possible Emphasis Areas are Actuarial, Applied Mathematics, Mathematical Biology, Pure Mathematics, and Statistics. Associated with each Emphasis Area is a group of courses defined below:

### Actuarial Emphasis:
- ECON 201, Principles of Microeconomics ........................................... 3
- MATH 440, Mathematics of Finance .................................................... 3
- MATH 441, Applied Probability Theory .............................................. 3
- STAT 460-560, Time Series Analysis .................................................... 3
- STAT 482-582, Statistics for Physical Science .................................... 3

### Applied Mathematics Emphasis:
Choose 4 out of 5 of the following courses:
- MATH 316, Discrete Mathematics ....................................................... 3
- MATH 430-530, Fractals and Chaos .................................................... 3
- MATH 431, Partial Differential Equations .......................................... 3
- MATH 435, Complex Variables I ....................................................... 3
- MATH 471-571, Numerical Analysis I ................................................ 3

### Mathematical Biology Emphasis:
- MATH 457-557, Ecological Modeling ................................................ 3
- MATH 458-558, Mathematical Models in Microbiology ....................... 3
- MATH 459-559, Bioinformatics ........................................................... 3
- STAT 482-582, Statistics for Physical Science .................................... 3
- BIOL 311-311L, Principles of Ecology and Lab **or** ........................ 3
  - BIOL 371, Genetics ........................................................................... 3
  - BIOL 202-202L, Genetics and Organismal Biology .......................... 4

### Pure Mathematics Emphasis:
Choose 4 out of 6 of the following courses:
- MATH 361, Modern Geometry ............................................................ 3
- MATH 411, Theory of Numbers ........................................................... 3
- MATH 414, Abstract Algebra II ......................................................... 3
- MATH 426, Real Analysis II ................................................................. 3
- MATH 435, Complex Variables I ....................................................... 3
- MATH 461-561, Introduction to Topology ............................................ 3

Mathematics courses at the 200 level or above (note that STAT 281 may not be used for this requirement) .................................................. 12
MATH 123, Calculus I * .......................................................................... 4
MATH 125, Calculus II * ......................................................................... 4
MATH 253, Elementary Logic and Sets ................................................. 3

**Required for Minors in the Teacher Education Program:**
- MATH 123, Calculus I * .......................................................................... 4
- MATH 125, Calculus II * ......................................................................... 4
- MATH 253, Elementary Logic and Sets ................................................. 3
- MATH 261, Geometry for Teachers ...................................................... 3
- MATH 355-355L, Methods of Teaching Mathematics and Lab ............ 3

Two of the following:
- MATH 315, Linear Algebra .................................................................. 3
- MATH 316, Discrete Mathematics ........................................................ 3
- MATH 381, Introduction to Probability and Statistics ......................... 3
- MATH 413, Abstract Algebra I ............................................................... 3

Note: An average of “C” is required in the minor courses.

### Statistics Minor

**Requirements for Statistics Minor: 17 credits**
- STAT 410-510, Programming Using AS ................................................. 2
- STAT 445-545, Nonparametric Statistics .............................................. 3
- STAT 460-560, Time Series Analysis .................................................... 3
- STAT 486-586, Design of Surveys ........................................................ 3
- STAT 281, Introduction to Statistics, or ............................................. 3
- STAT 281 Introduction to Probability and Statistics ......................... 3
- STAT 441 Statistical Methods II, or .................................................... 3
- STAT 482 Statistics for Physical Science ............................................. 3

### Informatics Minor

**Requirements for Informatics Minor: 18 credits**
- INFO 101, Introduction to Informatics ................................................ 3
- INFO 102, Social and Ethical Aspects of Informatics ............................ 3
- INFO 201, Applied Informatics ............................................................. 3

Take 9 credits from the following list:
- BIOL 457-557, Ecological Modeling .................................................... 3
- BIOL 458-558, Mathematical Models in Microbiology ....................... 3
- BIOL 459-559, Bioinformatics ............................................................. 3
- CSC 447-547, Artificial Intelligence ..................................................... 3
- CSC 484, Database Management Systems ......................................... 3
- CSC 492-592, Topic: Data Mining ......................................................... 1-5
- ECON 428, Mathematical Economics ................................................ 3
- GEOG 484, Remote Sensing ................................................................. 3
- GEOG 487, Geographic Information Systems I .................................... 3
- GEOG 488-588, Geographic Information Systems II ............................ 3
- MATH 459-559, Bioinformatics ............................................................. 3
- SOC 462-562, Population Studies ......................................................... 3
- STAT 460-560, Time Series Analysis .................................................... 3

### Mathematics Minor

**Requirements for Mathematics Minor: 23 credits**
- MATH 123, Calculus I * .......................................................................... 4
- MATH 125, Calculus II * ......................................................................... 4
- MATH 355-355L, Methods of Teaching Mathematics and Lab ............ 3

Two of the following:
- MATH 315, Linear Algebra .................................................................. 3
- MATH 316, Discrete Mathematics ........................................................ 3
- MATH 381, Introduction to Probability and Statistics ......................... 3
- MATH 413, Abstract Algebra I ............................................................... 3

Note: An average of “C” is required in the minor courses.

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174 Department and Program Descriptions and Requirements
Mechanical Engineering (ME) Department

Kurt Bassett, Head
Department of Mechanical Engineering
Crotchers Engineering Hall 216
605-689-5426
e-mail: kurt.bassett@sdstate.edu
http://www3.sdstate.edu/Academics/CollegeOfEngineering/MechanicalEngineering

Faculty
Professor Bassett, Head; Professors Delfanian, Moutsoglou.; Associate Professors Hu, Duan; Assistant Professors Du, Gent, Michna; Instructors Peters, Twedt.

Programs
Mechanical Engineering is a profession in which knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to efficiently use, the materials and forces of nature for the benefit of all people.

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. The program's educational objectives are as follows.

The Mechanical Engineering program provides a learning environment that prepares graduates to achieve the following career and professional accomplishments:

1. 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.
2. 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.

The Mechanical Engineering program at SDSU is accredited by the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET).

Mechanical Engineers have a remarkable range of career directions from which to choose. Work is found in research, development, design, testing, manufacturing, operations and maintenance, marketing and sales, or in management and administration. Mechanical Engineers can work in industry, business, government or in educational institutions. They can also work with other professions such as law and medicine. Mechanical Engineers are employed in almost all industries including automotive, chemical, building HVAC systems, aircraft/aerospace, power, petroleum, computer, machinery (industrial, agricultural, recreational, office, etc), plastics, electronics, textiles, pharmaceutical, paper products, energy utilities, and many others. Their work takes them to many parts of the world; they can probe the depths of the oceans or explore outer space as astronauts. Mechanical Engineering is an exciting profession which offers breadth, flexibility and individuality to those who want challenge and satisfaction rather than just a job.

The curriculum of 136 credits is made up of courses in: Basic Sciences, Engineering Sciences, Design, Communications, Humanities and Social Sciences. The Basic Sciences of mathematics, physics and chemistry provide the foundation for all engineering and technical courses. The Engineering Sciences are: solid mechanics, fluid mechanics, thermodynamics, heat transfer, dynamic systems, controls, materials, electrical fields and others. In the Design category, which is integrated throughout the curriculum, the student deals with the systems approach to solving problems where ideas, imagination, modeling and analysis are joined together to create a new device, product or system. Communications courses include English, speech, graphics and computer applications. The Mechanical Engineering Department recognizes the importance of the humanities and social sciences in the general education component of undergraduate education, and the need for this component to complement the technical content of an education in engineering. This connection is important for producing well-rounded graduates who will continue to meet the present and future needs of society. SDSU's General Education Core proficiencies, outlined in the General Education Course section of this catalog, are of great professional importance to all graduates. By choosing courses to meet the requirements of the goals of the System General Education Core (Gen Ed), and the goals of the Institutional Graduation Requirements (SDSU Core), students connect their general education component to their technical curriculum and thus strengthen their professional competence.

A two-semester sequence taken in the senior year, Mechanical Systems Design I-II, places every student on a design team that designs, builds, tests, and demonstrates a significant design project. The design projects are often solicited from industry and provide students with valuable real world team design experience. Also, opportunity is given to take technical electives including courses in various applications of thermal and fluid engineering, machine design, and industrial engineering.

Outcomes of the program are that Mechanical Engineering graduates have:

1. an ability to apply knowledge of mathematics, science, and engineering including multi-variable calculus, differential equations, statistics, and linear algebra
2. an ability to design and conduct experiments, as well as to analyze and interpret data
3. an ability to design a system, component, or process to meet desired needs
4. an ability to function on multi-disciplinary teams
5. an ability to identify, formulate, and solve engineering problems
6. an understanding of professional and ethical responsibility
7. an ability to communicate effectively
8. the broad education necessary to understand the impact of engineering solutions in a global and social context
9. a recognition of the need for, and an ability to engage in lifelong learning
10. a knowledge of contemporary issues
11. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The Department helps students arrange internships or cooperative experiences with industry. Credits may be obtained for these work experiences, by prior arrangement with the appropriate faculty member and department head, and by registering for ME 494, or 497. These credits, upon approval, will fulfill part of the technical-elective requirements.

In addition to the Graduation Requirements and Academic Performance Requirements specified in this catalog, the following grade requirements must be met to earn a Bachelor of Science Degree in Mechanical Engineering: a combined average of "C" or better in the

Department and Program Descriptions and Requirements 175
Mechanical Engineering courses; a combined average of "C" or better in the mathematics courses; a minimum grade of "C" in each of the following courses: MATH 123, MATH 125, PHYS 211, ME 311, ME 312 and all EM designated courses. Students that fail to earn a C or better in any of these courses, will be required to take them in each subsequent semester until the requirement is met. Students must follow course prerequisite requirements. Graduating seniors must take the Fundamentals of Engineering or similar test as an exit exam.

Each Mechanical Engineering student is assigned an academic adviser who provides valuable assistance with professional career advice and course planning. Students should meet with their adviser at least twice per semester for assistance with their progress and course planning. A student's graduation checklist must be filled in and forwarded to the department head during the second to last semester of a student's program. Students of the Mechanical Engineering program should read and follow the additional University and College of Engineering policies, procedures and requirements along with objectives and expectations as listed in the front sections of the catalog.

To make the transition easier for high school students interested in a career in Mechanical Engineering, the following guidelines are suggested: study as much mathematics as available, including calculus (if possible), one year of physics, one year of chemistry and four years of English.

Mechanical Engineering (ME) Major

Requirements for Mechanical Engineering Major, Bachelor of Science in Mechanical Engineering:

(Accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology)

System General Education Requirements*: 33

Goal #1 Written Communication: ENGL 101, and ENGL 277......6
Goal #2 Oral Communication: SPCM 101......3
Goal #3 Social Sciences/Diversity: ECON 202......6
Goal #4 Arts and Humanities/Diversity......6
Goal #5 Mathematics: MATH 123......4
Goal #6 Natural Sciences: CHEM 112-112L, and PHYS 211-211L......8

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship..............3
Goal #2 Personal Wellness..............2-3
Goal #3 Social and Cultural Stewardship..............3

Major Requirements: 95

3-credit technical elective, or........3
CSC 150-150L, Computer Science I and Lab, or........3
CSC 218, Introduction to C/C++/Unix for Engineers........3
EE 300-300L, Basic Electrical Engineering I and Lab........3
EE 302-302L, Basic Electrical Engineering II and Lab........3
EM 214, Statics..............3
EM 215, Dynamics..............3
EM 321, Mechanics of Materials..............3
EM 331, Fluid Mechanics..............3
GE 101, Introduction to Engineering and Technology........1
GE 121, Engineering Design Graphics I........1
GE 122, Engineering Design Graphics II........1
GE 123, Computer Aided Drawing........1
GE 225, Survey of Machine Tool Applications........1
MATH 125, Calculus II*..............4
MATH 225, Calculus III*..............4
MATH 321, Differential Equations........3
MATH 331, Advanced Engineering Mathematics, or........3
MATH 471-571, Numerical Analysis I........3
ME 240, Introduction of Mechanical Design........3
ME 241, Engineering Materials........3
ME 311, Thermodynamics I..............3
ME 312, Thermodynamics II..............3
ME 321, Fundamentals of Machine Design........3
ME 323, Vibrations..............3
ME 376-376L, Measurements and Instrumentation and Lab........2
ME 413, Turbomachinery, or..............3
ME 418, Design of Thermal Systems, or..............3
ME 439-439L, HVAC System Design and Lab..............3
ME 415, Heat Transfer..............3
ME 421, Design of Machine Elements..............1
ME 451, Automatic Controls..............1
ME 452, Dynamic Systems Lab..............1
ME 476, Thermo-Fluids Lab..............1
ME 478, Mechanical Systems Design I..............1
ME 479-479L, Mechanical Systems Design II and Lab (AW)........2
ME 480, Inspection Trip..............0
PHYS 213-213L, University Physics II and Lab *..............4
STAT 381, Introduction to Probability and Statistics........3
Technical Electives..............11-14

The 11-14 credits of technical electives may be chosen from the following list. At least two courses must have design content. Design courses are identified by (D). At least three of the electives must have the ME prefix. Courses not listed may qualify as technical electives on approval from the ME department.

ME 315, Analytical Thermodynamics..............3
ME 341-341L, Metallurgy and Lab..............3
ME 362, Industrial Engineering..............3
ME 381, Mechanical Equipment of Buildings..............3
ME 410, Principles of HVAC Engineering..............3
ME 412, Internal Combustion Engines (D)..............3
ME 413, Turbomachinery (D)..............3
ME 414-514, Air Pollution Control (D)..............3
ME 417-417L, Computer-Aided Engineering and Lab (D)..............3
ME 418, Design of Thermal Systems (D)..............3
ME 431, Aerodynamics (D)..............3
ME 437, Gas Dynamics I..............3
ME 438-438L, Machine Design-Case Studies and Lab (D)..............3
ME 439-439L, HVAC System Design and Lab (D)..............3
ME 440-540, Computer-Aided Design (D)..............3
ME 461, Analysis and Design of Industrial Systems (D)..............3
ME 491, Independent Study (D)..............1-5
ME 492-592, Topics (D)..............1-5
ME 494, Internship (D)..............1-3
ME 497, Cooperative Education (D)..............1-3

Total Required Credits: 136

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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 and Laboratory Sciences

(See Chemistry/Biochemistry)
Pre-Medicine
Greg Heiberger, Coordinator
College of General Studies
Wecota Hall 218
605-688-4294
e-mail: greg.heiberger@sdstate.edu

Advisers
Dr. Don Auger, Dr. Michael Hildreth, Dr. Scott Pedersen, Mr. Greg Heiberger.

Area of Study
Students preparing for medical careers should recognize the desirability of a broad education and the need for a basic understanding of the natural sciences, including mathematics, chemistry, biology, and physics. Prospective students seeking admission to a school of medicine should recognize that highly developed communication skills as well as a basic understanding of the social sciences and the humanities are necessary.

No particular major is required of students desiring to apply to medical school. No area of study is given preference in the selection process. The college or university selected for undergraduate study should be based on the strength of the undergraduate program and the advising system.

The pre-medicine program is coordinated by the College of General Studies. The curriculum is designed to be compatible with many different majors at South Dakota State University. It includes the following typical 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 student's adviser will have knowledge of requirements for all 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.

The pre-med advisers can assist in course selection, choosing a major, preparing for the Medical College Admission Test (MCAT), and in the application process as handled by the American Medical College Application Service (AMCAS).

Refer to the Association of American Medical School Web site at http://www.aamc.org for more specific information on the application process as well as information on specific medical schools or visit the pre-professional section under academics on the SDSU Web site.

Suggested Pre-Medicine Coursework
See your Pre-Medicine Adviser for a complete listing:

Suggested Courses
See your Pre-Medicine Adviser for a complete listing:

GS 100, University Experience..........................1
BIOL 290, Seminar........................................1

Biology
BIOL 151-151L, General Biology I and Lab * ................4
BIOL 153-153L, General Biology II and Lab * ..............4
BIOL 202-202L, Genetics and Organismal Biology .....4
BIOL 204-204L, Genetics and Cellular Biology and Lab 4
BIOL 221-221L, Human Anatomy and Lab ................4
BIOL 325-325L, Physiology and Lab .......................4
MICR 231-231L, General Microbiology and Lab ........4

Chemistry
CHEM 112-112L, General Chemistry I and Lab * ..........4

Organic Chemistry
CHEM 326-326L, Organic Chemistry I and Lab ..........4
CHEM 328-328L, Organic Chemistry II and Lab .........4

Biochemistry
CHEM 464, Biochemistry I ..................................3
CHEM 466, Lab Methods - Biochemistry .....................1

Mathematics: Calculus and Statistics
MATH 121-121L, Survey of Calculus and Lab * or ......5
MATH 123, Calculus I * ....................................4
STAT 281, Introduction to Statistics .........................3

Physics
PHYS 111-111L, Introduction to Physics I and Lab * .......4
PHYS 113-113L, Introduction to Physics II and Lab * .......4

Merchandising (MRCH)
(See Design, Merchandising, and Consumer Sciences)

Microbiology (MICR)
(Biology and Microbiology)

Military Science (MSL)
Department

(Army ROTC)
Major Kory Knight, Head
Department of Military Science
DePuy Military Hall 200
605-688-6151
e-mail: garnet.wosje@sdstate.edu

Faculty
Major Kory Knight, Professor of Military Science, Head; Assistant Professors of Military Science: Captain Martin Skovly; Assistant Professor of Military Science: Major Troy Ness; Instructor: SFC Patrick Connell; Instructor: SFC Russel Chavez.

Programs
The Department of Military Science 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. The Department has three on-campus training programs: 1) the four year program consisting of the basic course for freshmen and sophomores followed by the advanced course for juniors and seniors; 2) a three-year program where the basic course is compressed into the sophomore year followed by the advanced course; and 3) a two-year program. The first entry point is where placement credit is allowed for the basic course to qualified veterans and
members of the Army National Guard and the Army Reserve. A second entry point is available to students who desire to be paid for the equivalent of the basic course by attending the ROTC Leader's Development Course in the summer prior to their junior year. By enrolling in the basic course or its equivalent substitute, students do not make any commitment to the U.S. Army unless they are scholarship recipients. Tuition is not charged for ROTC courses. ROTC textbooks, uniforms and other essential materials are furnished to the Basic Course student at no cost. Fifty percent tuition credit for Advanced Course Non-scholarship cadets is available.

To be eligible for commissioning, cadets must complete a course in Military History and pass water survival training. Contact the Department for requirements.

Requirements for Advanced Course
All those enrolling in the Advanced Course must:
1. Have completed the Basic Course or its equivalent.
3. Be physically qualified under standards prescribed by the Department of the Army.
4. Have an academic cumulative grade point average of 2.0 or higher.
5. Complete a University-offered Military History course prior to graduation.
6. Have two years of academic work remaining for a degree.
7. Sign a written agreement.

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 guidance counselors, on line at www.armyrotc.com or directly from SDSU Army ROTC by contacting the Department of Military Science, Box 2236, University Station, Brookings, SD 57007-1597 or call 605-688-6151, or e-mail garnet.wosje@sdstate.edu.

Optional Army Schooling Available to Qualified Cadets
1. Airborne training at Fort Benning, Georgia for 3 weeks
2. Air Assault training for 10 days
3. Cadet Troop Leader Training at selected Army posts with an active Army or Reserve component unit for 2 to 3 weeks
4. Northern Warfare training at Fort Greely, Alaska for 3 weeks
5. Nursing Summer Training Program at selected Army hospitals
6. Cultural Understanding and Language Proficiency Internships
7. Professional internships in specific major areas

Military Science (MSL) Minor
Requirements for Military Science Minor: 18 cr
A minor in Military Science is available for those who complete 18 credits offered and who enroll and complete MSL 494 ROTC Leader Development and Assessment Course. This minor is compatible to fields of major studies.

(Pre-) Ministerial
Dennis Bielfeldt, Coordinator
Philosophy and Religion
Scobey Hall 316
605-688-4934
e-mail: dennis.bielfeldt@sdstate.edu

Program
Almost all theological seminaries require some undergraduate education. Most require a college degree. A broad general education is desirable. A satisfactory pre-ministerial program could be: a Interdisciplinary Studies degree or selection of a major in any humanities or social science area, focusing electives around a core of religion and philosophy courses as selected from the more than 30 hours available in these areas.

Modern Language
Business-Economics Specialization
(See Modern Language)

Modern Languages (MFL) Department

Maria Ramos, Head
Department of Modern Languages
SNF 121A
605-688-5102
e-mail: maria.ramos@sdstate.edu

Faculty
Professor Ramos, Head; Professors Emeriti Baker, Beattie, Cardenas, Iden, Redhead, Richter, Sunde; Professor Baggett; Associate Professors Owens, Rolz, Spitz; Assistant Professors Enz, O'Donnell, Wallace; Instructors Falasca, Garst-Santos, Hanson, Orellana, Snell-Feikema, Iverson-Magg, Schnaser, Wiederich.

Programs
The Department of Modern Languages provides proficiency-oriented instruction in second languages, literatures, civilizations and cultures, following the Standards of the American Council on the Teaching of Foreign Languages. The Department offers the Bachelor of Arts degree with majors in French Studies, German and Spanish. It also offers minors in French, German, and Spanish. Students seeking to fulfill the 14-hour Bachelor of Arts requirement in modern languages (101, 102, 201, 202) may do so in any one of four languages: French, German, Lakota, or Spanish.

Students entering the University with a background in modern languages are strongly encouraged to request a copy of the Department's placement policy. Students who are prepared to take courses beyond 101 (up to 310 or 311, 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 works 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 a specific career. Such programs include, but are not limited to: Global Studies (see the requirements for the Global Studies Major and Minor), Economics, Education (see “Education Curriculum for Teachers of Academic Subjects”), European Studies (see European Studies), and Latin American Studies (see Latin American Studies). Students are also encouraged to plan a summer/semester/year experience studying abroad.

Additional information on the Department’s programs is found elsewhere in this Catalog. 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 on the department’s web page.

French Studies (FREN) Major
Requirements for French Major, Bachelor of Arts in Arts and Science:

**System General Education Requirements**: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ..........6
Goal #2 Oral Communication .....................................3
Goal #3 Social Sciences/Diversity ..................................6
Goal #4 Arts and Humanities/Diversity ............................6
Goal #5 Mathematics ..................................................3
Goal #6 Natural Sciences .............................................3

**Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship .................3
Goal #2 Personal Wellness ..........................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ....3

**College Requirements**: 6
Humanities (other than languages) ..................................6

**Major Requirements**: 36
FREN 102, Introductory French II * ** (G) † ......................4
FREN 201, Intermediate French I ..................................4
FREN 202, Intermediate French II ................................4
FREN 310, French Language Skills ................................3
FREN 333, Topics in Francophone Culture .......................3
Electives in French ...................................................18

Electives: 44
Regardless of the specialization chosen, French Majors will take at least nine hours of electives from the following:
FREN 385, Travel Study Abroad Francophone (G) ..........1-6
FREN 491, Independent Study ..................................1-3
(may be repeated)
FREN 492, Topics .........................................................1-3
(may be repeated)
FREN 493, Workshop ..................................................1-6
FREN 498, Undergraduate Research/Scholarship ...............3

**Total Required Credits**: 128

**Business Specialization Requirements**: In addition, French Majors taking the Business Specialization are required to take:
FREN 350, Business Communications in French ..............3
FREN 450, Business French II ......................................3

**Teaching Specialization Requirements**:

**Professional Semester I**
EDFN 338, Foundations of American Education ................2
EDFN 475, Human Relations ........................................3

**Professional Semester II**
EPSY 302, Educational Psychology ...............................3

SEED 450, 7-12 Teaching Reading in the Content Area ..........2
SEED 314, Supervised Clinical Experience .......................1

**Professional Semester III**
SEED 400, Curriculum and Instruction in Secondary and Middle Schools ................................................4
SEED 410, Social Foundations, Management and Law ..........2
SEED 488, 7-12 Student Teaching, and/or
EDFN 488, K-8 Student Teaching ...................................8

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

In addition, the following courses must be successfully completed prior to entry into Professional Semester III:
Special Methods (varies by content area) .........................3
SPED 401, Introduction to Educating Secondary
Students with Disabilities .............................................1
EDFN 365, Computer Based Technology and Learning ..........2
EDFN 427, Middle School Philosophy and Application .......2
† 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 exemptions 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.

‡ Junior year course selections which fulfill the Institutional Graduation Requirements (IGRs) must be different from those taken to fulfill the System Graduation Requirements (SGRs).

§ South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs).

GED 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.

French (FREN) Minor
Requirements for the French Minor: 22 cr
French electives, 300 and above ...................................10
FREN 102, Introductory French II * ** (G) ......................4
FREN 201, Intermediate French I ..................................4
FREN 202, Intermediate French II ................................4
Note: A minimum grade of “C” is required of all French classes for them to count towards the French major or minor.

German (GER) Major
The major in German requires a minimum of 36 credit hours in German. The coursework should include 101, 102, 201, 202, 311, 312, and an additional 18 credit hours of upper-division (300-400) classes. It is recommended that upper-division coursework include a minimum of 4 credit hours in literature, 3 credit hours in civilization and culture, and 2 credit hours in advanced language study.

Requirements for German Major, Bachelor of Arts in Arts and Sciences:

**System General Education Requirements**: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ..........6
Goal #2 Oral Communication: SPCM 101 ..............................3
Goal #3 Social Sciences/Diversity .....................................6
Goal #4 Arts and Humanities/Diversity .............................6
Goal #5 Mathematics ....................................................3
Goal #6 Natural Sciences ..............................................6
Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship ................................3
Goal #2 Personal Wellness ..................................................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..........3

College Requirements: 6
Humanities (other than languages) ...................................................6

Major Requirements: 36

GER 101, Introductory German I * ** (G) ........................................4
GER 102, Introductory German II * ** (G) .......................................3
GER 201, Intermediate German I .........................................................3
GER 202, Intermediate German II .......................................................3
GER 311, Composition and Conversation I .......................................2
GER 312, Composition and Conversation II ......................................2
German coursework (300-400 level) ..............................................18

Electives: 47

Total Required Credits: 128

A minimum grade of "C" is required in all German classes for them to count towards the major or minor.

† 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.

* The 30 credit Board of Regents System General Education Requirements (SGRS) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-44 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Teaching Specialization Requirements:

Professional Semester I
EDFN 338, Foundations of American Education ..................................2
EDFN 475, Human Relations ...............................................................3

Professional Semester II
EPSY 302, Educational Psychology .....................................................3
SEED 450, 7-12 Teaching Reading in the Content Area ......................2
SEED 314, Supervised Clinical Experience .........................................1

Professional Semester III
SEED 400, Curriculum and Instruction in Secondary and Middle Schools .................................................................4
SEED 410, Social Foundations, Management and Law ....................2
SEED 488, 7-12 Student Teaching, and/or ELED 488, K-8 Student Teaching .................................................................8

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

In addition, the following courses must be successfully completed prior to entry into Professional Semester III:
Special Methods (varies by content area) ............................................3
SPED 401, Introduction to Educating Secondary Students with Disabilities ..................................................1
EDFN 365, Computer Based Technology and Learning .....................2
EDFN 427, Middle School Philosophy and Application ....................2

German (GER) Minor

Requirements for German Minor: 20 cr
GER 300-400 level Electives .................................................................6
GER 101, Introductory German I * ** (G) ........................................3
GER 102, Introductory German II * ** (G) .......................................3
GER 201, Intermediate German I .........................................................3

GER 202, Intermediate German II .........................................................3

Latin American Studies (LAS) Minor

Students may cross college and department lines to pursue, with the study of Spanish, a coordinated study of the geographical, cultural, socio-economic and political life of Latin American countries. The curriculum is tailored for those desiring a Latin American background in conjunction with a disciplinary specialization in fields such as history, economics, political science, geography, anthropology, Spanish American literature, sociology, and global studies, or in one of the professional colleges. As a result the student will normally carry a major in a particular discipline such as Food and Nutrition or Agronomy together with the LAS minor. This minor provides preparation for additional vocational opportunities in Agriculture, Family and Consumer Sciences, Nursing, Foreign Service, Peace Corps, international business and numerous positions with government, the United Nations and private corporations involved with or in Latin America. The minor should also facilitate improved communication and understanding between the peoples of these countries and the United States. Courses should be integrated with the student's vocational major. The student should see a faculty adviser and the coordinator of LAS.

LAS minor may be taken with a major in Global Studies or combined with any other major.

Section A – Language requirement:
SPAN 101, Introductory Spanish I * ** (G) ....................................4
SPAN 102, Introductory Spanish II * ** (G) ....................................4
SPAN 201, Intermediate Spanish I .....................................................3
SPAN 202, Intermediate Spanish II .....................................................3
SPAN 211, Intermediate Oral Practice I .........................................2
SPAN 212, Intermediate Oral Practice II .......................................2
Minimum Sub Total ............................................................................8

Note: Although the minimum requirement is 8 credits, additional language classes are strongly recommended.

Fifteen credits from the following sections are required. A minimum of 3 credits must be selected from Social Science electives and a minimum of 3 credits must be selected from Humanities Electives. The remaining 6 credits may come from any of the three groups of electives.

Social Science Electives – minimum 3
GEOG 320, Regional Geography ..................................................3
HIST 418, History of Latin America ..................................................3
LAS 302, Latin American Societies ..................................................3
POLS 347, Latin American Politics ..................................................3
Humanities Electives – minimum 3 ..................................................3
LAS 301, Latin American Cultures ..................................................2-3
SPAN 355, Introduction to Latin-American Literature I .................3
SPAN 435, Latin American Civilization and Culture (AW) ..........3
SPAN 484, 20th Century Spanish American Literature ..................3

Latin American Electives:
HIST 492-592, Topics .......................................................................1-4
LAS 491, Independent Study ............................................................1-3
MFL 396, Field Experience (G) .......................................................1-12
SPAN 491, Independent Study ........................................................1-3
SPAN 492, Topics ............................................................................1-3
Minimum Sub Total from Social Science, Humanities, and Latin American Electives ..................................................15
Total .................................................................................................23

Modern Language Business-Economics Specialization

This specialization is designed for language majors or minors who plan careers in international business. Students who wish to pursue this specialization are encouraged to indicate this fact to their adviser as early as possible. See page 218 for details.
Requirements for Modern Language, Business-Economics

Specialization:
17 cr. of one language including Business French, German or Spanish ................................................................. 17
ECON 201, Principles of Microeconomics * ................................................................. 3
ECON 202, Principles of Macroeconomics *(G) ................................................................. 3
Subtotal ........................................................................................................................................................................... 23
Choose 4 of the following courses:
ACCT 210, Principles of Accounting I ................................................................. 3
AGEC 354, Agricultural Marketing and Prices ................................................................. 3
AGEC 454, Economics of Grain and Livestock Marketing ................................................................. 3
AGEC 479, Agricultural Policy (AW) (G) ................................................................. 3
BADM 310, Business Finance ................................................................. 3
BADM 350, Legal Environment of Business ................................................................. 3
BADM 360, Organization and Management ................................................................. 3
ECON 330, Money and Banking ................................................................. 3
ECON 370, Marketing ................................................................. 3
POLS 350, International Relations ................................................................. 3
STAT 281, Introduction to Statistics ................................................................. 3
Subtotal ........................................................................................................................................................................... 12
Choose 1 of the following courses:
ECON 405, Comparative Economic Systems .............................................................................. 2-3
ECON 440-540, Economics of International Sector ...................................................................... 3
ECON 460-560, Economic Development (G) ........................................................................ 3
ECON 472-572, Resource and Environmental Economics ** ................................................ 3
Subtotal ........................................................................................................................................................................... 3
Total .................................................................................................................................................................................. 38

Within the above framework, individually tailored specializations will be possible. They will be planned in consultation with, and will be subject to the approval of, an adviser in the Department of Economics.

Spanish (SPAN) Major

Requirements for Spanish Major, Bachelor of Arts in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ................................................................. 6
Goal #2 Oral Communication: SPCM 101 ......................................................................................... 3
Goal #3 Social Sciences/Diversity ......................................................................................................................... 6
Goal #4 Arts and Humanities/Diversity .................................................................................................................. 6
Goal #5 Mathematics ................................................................................................................................................ 3
Goal #6 Natural Sciences ....................................................................................................................................... 6
Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ......................................................................................... 3
Goal #2 Personal Wellness ........................................................................................................................................ 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ........................................................................... 3
College Requirements: 6
Humanities (other than languages) ......................................................................................................................... 6

Major Requirements: 40
SPAN 201, Intermediate Spanish I ................................................................................................. 3
SPAN 202, Intermediate Spanish II ................................................................................................. 3
SPAN 211, Intermediate Oral Practice I ................................................................................................. 2
SPAN 212, Intermediate Oral Practice II .......................................................................................... 2
SPAN 310, Practical Language Skills ................................................................................................. 3
SPAN 330, Reading and Writing for Communication ................................................................................................. 3
Spanish coursework ........................................................................................................................................... 12
Spanish coursework (300-400 level) ..................................................................................................................... 12
Electives: 44
Total Required Credits: 128

Teaching Specialization Requirements:

Professional Semester I
EDFN 338, Foundations of American Education ......................................................................................... 2

Professional Semester II
EDFN 475, Human Relations ......................................................................................................................... 3
EPSY 302, Educational Psychology ................................................................................................................... 3
SEED 450, 7-12 Teaching Reading in the Content Area ......................................................................................... 2
SEED 314, Supervised Clinical Experience ........................................................................................................ 1

Professional Semester III
SEED 400, Curriculum and Instruction in Secondary and Middle Schools ................................................................. 4
SEED 410, Social Foundations, Management and Law ......................................................................................... 2
SEED 488, 7-12 Student Teaching, and/or
EDED 488, K-8 Student Teaching ....................................................................................................................... 8
Candidates in K-12 areas such as Health, Physical Education and Recreation, Art, Modern Language, and Music split their student teaching credits between SEED 488 and ELED 488.

In addition, the following courses must be successfully completed prior to entry into Professional Semester III:
Special Methods (varies by content area) .................................................................................................................. 3
SPED 401, Introduction to Educating Secondary Students with Disabilities ........................................................................ 3
EDFN 365, Computer Based Technology and Learning ......................................................................................... 2
EDFN 427, Middle School Philosophy and Application ......................................................................................... 2

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 pursuing education certification only.

A minimum grade of "C" is required for a Spanish course to count towards the major or minor.
† 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 see "Modern Language Credit" on page 19 of this catalog for more detailed information.
†† Junior year course selections, which fulfill the Institutional (SDSU) requirements, must be different from those taken to fulfill the General Education requirements.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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 (SPAN) Minor

Requirements for Spanish Minor: 20 cr
Electives (may include 211-212) ......................................................................................................................... 7
SPAN 102, Introductory Spanish II ** (G) ................................................................................................. 4
SPAN 201, Intermediate Spanish I ......................................................................................................................... 3
SPAN 202, Intermediate Spanish II ......................................................................................................................... 3
SPAN 310, Practical Language Skills ......................................................................................................................... 3

Department and Program Descriptions and Requirements 181
Area of Study

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 Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 210</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BADM 350</td>
<td>Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>BADM 360</td>
<td>Organization and Management</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 151-151L</td>
<td>General Biology I and Lab</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 221-221L</td>
<td>Human Anatomy and Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 106-106L</td>
<td>Chemistry Survey and Lab</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 101</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 443</td>
<td>Public Health Science (G)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 102</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MICR 231-231L</td>
<td>General Microbiology and Lab</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 101</td>
<td>General Psychology *</td>
<td>3</td>
</tr>
<tr>
<td>REL 360</td>
<td>Moral and Ethical Perspectives on Death and Dying</td>
<td>3</td>
</tr>
<tr>
<td>SOC 100</td>
<td>Introduction to Sociology * (G)</td>
<td>3</td>
</tr>
<tr>
<td>SPCM 101</td>
<td>Fundamentals of Speech *</td>
<td>3</td>
</tr>
<tr>
<td>SPCM 201</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Electives*</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

* To meet mortuary school or state requirements, suggest REL 213, Intro to Religion; ENGL 201, Composition II.

Music (MUS) Department

David Reynolds, Head
Department of Music
Lincoln Music Hall 204
605-688-5187
e-mail: paul.reynolds@sdstate.edu

Faculty

Professor Reynolds, Head; Professors Crowe, Lis; Professors Emeriti Canaan, Colson, Hatfield, Johnson, McKinney, Piersel, Walker, D.; Associate Professors Brawand, Crawley, Diddle, Grives, Toronto, Walker; Assistant Professors Jorgensen, Peterson, Ragsdale, Walsh; Instructors CoulU, Quam.

Programs

The Music Department offers three degree options: Bachelor of Arts, Music Major; Bachelor of Science in Music (Merchandising); and Bachelor of Music Education.
b. Participation in small ensembles is strongly encouraged for all majors and minors.

7. A minimum of four 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. An additional instrumental pedagogy will assure the broadest preparation. See the Student Handbook for options.

8. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her adviser.

9. Recommendations for music merchandising students wishing to enroll for the Internship experience must be issued by the Music Merchandising Coordinator.

10. A senior recital is required of all music majors.

11. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons. Participation in small ensembles is strongly encouraged. Majors and minors must participate in Major Ensembles each semester in which they are enrolled in Applied Music lessons. Participation in small ensembles is strongly encouraged.

Music (Mus) Major

Requirements for Music Major, Bachelor of Arts in Arts and Sciences:

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 6
- Goal #2 Oral Communication: SPCM 101 3
- Goal #3 Social Sciences/Diversity: Social Science courses only 6
- Goal #4 Arts and Humanities/Diversity: Humanities (no foreign language) 6
- Goal #5 Mathematics 3
- Goal #6 Natural Sciences 6

**Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship 3
- Goal #2 Personal Wellness 2-3
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: (no foreign language) 3

**College Requirements**: 3-14
- Modern Language† 3-14

**Major Requirements**: 51
- MUS 110-110L, Basic Music Theory I and Lab 4
- MUS 111-111L, Basic Music Theory II and Lab 4
- MUS 210-210L, Advanced Music Theory I and Lab 4
- MUS 211-211L, Advanced Music Theory II and Lab 4
- MUS 313, Form and Analysis 3
- MUS 130, Music Literature and History I * ** 4
- MUS 131, Music Literature and History II ** 4
- MUS 433, Music Literature and History III 3
- MUS 185, Recital Attendance † 0
- MUS 360-360L, Conducting 2
- MUS 270, Pedagogy I 2
- MUS 271, Pedagogy II 2
- MUAP 100-155, Applied Music 2
- MUAP 200-255, Applied Music 2
- MUAP 300-355, Applied Music 4
- MUAP 400-455, Applied Music 4
- MUEN 100-122, Music Organization 4
- MUEN 300-322, Music Organization 4
- MUAP 483, Public Recital 0

**Electives**: 24-36

**Total Required Credits**: 128

Students must earn at least a “C” in each course used to meet the departmental requirements of all majors, minors, and certificates.

† Completion and competency in one language at the 202 level or a department-approved advanced upper division language course

‡ Concurrent enrollment with all MUAP courses.

† Completion of a music major student teaching four years or less.

**Music (Mus) Minor**

Requirements for Music Minor: 22 cr
- Applied (at least two hours upper level—300-400) 6
- Music Electives 2
- MUS 130, Music Literature and History I * ** 2
- MUS 360-360L, Conducting 2
- MUS 110-110L, Basic Music Theory I and Lab or 4
- MUS 111-111L, Basic Music Theory II and Lab 4
- Music Electives or 2
- MUS 361-361L, Music Education II: Conducting and Lab 2

Note: 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.

Music Education Major

Requirements for Music Education Major, Bachelor of Music Education:

**System General Education Requirements**: 30
- Goal #1 Written Communication: ENGL 101, and ENGL 201 6
- Goal #2 Oral Communication: SPCM 101 3
- Goal #3 Social Sciences/Diversity: PSYC 101, or SOC 100 6
- Goal #4 Arts and Humanities/Diversity: MUS 130 6
- Goal #5 Mathematics 3
- Goal #6 Natural Sciences 6

**Institutional Graduation Requirements**: 8-9
- Goal #1 Land and Natural Resource Stewardship: HIST 368 3
- Goal #2 Personal Wellness 2-3
- Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: (no foreign language) 3

**College Requirements**: 3-14
- Modern Language† 3-14

**Major Requirements**: 93
- MUS 110-110L, Basic Music Theory I and Lab 4
- MUS 111-111L, Basic Music Theory II and Lab 4
- MUS 210-210L, Advanced Music Theory I and Lab 4
- MUS 211-211L, Advanced Music Theory II and Lab 4
- MUS 313, Form and Analysis 3
- MUS 433, Music Literature and History III 3
- MUS 185, Recital Attendance † 0
- MUS 360-360L, Conducting 2
- MUS 361-361L, Music Education II: Conducting and Lab 2
- MUS 270, Pedagogy I 2
- MUS 271, Pedagogy II 2
- MUAP 300-355, Applied Music 4
- MUAP 400-455, Applied Music 4
- MUEN 100-122, Music Organization 4
- MUEN 300-322, Music Organization 4
- MUAP 483, Public Recital 0

**Electives**: 24-36

**Total Required Credits**: 128

Students must earn at least a “C” in each course used to meet the departmental requirements of all majors, minors, and certificates.

† Completion and competency in one language at the 202 level or a department-approved advanced upper division language course

‡ Concurrent enrollment with all MUAP courses.

† Completion of a music major student teaching four years or less.

**South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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 Education Major

Requirements for Music Education Major, Bachelor of Music Education:
MUS 271, Pedagogy II .................................................. 2-4
MUS 370, Pedagogy III ................................................. 1-2
MUS 371, Pedagogy IV .................................................. 1-2
MUS 420, Orchestration and Arranging ......................... 3
MUS 362-362L, Music Education III: Methods and Materials and Lab ............................................................... 2
MUS 365-365L, Music Education IV: Supervision and Administration of School Music and Lab ................................. 2
MUS 465, Music Education V: Practical Applications ......... 2
MUS 351, Elementary School Music Methods .................. 2
EDFN 365, Computer-Based Technology and Learning ....... 2
MUAP 100-155, Applied Music ...................................... 2
MUAP 200-255, Applied Music ...................................... 2
MUAP 300-355, Applied Music ...................................... 4
MUAP 400-455, Applied Music ...................................... 2
MUEN 100-122, Music Organization ................................ 4
MUEN 300-322, Music Organization ............................... 3
MUAP 483, Public Recital ............................................. 0
EDFN 427-527, Middle School: Philosophy and Application ................................................................. 2

Professional Semester I
EDFN 338, Foundations of American Education ............. 2
EDFN 475, Human Relations .......................................... 3

Professional Semester II
EPSY 302, Educational Psychology ................................ 3
SEED 450, 7-12 Teaching Reading in the Content Area ....... 2
SEED 314, Supervised Clinical Experience ....................... 1

Professional Semester III
SEED 400, Curriculum and Instruction in Secondary and Middle Schools ......................................................... 4
SEED 410, Social Foundations, Management and Law ....... 2
SEED 488, 7-12 Student Teaching, and ELED 488, K-8 Student Teaching ...................................................... 8
In addition, the following courses must be successfully completed prior to entry into Professional Semester III:
Special Methods (varies by content area) ......................... 3
SPED 401, Introduction to Educating Secondary

Students with Disabilities ............................................. 1

Choral Emphasis:
An emphasis in choral or instrumental teaching may be elected, or, by adding appropriate hours, students may prepare in both areas.
MUS 270, Pedagogy I (must be enrolled more than once per semester) ............................................................... 1-2
MUS 271, Pedagogy II (must be enrolled more than once per semester) ............................................................... 1-2
MUS 351, Elementary School Music Methods .................. 2
MUS 360, Conducting .................................................... 2
MUS 361-361L, Music Education II: Conducting and Lab .... 2
MUS 362-362L, Music Education III: Methods and Materials and Lab ............................................................... 2
MUS 365-365L, Music Education IV: Supervision and Administration of School Music and Lab ................................. 2
MUS 370, Pedagogy III .................................................... 1-2
MUS 371, Pedagogy IV .................................................... 1-2

Instrumental Emphasis:
An emphasis in choral or instrumental teaching may be elected, or, by adding appropriate hours, students may prepare in both areas.
MUS 270, Pedagogy I ..................................................... 1-2
MUS 271, Pedagogy II .................................................... 1-2
MUS 351, Elementary School Music Methods .................. 2-3
MUS 360-360L, Conducting and Lab ................................ 3
MUS 361-361L, Music Education II: Conducting and Lab .... 2
MUS 362-362L, Music Education III: Methods and Materials and Lab ............................................................... 2
MUS 365-365L, Music Education IV: Supervision and Administration of School Music and Lab ................................. 2
MUS 370, Pedagogy III .................................................... 1-2

Total Required Credits: 128
† Concurrent enrollment with all MUAP courses
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

Music Merchandising Major
Requirements for Music Merchandising Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1. Written Communication: ENGL 101, and ENGL 201 .......... 6
Goal #2 Oral Communication: SPCM 101 ............................. 3
Goal #3 Social Sciences/Diversity: Social Science courses only .... 6
Goal #4 Arts and Humanities/Diversity: Humanities courses only ... 6
Goal #5 Mathematics ..................................................... 3
Goal #6 Natural Sciences .............................................. 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship .................. 3
Goal #2 Personal Wellness ............................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
No foreign language .................................................... 3

College Requirements: 16
Physical Science .......................................................... 8
Social Sciences ........................................................... 6
Humanities ................................................................. 2

Major Requirements: 70
MUS 110-110L, Basic Music Theory I and Lab .................. 4
MUS 111-111L, Basic Music Theory II and Lab ................... 4
MUAP 115-116, Class Instruction- Keyboard ....................... 2
MUS 210-210L, Advanced Music Theory I and Lab ............. 4
MUS 211-211L, Advanced Music Theory II and Lab ............. 4
MUS 201, History of Country Music ................................. 3
MUS 130, Music Literature and History I ......................... 2
MUS 203, Blues, Jazz, and Rock ...................................... 3
MUS 433, Music Literature and History III ....................... 3
MUS 185, Recital Attendance ......................................... 0
MUAP 100-155, Applied Music ...................................... 2
MUAP 200-255, Applied Music ...................................... 2
MUAP 300-355, Applied Music ...................................... 2
MUAP 400-455, Applied Music ...................................... 2
MUEN 100-122, Music Organization ................................ 4
MUEN 300-322, Music Organization ................................ 3-4
MUAP 483, Public Recital ............................................. 0
MUS 202, The Music Industry ........................................ 3
MUS 302, Introduction to Recording Industry ................. 2
ACCT 210, Principles of Accounting ................................ 3
ECON 201, Principles of Microeconomics * ....................... 3
ECON 370, Marketing .................................................. 3
ENTR 336, Entrepreneurship .......................................... 3
ENTR 438-538, Entrepreneurship II ................................ 3
MCOM 161, Fundamentals of Desktop Publishing ............... 3
MCOM 370, Advertising Principles .................................. 3
Electives: 3-4

Total Required Credits: 128

184 Department and Program Descriptions and Requirements
Nuclear Engineering
Joel Rauber, Head
Department of Physics
Crothers Engineering Hall 314
605-688-5428
e-mail: joel.rauber@sdstate.edu
www.engineering.sdstate.edu/~physics/physics.htm

Minor in Nuclear Engineering
Students interested in both engineering, and nuclear science should strongly consider a career that utilizes training in both fields. 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 such engineering/science careers or for entering graduate programs for advanced degrees related to nuclear engineering, health physics, medical physics, or physics.

There is a growing demand for engineers that have some nuclear science training. By 2030, it is estimated that we may need up to 40% more electricity in the United States. Nuclear power can meet this increased demand while emitting zero greenhouse gases and not relying upon foreign sources of energy. Not only is the current nuclear workforce starting to retire, but new power plants must be built to meet the growing demand for electricity. Most of these new hires will not be nuclear engineers, but will be "nuclear-savvy" engineers of the type that this minor can provide. Nuclear medicine and health physics are also areas that have widespread and significant demand for science and engineering majors.

Students desiring the minor in nuclear engineering complete an 18-credit curriculum. The curriculum consists of three required foundational courses: (Modern Physics, Foundations of Health Physics, and Introduction to Nuclear Engineering), an internship/research experience, and six credits of appropriate elective course work from physics, mechanical, and electrical engineering. The curriculum is designed with both coursework and practical field experience components in order to add nuclear engineering/science expertise to the student's major. The internship/research experience, which requires approval from the coordinator of the program, provides "real-world" training that allows the student to develop valuable experience that is highly desired by employers in prospective hires.

Student Outcomes:
Students will:
1. Apply advanced mathematics, science, and/or engineering science to nuclear and/or radiological systems.
2. Measure nuclear and radiological processes.
3. Understand the biological effects of radiation and standard radiation safety practices.
4. Demonstrate competency in contemporary issues regarding nuclear power.
5. Demonstrate the ability to work effectively in an area of nuclear science.

Requirements for Nuclear Engineering Minor: 18

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 331, Introduction to Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 337, Foundations of Health Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 435, Introduction to Nuclear Engineering Credits</td>
<td>3</td>
</tr>
<tr>
<td>Choose one of the following for the internship/research experience:</td>
<td></td>
</tr>
<tr>
<td>ME 494, Internship</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 494, Internship</td>
<td>3</td>
</tr>
<tr>
<td>ME 498, Undergraduate Research</td>
<td>3</td>
</tr>
<tr>
<td>EE 498, Undergraduate Research</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 498, Undergraduate Research</td>
<td>3</td>
</tr>
<tr>
<td>The internship/research experience must be related to nuclear science or operations in the nuclear industry and the student must obtain prior approval for the experience from the Coordinator.</td>
<td></td>
</tr>
</tbody>
</table>

Choose a minimum of 6 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 341, Metallurgy</td>
<td>3</td>
</tr>
<tr>
<td>ME 341L, Metallurgy Lab</td>
<td>0</td>
</tr>
<tr>
<td>ME 410, Principles of HVAC Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ME 413, Turbomachinery</td>
<td>3</td>
</tr>
<tr>
<td>ME 418, Design of Thermal Systems</td>
<td>3</td>
</tr>
<tr>
<td>ME 437, Gas Dynamics I</td>
<td>3</td>
</tr>
</tbody>
</table>

Music Education
(See Music)

Music Merchandising
(See Music)

Natural Resource Studies
Donald Marshall, Associate Dean
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133
e-mail: donald.marshall@sdstate.edu

The earth's ability to support life is possible through efficient utilization of natural resources such as soil, water and air. Likewise, the earth's ability to sustain these resources will depend on specialists who protect and conserve these resources. If you have an interest in natural resource management, the outdoors, and the environment, you may want to consider a career in the natural resources.

South Dakota State University offers many majors related to the broad area of natural resources. A major in any one of these areas provides the science background needed to plan and implement management practices essential to maintain and enhance natural resources.

Programs in the natural resources area include: Agricultural and Biosystems Engineering, Agricultural Systems Technology, Agronomy, Biology, Environmental Management, Landscape Architecture, Park Management, Range Science, and Wildlife and Fisheries Sciences. These programs are based on a combination of sciences, so that students have a broad perspective of natural resource management. SDSU also offers courses in other areas that support the natural resource programs. The Economics Department, for example, offers courses in resource economics.

G. Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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 (NURS) Department

Robert Olson, Dean
College of Nursing
SNF 255
605-688-5178 or 1-888-216-9806
e-mail: roberta.olson@sdstate.edu

Faculty
Professor Olson, Dean; Distinguished Professor Hegge; Professors Bunkers, Craig, Foland, Lord, Mylant, Peterson; Professors Emeriti Blazey, Hofland; Associate Professors Carson, Fahrenwald, Dieter, Foland, Hendrickx, Hobbs, Kropenske, Lammers, Stenvig, Tschetter, Voss, Wey; Assistant Professors Bohn, Elverson, Fjelland, Gorder, Jones, Mann, Minton, Randall, Samra, Shaffer; Assistant Professors Emeriti Iken, Joffer; Instructors Atteberry, J. Bassett, S. Bassett, Birch, Boyseh, Bruner, Calhoon, Cissell, Delzer, Erickson, Forbes, Goddard, Haught-Kennedy, Hansen, Hans, Henson, Huber, Johansen, Kertz, Klawiter, Lochridge, Lubeck, Maurer, Mennenga, Ness, Pawelek, Peters, Pickard, Roddy, Sieverson, Vockrodt, White, Winterboer; Instructor Emerita Nelson.

Pre-Nursing and Nursing Major
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 adviser from the College of Nursing. During the semester in which students are completing their final pre-nursing required courses, they apply for admission to the nursing major.

The College of Nursing offers three undergraduate program options for students to complete a nursing major. The Standard Option is designed to meet the educational needs of persons who are not registered nurses. The Standard Option is a five semester program that can be completed in two and a half years. The RN Upward Mobility Option is designed as a degree completion for registered nurses who have completed a National League for Nursing Accrediting Commission (NLNAC) accredited academic diploma or associate degree nursing program.

The third option, the Accelerated Option, is for students who have completed a bachelor's or a master's degree in any field and wish to obtain a Bachelor of Science with a major in Nursing. The Accelerated Option is an intensive course of study that is delivered in a compressed format over 12 months.

Admission to the Nursing Major
Students in the Standard Option are admitted to the nursing major for both the Fall and Spring semesters in both Brookings and Rapid City. Students in the Accelerated Option are admitted once a year at the beginning of the 12-month cycle at the Sioux Falls campus. RN's in the RN Upward Mobility Option are admitted to the nursing major once a year. Major courses can be completed in one year. 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.

The number of students accepted to enroll in the major may vary depending upon available clinical facilities, qualified faculty and funds. Selection is made from among the best qualified for the study and practice of nursing. The admission process includes an interview with the Undergraduate Admission and Scholastic Standards Committee and/or additional undergraduate faculty if needed.

Standard Option
Applications to the Nursing Standard Option major can be obtained online at the College of Nursing website. To enter for the Spring Semester, the deadline to apply for admission to the Standard Option is September 25. To enter Fall Semester, the deadline is January 25. 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, and a grade of “C” or higher in all completed courses required for graduation. All required pre-nursing courses must be completed or in progress at time of application. Additionally, students must have completed ENGL 101, System Goal #2: Oral Communication, 3 credits of System Goal #4: Humanities, System Goal #5: Mathematics, IGR Goal #1: Land and Natural Resources, and IGR Goal #2: Personal Wellness. 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; MIRC 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; MIRC 231/231L; BIOL 221/221L, 325/325L; PSYC 101; one of the following: SOC 100, 150, or 240; NPS 321; 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. Fulfillment of course requirements does not ensure admission. Students are selected competitively based on the total applicant pool. Specific information on criteria for selection may be obtained from the Department of Nursing Student Services at the Brookings campus or the Nursing Student Services at the Rapid City site.

Accelerated Option
Deadline for application to the Accelerated Option is February 25. The application can be found on the College of Nursing website. 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, and a grade of “C” or higher in all completed nursing major support courses. Students are eligible to apply for the Accelerated Program when they have completed at least 6 of the pre-nursing courses AND have at least 2 of the remaining 4 pre-nursing courses in progress. Applicants with courses in progress at the time of application will be required to provide written documentation of their registration in those courses. The documentation needs to be included with the application form. 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; MIRC 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; MIRC 231/231L; BIOL 221/221L, 325/325L; PSYC 101; one of the following: SOC 100, 150, or 240; NPS 321; HDFS 210), repeated and failed the same course the 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. Fulfillment of course requirements does not ensure admission.
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. RN's may apply to the nursing major with no more than 2 support courses, maximum of 7 credits, remaining. Eligibility requirements include: 2.5 GPA, “C” grades in all coursework applied to baccalaureate requirements, evidence of personal liability insurance, criminal background check, and evidence of licensure in state of nursing practice. Application materials are provided to all eligible RN's by staff. Applications are accepted each spring, submission date is March 1. Failure to meet submission requirements may disqualify an applicant for the annual admission cycle. Nursing major courses may be completed in one year.

Additional Requirements

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 outlined in the Pre-Nursing Student Handbook, which is available online or through the Department of Nursing Student Services at the Brookings campus and through the Academic Adviser at the Rapid City site.

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, 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 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.

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. 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. For more information contact SDSU Nursing Student Services, SNF 363, Box 2275, Brookings, SD 57007. Phone 605-688-4106; Fax 605-688-6073.

Requirements for Continuation in the Nursing Major

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.

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.

Nursing (NURS) Major

Requirements for Nursing Major – Standard Option, Bachelor of Science in Nursing:

Prerequisites

System General Education Requirements*: 26-27
Goal #1 Written Communication: ENGL 101................3
Goal #2 Oral Communication........................................3
Goal #3 Social Sciences/Diversity: HDFS 210, and
SOC 100, SOC 150, or SOC 240.........................6
Goal #4 Arts and Humanities/Diversity..........................3
Goal #5 Mathematics.....................................................3
Goal #6 Natural Sciences: CHEM 106/106L, or
CHEM 112/112L, and......................................4
CHEM 108/108L, or CHEM 114/114L..................5

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resources..........................3
Goal #2 Personal Wellness..............................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
PSYC 101..........................................................3

Pre-Nursing Requirements: 15
BIOL 221-221L, Human Anatomy and Lab ..........4
MIRC 231-231L, General Microbiology and Lab........4
NFS 321, Human Nutrition..................................3
BIOL 325-325L, Physiology and Lab..................4
Elective: 1
NURS 201, Medical Terminology (F)..............1

Nursing Major Requirements

System General Education Requirements*: 6
Goal #1 Written Communication: ENGL 201 ..........................3
Goal #4 Arts and Humanities/Diversity ..........................3

Major Requirements: 63-65
NURS 323, Introduction to Pathophysiology .....................3
NURS 215, Professional Nursing .....................2
NURS 265-265L, Health Assessment and Interventions and Lab ....4
NURS 280-280L, Professional Communication and Lab .............3
NURS 310-310L, Introduction to Public Health and Population-based Nursing and Lab ........................................4
NURS 325-325L, Beginning Nursing Care of the Client with Health Problems and Lab ........................................6
PHA 321, Pharmacology ...........................................3
NURS 355, Research: Appraisal and Utilization ......................2
NURS 365-365L, Nursing Care of the Client with Health Problems and Lab ........................................6
NURS 380-380L, Family as Client: Emerging and Developing and Lab .........................................5
NURS 420-420L, Advanced Nursing Care of the Client with Health Problems and Lab ........................................6
NURS 425, Nursing Leadership .....................................3
HSC 445, Epidemiology, or .......................................3
STAT 281, Introduction to Statistics ................................3
NURS 425, Nursing Leadership .....................................3
NURS 480-480L, Advanced Population based Nursing Practice and Lab ........................................4
NURS 495, Practicum (AW) .......................................1-3
NURS 495L, Practicum Clinical Lab ................................0

Electives: 6-10

Total Required Credits: 128

Note: West River pre-nursing courses may not be offered in exactly the same semester as they are on the main campus in Brookings. However, this is a recommended sequence for courses.
A total of 128 credits are required for graduation.

Other required support courses: PHA 321; STAT 281 or HSC 445.
(E) Elective

Requirements for Nursing Major – RN Upward Mobility Option, Bachelor of Science in Nursing:
Please contact the Coordinator, RN Upward Mobility, at 605-688-6186, or 1-888-216-9806 ext. 2.

Requirements for Nursing Major – Accelerated Option, Bachelor of Science in Nursing:
Requirements are the same as those for the Standard Option. For transcript evaluation, please contact the Academic Adviser, Sioux Falls, at 605-367-5636 or toll-free at 1-866-661-6230.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(Elective Courses)

Health Science (HSC) Minor

Requirements for Health Science Minor: 24 cr

Biological Science courses (6 credits):
These courses do not need to be sequence courses, but must include science courses with the following prefixes: BIOL, MIRC, ZOOL.

All of the following courses (12 credits):
HDFS 210, Lifespan Development ................................3
HSC 212, Contemporary Health Problems .................2
HSC 445, Epidemiology ..........................................3
NURS 201, Medical Terminology ................................1
IGR Goal 3 HSC 443, Public Health Science (G) ...........3
NURS 310-310L, Introduction to Public Health and Population-based Nursing and Lab ........................................4
NURS 480-480L, Advanced Population based Nursing Practice and Lab ........................................4

Elective credits from the following courses (6 credits):

Any changes/additions to elective credits must receive prior approval from the Department Head of Undergraduate Nursing.

Health Science (HSC) Minor

Janet Lord, Head
Undergraduate Nursing Department
SNF 327
605-688-6153 or 1-888-216-9806 ext. 2
email: janet.lord@sdstate.edu

A Health Science minor is an interdisciplinary concentration offered to any undergraduate student at South Dakota State University by completing a minimum of 24 semester hours across disciplines with a required core of course offerings across several disciplines. The purpose of the Health Science minor is to provide an opportunity for students to learn more about health and health care while pursuing other majors in the University and to provide a Health Science minor for those individuals who wish to obtain competence in health knowledge, public health and healthful environments. The outcomes for graduates of the Health Science minor are:

1. Apply public health principles, including administration and organizations, to selected disciplines.
2. Implement public health methods and strategies in working with individuals and groups, incorporating principles from the fields of sociology, psychology, and human growth and development.
3. Apply basic human health concepts gained from selected disciplines, biology, physiology, and behavioral, mental health.
4. Advocate for needs of people served by public health systems that demonstrate an understanding of how environment and ecology affect aggregates and communities.

The required core courses are:
a. Biological Science courses (6 credits). These courses do not need to be sequence courses but must include science courses with the following prefixes: BIOL, MIRC, ZOOL.

b. Required Health Science Core courses (12 credits).
c. Electives from set of selected courses (6 credits).
Nutrition, Food Science and Hospitality (NFSH) Department

C. Y. Wang, Head
Department of Nutrition, Food Science and Hospitality
SNF 425
605-688-5161
e-mail: cy.wang@sdstate.edu

Faculty
Professor Wang, Head; Professors Dalaly, Kattelmann, Krishman, Specker; Professors Emeriti Colburn, M. Crews, Deethardt; Associate Professor Droke, Sergeev; Associate Professors Emeriti G. Crews, Guild, M. Rose, R. Rose, Shank; Assistant Professors Dickinson, Frantz, Kemmer; Instructors Baumberger, Evenson, Gengler, Hegerfeld, Motlas, Saboe-Wounded Head, Stulka; Adjunct Faculty Pearson, Rosentrater, Voelzke, Vukovich.

Programs
The Department offers the Bachelor of Science degree with majors in Hospitality Management (Foodservice Management specialization and Hotel and Hospitality Management specialization) and Nutrition and Food Science (Dietetics specialization, Food Science specialization, and Nutritional Sciences specialization), and minors in Nutrition, Hospitality, and Food Safety.

Hospitality Management
The Hospitality Management program provides a firm foundation in both lodging and foodservice operational management supported by a strong background in business and economics. On-the-job work experience for credit strengthens the academic program. Students with up to two years general education credits will usually find that most of their credits will transfer into this program.

Hospitality Management – Foodservice Management specialization
Foodservice management provides students with a focused experience in food preparation and service, with emphases on leadership and management. Practical hands-on experiences, both in the classroom and in the field, broaden students’ knowledge and increase their employability. Students obtain sanitation certification as part of the Foodservice Management specialization. Career opportunities range from quick service and fine dining to purchasing, food brokering, sales and catering. Students are well prepared for leadership and management opportunities in the rapidly expanding food-related hospitality industry.

Hospitality Management – Hotel and Hospitality specialization
Hotel and hospitality management emphasizes the rapidly expanding hospitality industry ranging from convention sales to conference coordinator, from travel and tourism director to hotel general manager. Students receive a firm foundation in business, economics and accounting in order to be competitive in the highly challenging and rapidly changing corporate world of the hospitality industry. From entrepreneurs who want to own and operate their own business to international opportunities in the expanding hospitality industry, students can pursue a variety of different career options in food, lodging, casino and bar management.

Nutrition and Food Science

Nutrition and Food Science – Dietetics specialization
Dietetics offers a wide variety of jobs in hospitals, health promotion programs, nursing homes, public health agencies, industries, schools, universities, the armed services, 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. A dietitian must have a good background in the basic and behavioral sciences to apply the science of nutrition for the promotion of health and the prevention of disease.

A dietitian is essential to the total care of a patient in a healthcare facility, giving nutritional guidance and instruction. Dietitians also work in clinical research units. The role of a dietitian is changing with changes in health care and has become more involved in preventive health care and in community nutrition programs.

Through the program in dietetics, students develop an understanding and competency in food, nutrition, and management. South Dakota State University’s dietetics program is developmentally accredited by the Commission on Accreditation for Dietetics Education of the American Dietetics Association (120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, 312-899-0040 ext 5400) as a Didactic Program in Dietetics (DPD). Students enrolled in the dietetics program who have completed 45 credit hours are assessed a discipline fee each semester until graduation. 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, one must satisfactorily complete the South Dakota State University’s dietetics program, apply, be accepted and complete an accredited dietetic internship and pass the national registration examination for registered dietitians. The dietetic internships are post-graduation, require additional fees, and are competitive.

Nutrition and Food Science – Food Science specialization
Food Science prepares students for professional positions in the food manufacturing industry or for graduate study in Food Science. Food Science is the discipline in which the biological and physical sciences and engineering 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. Food scientists apply science to the selection, preservation, processing, packaging, and distribution of food. Students with a background in the many science areas during the first two years in college may transfer into the program with minimal credit loss. The program offers attractive internship opportunities within the food industry including international experiences.

Numerous high-paying employment opportunities exist for food science graduates who are searching for fulfilling careers in the national and international food industry. The food industry is searching for individuals interested in product development, technical sales, quality control and research. Additional career experiences exist in both government and regulatory agencies.

Nutrition and Food Science – Nutritional Sciences specialization
This specialization focuses on the field of human nutrition and provides students with the background necessary to understand the function and metabolism of nutrients. This program also provides the background for those students interested in pursuing advanced degrees in nutrition or professional degrees in other health professions such as medicine, dentistry, chiropractics, and public health. The curriculum is designed to meet admission requirements of medical and dental schools.

Job opportunities exist in areas such as food and pharmaceutical sales, government agencies, and laboratory research in industry.
academia, and government. Students interested in a career in nutrition education and counseling in a clinical setting should choose the dietetics specialization.

**Food Safety Minor**

**Requirements for Food Safety Minor: 18 cr**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS 350, Meat Prod Safety/HACCP</td>
<td>3</td>
</tr>
<tr>
<td>MICR 311-311L, Food Microbiology and Lab</td>
<td>4</td>
</tr>
<tr>
<td>NFS 151, Food Safety and Technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Choose 8 credits from the following:</strong></td>
<td></td>
</tr>
<tr>
<td>AS 241-241L, Introduction to Meat Science and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AS 345-345L, Value-Added Meat Products and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AST 443-443L, Food Processing and Engineering Fundamentals and Lab</td>
<td>3</td>
</tr>
<tr>
<td>DS 301-301L, Dairy Microbiology and Lab</td>
<td>3</td>
</tr>
<tr>
<td>DS 321-321L, Dairy Product Processing I and Lab</td>
<td>5</td>
</tr>
<tr>
<td>HMG 251, Foodservice Sanitation</td>
<td>1</td>
</tr>
<tr>
<td>HSC 445, Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>NFS 351-351L, Principles of Food Processing and Lab</td>
<td>3</td>
</tr>
<tr>
<td>NFS 451-451L, New Food Product Development and Lab</td>
<td>4</td>
</tr>
<tr>
<td>NFS 495, Practicum</td>
<td>1-3</td>
</tr>
<tr>
<td>STAT 281, Introduction to Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hospitality Management (HMGT) Major**

Requirements for Hospitality Management Major, Foodservice Management Specialization:

Bachelor of Science in Family and Consumer Sciences

**System General Education Requirements**: 30

Goal #1 Written Communication:
ENGL 101, Composition I* ........................................... 3
ENGL 201, Composition II * ........................................... 3

Goal #2 Oral Communication:
SPCM 101, Fundamentals of Speech * .............................. 3

Goal #3 Social Sciences/Diversity:
ECON 202, Principles of Macroeconomics * (G) .................. 3
PSYC 101, General Psychology ................................. 3

Goal #4 Arts and Humanities/Diversity: must be two different disciplines/prefixes or Modern Language sequence ......... 6

Goal #5 Mathematics: MATH 102, College Algebra * or higher .. 3
Goal #6 Natural Sciences ........................................... 6

**Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship ............... 3
Goal #2 Personal Wellness ......................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ........................................... 3

**College Requirements**: 4

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCS 101, FCS-Professional Foundations</td>
<td>1</td>
</tr>
<tr>
<td>HDFS 241, Family Relations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major Requirements**: 57

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFS 141-141L, Foods Principles and Lab</td>
<td>4</td>
</tr>
<tr>
<td>HMG 251, Foodservice Sanitation</td>
<td>3</td>
</tr>
<tr>
<td>HMG 251, Introduction to Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td>HMG 251, Foodservice Sanitation</td>
<td>1</td>
</tr>
<tr>
<td>HMG 261, Hospitality Technology</td>
<td>3</td>
</tr>
<tr>
<td>HMG 295, Practicum</td>
<td>2</td>
</tr>
<tr>
<td>HMG 361, Hospitality Industry Law</td>
<td>2</td>
</tr>
<tr>
<td>HMG 372, Hospitality Facilities Management and Design</td>
<td>3</td>
</tr>
<tr>
<td>HMG 380, Foodservice Operations and Purchasing Management</td>
<td>3</td>
</tr>
<tr>
<td>HMG 465, Cost Controls in Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td>HMG 481, Food Science, Dietetics, and Hospitality Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>HMG 482, Hospitality Marketing</td>
<td>3</td>
</tr>
<tr>
<td>NFS 490, Seminar (AW)</td>
<td>1</td>
</tr>
<tr>
<td>HMG 495, Practicum</td>
<td>2</td>
</tr>
</tbody>
</table>

CSC 105, Introduction to Computers ................. 3
ECON 201, Principles of Microeconomics * ......... 3
ACCT 210, Principles of Accounting I ............. 3
ACCT 211, Principles of Accounting II .............. 3
BADM 360, Legal Environment of Business ........... 3
BADM 360, Organization and Management ............. 3
BADM 474, Personal Selling or MCOM 370, Advertising Principles ........................................... 3
HMGT 489-489L, Responsible Beverage Management and Lab ................. 3

**Specialization (choose one below): 12**

| Electives: 16-17 |

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS 345-345L, Value-Added Meat Products and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AST 443-443L, Food Processing and Engineering Fundamentals and Lab</td>
<td>3</td>
</tr>
<tr>
<td>DS 321-321L, Dairy Product Processing I and Lab</td>
<td>5</td>
</tr>
<tr>
<td>HMG 251, Foodservice Sanitation</td>
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<td>NFS 451-451L, New Food Product Development and Lab</td>
<td>4</td>
</tr>
<tr>
<td>NFS 495, Practicum</td>
<td>1-3</td>
</tr>
<tr>
<td>STAT 281, Introduction to Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Required Credits**: 128

**Foodservice Management Specialization: 12**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS 241-241L, Introduction to Meat Science and Lab</td>
<td>3</td>
</tr>
<tr>
<td>AS 345-345L, Value-Added Meat Products and Lab</td>
<td>3</td>
</tr>
<tr>
<td>HMG 381-381L, Quantity Food Production and Service and Lab</td>
<td>3</td>
</tr>
<tr>
<td>HMG 412-412L, Fine Dining and Catering Management and Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hotel and Hospitality Management Specialization: 12**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMG 370-370L, Lodging Operations and Purchasing Management and Lab</td>
<td>3</td>
</tr>
<tr>
<td>HMG 371-371L, Leisure Activities Management and Lab</td>
<td>3</td>
</tr>
<tr>
<td>HMG 455, Meeting and Convention Management</td>
<td>3</td>
</tr>
</tbody>
</table>

A grade of "C" or better is required in all courses with a NFS or HFM prefix.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

**Hospitality Management (HMGT) Minor**

Requirements for Hospitality Management Minor, Foodservice Management Specialization:

Bachelor of Science in Family and Consumer Sciences

**System General Education Requirements***: 30

Goal #1 Written Communication:
ENGL 101, Composition I* ........................................... 3
ENGL 201, Composition II * ........................................... 3

Goal #2 Oral Communication:
SPCM 101, Fundamentals of Speech * .............................. 3

Goal #3 Social Sciences/Diversity:
ECON 202, Principles of Macroeconomics * (G) .................. 3
PSYC 101, General Psychology ................................. 3

Goal #4 Arts and Humanities/Diversity: must be two different disciplines/prefixes or Modern Language sequence ......... 6

Goal #5 Mathematics: MATH 102, College Algebra * or higher .. 3
Goal #6 Natural Sciences ........................................... 6

**Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship ............... 3
Goal #2 Personal Wellness ......................................... 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ........................................... 3

**College Requirements**: 4

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>FCS 101, FCS-Professional Foundations</td>
<td>1</td>
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</table>

**Major Requirements**: 57

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFS 141-141L, Foods Principles and Lab</td>
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</tr>
<tr>
<td>HMG 251, Introduction to Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td>HMG 251, Foodservice Sanitation</td>
<td>1</td>
</tr>
<tr>
<td>HMG 261, Hospitality Technology</td>
<td>3</td>
</tr>
<tr>
<td>HMG 295, Practicum</td>
<td>2</td>
</tr>
<tr>
<td>HMG 361, Hospitality Industry Law</td>
<td>2</td>
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<tr>
<td>HMG 372, Hospitality Facilities Management and Design</td>
<td>3</td>
</tr>
<tr>
<td>HMG 380, Foodservice Operations and Purchasing Management</td>
<td>3</td>
</tr>
<tr>
<td>HMG 465, Cost Controls in Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td>HMG 481, Food Science, Dietetics, and Hospitality Human Resource Management</td>
<td>3</td>
</tr>
<tr>
<td>HMG 482, Hospitality Marketing</td>
<td>3</td>
</tr>
<tr>
<td>NFS 490, Seminar (AW)</td>
<td>1</td>
</tr>
<tr>
<td>HMG 495, Practicum</td>
<td>2</td>
</tr>
</tbody>
</table>

HMG 261, Hospitality Technology ................. 3
HMG 295, Practicum ......................................... 1-3
HMG 361, Hospitality Industry Law ............... 2
HMG 371-371L, Leisure Activities Management and Lab | 3       |
HMG 372, Hospitality Facilities Management and Design | 3       |
HMG 381-381L, Quantity Food Production and Service and Lab | 3       |
HMG 412-412L, Fine Dining and Catering Management and Lab | 3       |
HMG 455, Meeting and Convention Management ...... 3
HMG 465, Cost Controls in Hospitality Industry ......................................... 3
HMG 481, Food Science, Dietetics, and Hospitality Human Resource Management | 3       |
HMG 489-489L, Responsible Beverage Management and Lab ..3
NFS 141-141L, Foods Principles and Lab .......... 4
Nutrition (NFS) Minor

Requirements for Nutrition Minor: 18 cr

Required courses include:

NFS 141-141L, Foods Principles and Lab 4
NFS 321, Human Nutrition 3
NFS 323, Nutrition Across the Life Cycle 3
NFS 422-522, Advanced Human Nutrition 4
NFS 492-592, Topics 1-3

Plus one of the following:

NFS 322-322L, Assessment Skills in Nutrition 3
NFS 423-423L, Medical Nutrition Therapy I and Lab 3
NFS 424-424L, Community Nutrition and Lab 3

Any required prerequisites must also be taken. Students planning a minor must receive departmental approval. Higher level mathematics or chemistry course may be accepted with department approval.

Nutrition and Food Science (NFS) Major

Dietetics Specialization Requirements:

Bachelor of Science in Family and Consumer Sciences

System General Education Requirements*: 32

Goal #1 Written Communication:
ENGL 101, Composition I* 3
ENGL 201, Composition II 3

Goal #2 Oral Communication: 3

Goal #3 Social Sciences/Diversity:
ECON 202, Principles of Macroeconomics * (G) 3
PSYC 101, General Psychology * ** 3

Goal #4 Arts and Humanities/Diversity: must be two different disciplines/prefixes or Modern Language sequence 6

Goal #5 Mathematics: MATH 102, College Algebra * or higher 3

Goal #6 Natural Sciences:
CHEM 112-112L, General Chemistry I and Lab * 4
CHEM 114-114L, General Chemistry II and Lab * 4

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

College Requirements: 4

FCS 101, FCS-Professional Foundations 1
HDFS 241, Family Relations 3

Major Requirements: 46

HMGT 251, Foodservice Sanitation 1
NFS 141-141L, Foods Principles and Lab 4
NFS 321, Human Nutrition 3
NFS 322-322L, Assessment Skills in Nutrition 3
NFS 323, Nutrition Across the Life Cycle 3
NFS 341-341L, Food Science and Lab 4
NFS 380, Foodservice Operations and Purchasing Management 3
NFS 381-381L, Quantity Food Production and Service and Lab 3
NFS 422-522, Advanced Human Nutrition 4
NFS 423-423L, Medical Nutrition Therapy I and Lab 3
NFS 424-424L, Community Nutrition and Lab 3
NFS 425-425L, Medical Nutrition Therapy II and Lab 3
HMGT 465, Cost Controls in Hospitality Industry 3
NFS 481, Food Science, Dietetics, and Hospitality Human Resources Management 3
NFS 490-590, Seminar (AW) 1
NFS 495, Practicum (taken summer between Junior and Senior year) 2

Specialization: 34

ACCT 210, Principles of Accounting I 3
BIOL 221-221L, Human Anatomy and Lab 4
BIOL 325-325L, Physiology and Lab 4
CHEM 326-326L, Organic Chemistry I and Lab 4
CHEM 328-328L, Organic Chemistry II and Lab 4
CHEM 464, Biochemistry I 3
CHEM 466, Lab Methods - Biochemistry 1
FCSE 421, Adult Education 3
HSC 445, Epidemiology or
STAT 281, Introduction to Statistics 3
MIRC 231-231L, General Microbiology and Lab 4
NURS 201, Medical Terminology 1

Electives: 3-4

Total Required Credits: 128

Food Science Specialization Requirements:

Bachelor of Science in Family and Consumer Sciences

System General Education Requirements*: 32

Goal #1 Written Communication:
ENGL 101, Composition I* 3
ENGL 201, Composition II * 3

Goal #2 Oral Communication: 3

Goal #3 Social Sciences/Diversity:
ECON 202, Principles of Macroeconomics * (G) 3
PSYC 101, General Psychology * ** 3

Goal #4 Arts and Humanities/Diversity: must be two different disciplines/prefixes or Modern Language sequence 6

Goal #5 Mathematics: MATH 115, Precalculus * 5

Goal #6 Natural Sciences:
CHEM 112-112L, General Chemistry I and Lab * 4
CHEM 114-114L, General Chemistry II and Lab * 4

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

College Requirements: 4

FCS 101, FCS-Professional Foundations 1
HDFS 241, Family Relations 3

Major Requirements: 33

NFS 141-141L, Foods Principles and Lab 4
NFS 151, Food Safety and Technology 3
NFS 321, Human Nutrition 3
NFS 341-341L, Food Science and Lab 4
NFS 351-351L, Principles of Food Processing and Lab 3
NFS 360-360L, Food Chemistry and Lab 4
NFS 451-451L, New Food Product Development and Lab 4
NFS 481, Food Science, Dietetics, and Hospitality Human Resources Management 3
NFS 490-590, Seminar (AW) 1

Specialization: 48

CHEM 326-326L, Organic Chemistry I and Lab 4
CHEM 328-328L, Organic Chemistry II and Lab 4
CHEM 332-332L, Analytical Chemistry and Lab 4
CHEM 464, Biochemistry I 3
CHEM 466, Lab Methods - Biochemistry 1
DS 313-313L, Technical Control of Dairy Products I and Lab 3
DS 422-422L, Technical Control of Dairy Products II and Lab 4
AS 241-241L, Introduction to Meat Science and Lab 3
AST 443-443L, Food Processing and Engineering Fundamentals and Lab 3

Department and Program Descriptions and Requirements 191
**Electives**: 2-3

**Total Required Credits: 128**

**Nutritional Sciences Specialization Requirements:**

Bachelor of Science in Family and Consumer Sciences

**System General Education Requirements**: 32

Goal #1 Written Communication:

ENGL 101, Composition I* ........................................... 3
ENGL 201, Composition II * ........................................... 3

Goal #2 Oral Communication:

..........................

Goal #3 Social Sciences/Diversity:

ECON 202, Principles of Macroeconomics *(G) .................. 3

Goal #4 Arts and Humanities/Diversity: must be two different disciplines/prefixes or Modern Language sequence ............... 6

Goal #5 Mathematics:

MATH 102, College Algebra * or
MATH 115, Precalculus * or
MATH 123, Calculus I * ............................................... 3-5

Goal #6 Natural Sciences:

CHEM 112-112L, General Chemistry I and Lab * ................. 4
CHEM 114-114L, General Chemistry II and Lab * ............... 4

**Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship:

NFS 111, Food, People and the Environment ** .................. 3

Goal #2 Personal Wellness........................................... 2-3

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .... 3

**College Requirements**: 4

FCS 101, FCS-Professional Foundations......................................... 1
HDFS 241, Family Relations .............................................. 3

**Major Requirements**: 34

NFS 141-141L, Foods Principles and Lab .................................. 4
NFS 321, Human Nutrition ............................................... 3
NFS 322-322L, Assessment Skills in Nutrition ....................... 3
NFS 323, Nutrition Across the Life Cycle............................. 4
NFS 341-341L, Food Science and Lab .................................. 4
NFS 422-522, Advanced Human Nutrition............................. 4
NFS 423-423L, Medical Nutrition Therapy I and Lab ............... 3
NFS 424-424L, Community Nutrition and Lab ....................... 3
NFS 425-425L, Medical Nutrition Therapy II and Lab .............. 3
NFS 481, Food Science, Dietetics, and Hospitality Human Resources Management .............................................. 3
NFS 490-590, Seminar (AW) ............................................ 1

**Specialization**: 40

BIOL 221-221L, Human Anatomy and Lab .................................... 4
BIOL 325-325L, Physiology and Lab ..................................... 4
BIOL 151-151L, General Biology I and Lab * ......................... 4
BIOL 153-153L, General Biology II and Lab * ....................... 4
CHEM 326-326L, Organic Chemistry I and Lab ....................... 4
CHEM 328-328L, Organic Chemistry II and Lab ..................... 4
CHEM 464, Biochemistry I .............................................. 3
CHEM 466, Lab Methods - Biochemistry.............................. 1
NURS 201, Medical Terminology ....................................... 1
PHYS 111-111L, Introduction to Physics I and Lab * ............. 4
PHYS 113-113L, Introduction to Physics II and Lab * .............. 4
STAT 281, Introduction to Statistics ................................ 1

Electives: 9-10

**Total Required Credits: 128**

Note: A grade of "C" or better is required in all courses with a NFS or HOFM prefix.

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 sciences, and humanities and arts must be taken prior to taking this exam.

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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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**Pre-) Occupational Therapy**

Greg Heiberger, Coordinator and Advisor
College of General Studies
Wecota Hall 218
605-688-4294
E-mail: greg.heiberger@sdstate.edu

**Area of Study**

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.

**Required**

PHIL 220, Introduction to Ethics or .................................. 3
PHIL 383, Bioethics .................................................... 4
PSYC 101, General Psychology ........................................ 3
HDFS 210, Lifespan Development ...................................... 3
SOC 100, Introduction to Sociology or ................................ 3
SOC 150, Social Problems ............................................. 3
BIOL 221-221L, Human Anatomy and Lab .......................... 4
BIOL 325-325L, Physiology and Lab .................................. 4

**Commonly Required**

NURS 201, Medical Terminology Credits .............................. 1
STAT 281, Introduction to Statistics ................................ 3
PSYC 451, Psychology of Abnormal Behavior ....................... 3

**Recommended**

GS 100, University Experience ....................................... 1
PHTH 142, Introduction to Physical and Occupational Therapy .......... 1
BIOL 151-151L, General Biology I and Lab * ....................... 4
BIOL 153-153L, General Biology II and Lab * ....................... 4
CHEM 112-112L, General Chemistry I and Lab * .................... 4
CHEM 114-114L, General Chemistry II and Lab * .................... 4

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192 Department and Program Descriptions and Requirements
Area of Study

There are 17 American Optometric Association accredited member schools and colleges of optometry listed by ASCO (Association of Schools and Colleges of Optometry). Students graduating from SDSU with above average grades and competitive Optometry Admissions Test (OAT) scores have been successful in the admissions process. The average GPA for successful applicants is often 3.0 to 3.5 for colleges of optometry. Students usually have completed three years of college work. The majority of students entering professional schools of optometry have completed work for the bachelor’s degree. Students are encouraged to complete a bachelor’s degree.

The prospective optometric student should begin as early as possible to acquire an education in the fundamental sciences with the proper selection of pre-professional courses. Required courses include physics, mathematics, English, biological science, anatomy, chemistry and psychology. A program incorporating these courses should be selected to meet the requirements of professional schools of optometry and provide a good background for the Optometry Admissions Test. Certain optometry colleges may also require additional specific classes. For additional information and specific requirements of each college of optometry, please refer to the Web site 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 adviser as soon as possible after declaring an interest in optometry.

Suggested Courses

GS 100, University Experience ........................................ 1
BIOL 290, Seminar ................................................... 1
PSYC 451, Psychology of Abnormal Behavior .................... 3
PSYC 101, General Psychology ...................................... 3
NURS 201, Medical Terminology Credits ......................... 1

Biology

BIOL 151-151L, General Biology I and Lab * .................... 4
BIOL 153-153L, General Biology II and Lab * ................. 4
BIOL 202-202L, Genetics and Organismal Biology .......... 4
BIOL 204-204L, Genetics and Cellular Biology and Lab ...... 4
BIOL 221-221L, Human Anatomy and Lab ................. 4
BIOL 325-325L, Physiology and Lab ............................. 4
MICR 231-231L, General Microbiology and Lab .............. 4

Chemistry

CHEM 112-112L, General Chemistry I and Lab .................. 4
CHEM 114-114L, General Chemistry II and Lab ................ 4

Organic Chemistry

CHEM 326-326L, Organic Chemistry I and Lab ............ 4
CHEM 328-328L, Organic Chemistry II and Lab ............ 4

Biochemistry

CHEM 464, Biochemistry I ........................................ 3
CHEM 466, Lab Methods - Biochemistry ....................... 1

Mathematics: Calculus and Statistics

MATH 123, Calculus I ..................................... 4
STAT 281, Introduction to Statistics ...................... 3

Physics

PHYS 111-111L, Introduction to Physics I and Lab ............. 4
PHYS 113-113L, Introduction to Physics II and Lab .......... 4

Park and Recreation Management

(See Horticulture, Forestry, Landscape and Parks, and Health, Physical Education and Recreation)

Peace and Conflict Studies Minor

Kathleen Donovan, Head
Bruce E. Brandt, Program Coordinator

Requirements for Peace and Conflict Studies minor:
Minor Requirements: 18
ENGL 125, Introduction to Peace and Conflict Studies ........ 3
ENGL 470, Capstone in Peace and Conflict Studies .......... 3
SPCM 470, Intercultural Communication .................... 3
Nine credits from the following list:
POLS 253, Current World Problems ............................ 3
POLS 350, International Relations ............................. 3
POLS 454, International Law and Organization ............... 3
HIST 469, American Foreign Relations ..................... 3
HIST 355, Civil War Military History ......................... 3
HIST 460, American Military History ....................... 3
PHIL 215, Introduction to Social Political Philosophy ........ 3
GLST 201, Global Studies I .................................... 3
GLST 480, Ethics of Globalization ............................ 3
ENGL 380, Futuristic Communications ...................... 3

Pest Management

(See Plant Science)

Pharmaceutical Sciences Department

Chandradhar Dwivedi, Head
Department of Pharmaceutical Sciences
Intramural Building 116A
605-688-6198
e-mail: chandradhar.dwivedi@sdstate.edu

Faculty
Professor Dwivedi; Head; Professor Guan; Associate Professors Chandrasekher, Fahmy; Assistant Professors Davies, Perumal, Rahman, Seefeldt, Tummala.
Programs

The Department provides a firm foundation in the pharmaceutical sciences leading to the Doctor of Pharmacy (Pharm.D.) degree. Satisfactory completion of the pharmaceutical sciences portion of the Pharm.D. curriculum and the University General Education Core curriculum is confirmed through the awarding of a B.S. in Pharmaceutical Sciences. See the College of Pharmacy section of this catalog for admission requirements for the Pharm.D. professional program.

The Department also offers the Doctor of Philosophy (Ph.D.) in Pharmaceutical Sciences. See the SDSU Graduate Catalog for details regarding the Ph.D. degree or contact the Department directly.

Pharmacy (PHA) Major

Dennis Hedge, Dean
College of Pharmacy
SIM 116
605-688-6197

Web site: www3.sdstate.edu/Academics/CollegeofPharmacy

Progression Standards for Class Standing:

Some pharmacy courses have prerequisites such as P1 Year Standing, etc.

These are defined as follows:

P1 Year Standing – the student must have been admitted into the professional program.

P2 Year Standing – completion of all PHA 300 level required courses.

P3 Year Standing – completion of all PHA 400 level required courses and a bachelor’s degree are required to begin the first semester. Completion of all required PHA courses in the first semester is required to progress to the second semester.

P4 Year Standing – completion of all PHA 700 level required, nonpractice experience courses.

Note: “Completion” means a passing grade in each pharmacy course and maintaining semester and cumulative PHA GPA requirements.

Requirements for Doctor of Pharmacy Degree, Pre-Pharmacy Courses

System General Education Requirements*: 34

Goal #1 Written Communication:

ENGL 101, Composition I * ..........................3
ENGL 201, Composition II * ..........................3

Goal #2 Oral Communication:

SPCM 101*, Fundamentals of Speech ..........................3

Goal #3 Social Sciences/Diversity

ECON 202, Principles of Macroeconomics * (G) ..........................3

Goal #4 Arts and Humanities/Diversity

MATH 121-121L, Survey of Calculus and Lab * ..........................5

Goal #5 Mathematics:

Goal #6 Natural Sciences:

CHEM 112-112L, General Chemistry I and Lab * ..........................4
CHEM 114-114L, General Chemistry II and Lab * ..........................4

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship:

BIOL 101-101L, Biology Survey I and Lab **2 ..........................5

Goal #2 Personal Wellness ..............................................2-3

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness ..........................3

Major Requirements: 166

BIOL 221-221L, Human Anatomy and Lab .......................4
BIOL 325-325L, Physiology and Lab .......................4
CHEM 326-326L, Organic Chemistry I and Lab .......................4
CHEM 328-328L, Organic Chemistry II and Lab .......................4
MICR 231-231L, General Microbiology and Lab .......................4
PHA 101, Introduction to Pharmacy .......................1
PHA 310, Introduction to Practice Experience II ..........................3

PHA 320, Introduction to Pathophysiology .......................3
PHA 323, Pharmaceutical Biochemistry .......................4
PHA 324, Biomedical Science I .......................4
PHA 331, Pharmacology I ..........................3
PHA 332-332L, Pharmacetics II and Lab .......................4
PHA 340-340L, Medicinal Chemistry I and Lab .......................4
PHA 341-341L, Medicinal Chemistry II and Lab .......................4
PHA 367-367L, Pharmacy Practice I and Lab .......................2
PHA 368-368L, Pharmacy Practice II and Lab .......................2
PHA 415, Biopharmaceutics and Pharmacokinetics .......................4
PHA 425, Biomedical Science II ..........................3
PHA 430, Pharmacy Practice Law ..........................3
PHA 442, Pharmacology I ..........................5
PHA 443, Pharmacology II ..........................4
PHA 444, Toxicology ..........................2
PHA 445, Pharmacotherapeutics I ..........................2
PHA 446, Pharmacotherapeutics II ..........................3
PHA 467-467L, Pharmacy Practice III and Lab (AW) ..........................3
PHA 468-468L, Pharmacy Practice IV and Lab ..........................3
PHA 610, Introductory Practice Experience II ..........................5
PHA 714, Community Pharmacy Practice Experience ..........................5
PHA 716, Hospital/Institutional Pharmacy Practice Experience ..........................5
PHA 723, Ethics in Healthcare Practice ..........................5
PHA 727, Professional Resources Management ..........................3
PHA 741-741L, Patient Assessment and Self Care I and Lab ..........................2
PHA 742-742L, Patient Assessment and Self Care II and Lab ..........................2
PHA 756, Pharmacotherapeutics III ..........................4
PHA 757, Pharmacotherapeutics IV ..........................4
PHA 761, Pharmacotherapeutics V ..........................5
PHA 762, Pharmacotherapeutics VI ..........................5
PHA 767-767L, Pharmacy Practice V and Lab ..........................3
PHA 768-768L, Pharmacy Practice VI and Lab ..........................3
PHA 772, Internal Medicine I Practice Experience ..........................5
PHA 774, Ambulatory Care Practice Experience ..........................5

STAT 399, Biostatistics ..........................3

Assigned Advanced Pharmacy Practice Experiences (choose 2):

PHA 700, Directed Studies Practice Experience ..........................5
PHA 706, Critical Care Practice Experience ..........................5
PHA 707, Infectious Disease Practice Experience ..........................5
PHA 717, Community Health and Patient Monitoring Practice Experience ..........................5
PHA 770, Pediatrics Practice Experience ..........................5
PHA 771, Geriatrics Practice Experience ..........................5
PHA 773, Internal Medicine II Practice Experience ..........................5
PHA 775, Psychiatry Practice Experience ..........................5

Elective Advanced Pharmacy Practice Experiences (choose 2):

PHA 700, Directed Studies Practice Experience ..........................4-5
PHA 701, Home Health/Hospice Practice Experience ..........................5
PHA 702, Indian Health Services Practice Experience ..........................5
PHA 703, Pharmacy Administration Practice Experience ..........................5
PHA 704, Nutrition Support Practice Experience ..........................5
PHA 705, Clinical Research Practice Experience ..........................5
PHA 708, Surgery Practice Experience ..........................5
PHA 709, Nephrology Practice Experience ..........................5
PHA 710, Pharmacokinetics Practice Experience ..........................5
PHA 711, Oncology Practice Experience ..........................5
PHA 712, Nuclear Pharmacy Practice Experience ..........................5
PHA 713, Managed Care Practice Experience ..........................5
PHA 780, International Pharmacy Practice Experience ..........................5

Elective experiences not utilized from list of Assigned Advanced Pharmacy Practice Experiences

Electives: 10

General Electives† ..............................................6

Pharmacy Electives PHA 700 level, non APPE ..........................4

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Total Required Credits: 218

† General Electives: 6 credits required prior to beginning P3 Year. Credits in excess of System General Education Requirements or IGR Goals may apply toward General Elective requirement.
1 Eligible for Bachelor of Science degree in Pharmaceutical Sciences after completion of all general education requirements, 300 and 400-level PHA courses, and general elective credits for a total of 138 credits.
2 Can substitute BIOL 151-151L and select different IGR Goal #1
3 Must be completed during the summer between the P1 and P2 years.
4 Must be completed during the summer between the P2 and P3 years.
5 Must have a bachelor's degree to begin the P3, 700-level courses. 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.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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 Practice Department

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Department of Pharmacy Practice
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605-688-6197
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www3.sdstate.edu/academics/collegeofpharmacy

Faculty
Professor Clem, Head; Professors Farver, Fiechtner, Fischer, Heins, Helgeland, Jensen Bender, T. Johnson, Lemon, Messerschmidt, Mort; Associate Professors Baer, A. Johnson, Kutscher, Laible, Lee, Oehlke, Strain; Assistant Professors Chin, Hansen, Hegg, Hegge, Hellwig, Peters, Van Gilder; Instructor Hendricks.

Programs
The Department provides classroom and experiential instruction for the Doctor of Pharmacy (Pharm.D) degree program. Faculty are located at various practice sites which provides students the opportunity for diverse learning experiences. See the College of Pharmacy section of this catalog for admission requirements to the Pharm.D. professional program.

Philosophy and Religion (PHIL, REL)

Greg Peterson, Coordinator
Department of Philosophy and Religion
Scobey Hall 318
605-688-4933
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Faculty
Associate Professor Peterson, Program Coordinator; Professors Bahr, Bielfeldt; Professor Emeritus Nelson; Instructor Enander.

Programs
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's truly important to live well.

The academic study of religion includes learning and understanding the history, beliefs, and practices of the world's many religious traditions. Religion scholars seek to understand how believers understand their own traditions as well as examining historical, psychological, and social factors that shape religious traditions.

Minors are available in both Philosophy and Religion, and may be earned either with a B.A. or a B.S. degree. Students may also pursue an Interdisciplinary Studies major with emphasis on philosophy and religion.

Study in philosophy and religion emphasizes critical thinking, the development of sharp reading skills, and mastery of written and verbal communication abilities that are applicable to a wide variety of professions. Courses in religion will be of particular interest for preministerial students planning to go on to seminary, while courses in philosophy, especially logic, are useful for pre-law students. Students are encouraged to consult with faculty for recommendations for their own personal course of study.

Philosophy (PHIL) Minor
Requirements for Philosophy Minor: 15 cr
Upper division courses...............................................................6
Additional PHIL courses..........................................................6
PHIL 100, Introduction to Philosophy **.................................3

Religion (REL) Minor
Requirements for Religion Minor: 15 cr
Additional Religion Courses..................................................12
REL 213, Introduction to Religion **...............................3

(Pre-) Physical Therapy
Greg Heiberger, Coordinator and Advisor
College of General Studies
Wecota 218
605-688-4294
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Area of Study
The pre-physical therapy program is a pre-professional curriculum whereby all the necessary prerequisites can be completed in preparation for applying to a school of physical therapy. The Department provides advising to assist each student in developing a plan best suited to his/her needs. Acceptance by physical therapy schools is on a competitive basis, therefore, a strong undergraduate academic record is essential.

A Doctorate in Physical Therapy is the entry level degree required for licensure as a new physical therapist. Students must earn a bachelor's degree, have a basic science background and complete a certain number of required courses before applying to a professional physical therapy program.

Suggested Courses
GS 100, University Experience........................................1
PHTH 142, Introduction to Physical and Occupational Therapy .....1
NURS 201, Medical Terminology Credits................................1
BIOL 290, Seminar .........................................................1
(Pre-) Physician Assistant

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Area of Study

SDSU offers prerequisite 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 speaking, 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. In addition, 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 Physician Assistant Programs Directory, now available online.

Prerequisites for most Accredited PA Programs:

**Biology**

BIOL 151-151L, General Biology I and Lab * .......................... 4
BIOL 153-153L, General Biology II and Lab* ........................... 4

**Chemistry**

CHEM 112-112L, General Chemistry I and Lab* ......................... 4
CHEM 114-114L, General Chemistry II and Lab* ......................... 4
CHEM 326-326L, Organic Chemistry I and Lab .......................... 4
CHEM 328-328L, Organic Chemistry II and Lab .......................... 4

**Biochemistry**

CHEM 464, Biochemistry I .................................................. 3
CHEM 466, Lab Methods - Biochemistry .................................. 3

**Anatomy**

BIOL 221-221L, Human Anatomy and Lab ................................ 4

**Physiology**

BIOL 325-325L, Physiology and Lab ........................................ 4

**Microbiology**

MICR 231-231L, General Microbiology and Lab ......................... 4

**General Psychology**

PSYC 101, General Psychology * ** ................................. 3
PSYC 451, Psychology of Abnormal Behavior ** ...................... 3

**Statistics**

STAT 281, Introduction to Statistics ..................................... 3

Other courses required by many PA programs include:

Psychology course .......................... 3
[often specified as developmental psychology (e.g. HDFS 210
Lifespan Development at SDSU)]

Genetics course with lab .......................... 4
(e.g. BIOL 202-202L)

NURS 201, Medical Terminology Credits .............................. 1

Highly recommended courses include:

BIOL 290, Seminar ......................................................... 1
GS 100, University Experience ........................................... 1
MICR 439, Medical and Veterinary Immunology ....................... 3
NURS 323, Introduction to Pathophysiology ............................ 3
PHA 321, Pharmacology .................................................. 3

Physics (PHYS) Department

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Faculty

Professor Rauber, Head; Professor Browning; Professors Emeriti Duffey, Graetz, Leisure, Quist; Associate Professor Hub, McTaggart; Assistant Professors Aaron, Bonvallet, Grams, Sherwin; Instructors Schran, Vondruska.

Mission

The mission of the SDSU Physics Department is to provide high quality physics instruction, to seek new knowledge, and to apply that knowledge for the improvement of the lives of humankind.

Educational Objectives

Graduates of one of the physics programs at SDSU will compare favorably in their theoretical and technical knowledge with students completing similar programs nationally. They will be able to demonstrate proficiency in understanding and applying physics principles, and they will be productively employed in the state, region, or nation.

Programs

The Physics Department has three main objectives in its program offerings: (1) to serve students with an interest in a professional future in physics or its allied disciplines; (2) to serve students interested in...
engineering as a profession; and (3) to serve students from various colleges within the University who need a basic understanding of physics. The department is set up and supported with professional staff, facilities and equipment to support these objectives.

The Physics Department offers two curricula, or majors, leading to the Bachelors of Science (B.S.) degree: Physics and Engineering Physics.

**B.S. Degree in Engineering Physics**

**Educational Outcomes**

Graduates will have:

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;
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 and societal context;
i) a recognition of the need for, and an ability to engage in life-long learning;
j) a knowledge of contemporary issues; and
k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The curriculum in Engineering Physics is built around a strong core of physics courses complemented by engineering courses. Students can earn an Engineering Physics degree with an emphasis in either mechanical or electrical engineering. This major is designed to give students the ability to apply new research developments to pressing problems of society and is most attractive to students interested in industry employment. Graduates with an Engineering Physics degree typically enter employment as an engineer or continue graduate work in such fields as nuclear engineering, electrical engineering, mechanical engineering or aerospace engineering.

**B.S. Degree in Physics**

**Educational Outcomes**

The curriculum in Physics has the flexibility to accommodate a wide range of student interests. Students can earn a Physics degree through one of three tracks: the Flexible Emphasis, the Professional Physics Emphasis, or the Science Teaching Specialization. Students interested in HP 321L, Electronics II and Lab 4 range of student interests. Students can earn a Physics degree through EE 221 - 22IE, Circuits II and Lab 4.

The curriculum in Engineering Physics is built around a strong core of physics courses complemented by engineering courses. Students can earn an Engineering Physics degree with an emphasis in either mechanical or electrical engineering. This major is designed to give students the ability to apply new research developments to pressing problems of society and is most attractive to students interested in industry employment. Graduates with an Engineering Physics degree typically enter employment as an engineer or continue graduate work in such fields as nuclear engineering, electrical engineering, mechanical engineering or aerospace engineering.

**Minor in Physics**

The minor in physics consists of 17 credits as outlined in the section on Major and Minor Requirements.

**Engineering Physics Major**

Requirements for Engineering Physics Major—Electrical Engineering Emphasis, Bachelor of Science in Engineering Physics:

**System General Education Requirements**: 33

Goal #1 Written Communication: ENGL 101, and

ENGL 201, or ENGL 277 (AW)†...............................6
Goal #2 Oral Communication: SPCM 101....................3
Goal #3 Social Sciences/Diversity (G)††.......................6
Goal #4 Arts and Humanities/Diversity (G)††................6
Goal #5 Mathematics: MATH 123............................4
Goal #6 Natural Sciences: PHYS 211-211L, and PHYS 213-213L...8

**Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship............3
Goal #2 Personal Wellness..................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness...3

**Major Requirements**: 76

PHYS 316-316L, Measurement Theory and Experimental Design ...2
PHYS 331, Introduction to Modern Physics....................3
PHYS 490, Seminar........................................1
MATH 125, Calculus II.......................................4
MATH 225, Calculus III.......................................4
MATH 321, Differential Equations............................3
CHEM 112-112L, General Chemistry I and Lab.............4
CHEM 114, General Chemistry II.............................3
CSC 150, Computer Science I, or............................3
CSC 213, Introduction to Programming W/Fortran, or......3
CSC 218, Introduction to C/C++ for Engineers.............3
PHYS 318, Advanced Laboratory I...........................1
PHYS 341, Thermodynamics..................................2
PHYS 343, Statistical Physics................................2
PHYS 361, Optics............................................3
PHYS 418, Advanced Laboratory II...........................1
PHYS 421, Electromagnetism..................................4
PHYS 451, Classical Mechanics..............................4
PHYS 471, Quantum Mechanics...............................4
PHYS 435, Introduction to Nuclear Engineering, or.......3
PHYS 439, Solid State Physics, or..........................3
PHYS 433, Nuclear and Elementary Particle Physics.......3
GE 101, Introduction to Engineering and Technology.....1
GE 121, Engineering Design Graphics.........................1
GE 123, Computer Aided Drawing............................1
MATH 327, Calculus of Several Variables, or..............3
MATH 331, Advanced Engineering Mathematics, or.......3
PHYS 481, Mathematical Physics............................4
EE 220 – 220L, Circuits I and Lab...........................4
EE 221 – 221L, Circuits II and Lab...........................4
EE 320 – 320L, Electronics I and Lab.........................4
EE 321 – 321L, Electronics II and Lab.......................4
PHYS 464, Senior Design I..................................1
PHYS 465, Senior Design II................................2

**Electives**: 11

Technical Electives†††........................................11

**Total Required Credits**: 128

Requirements for Engineering Physics Major—Mechanical Engineering Emphasis, Bachelor of Science in Engineering Physics:

**System General Education Requirements**: 33

Goal #1 Written Communication: ENGL 101, and

ENGL 201 or ENGL 277 (AW)†.................................6
Goal #2 Oral Communication: SPCM 101.....................3
Goal #3 Social Sciences/Diversity (G)††......................6
Goal #4 Arts and Humanities/Diversity (G)††.................6
Goal #5 Mathematics: MATH 123............................4
Goal #6 Natural Sciences: PHYS 211-211L, and PHYS 213-213L...8

**Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship............3
Goal #2 Personal Wellness..................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness......3

**Major Requirements:** 78
PHYS 316-316L, Measurement Theory and Experimental Design ...2
PHYS 331, Introduction to Modern Physics .................... 3
PHYS 490, Seminar .................................................1
MATH 125, Calculus II............................................4
MATH 225, Calculus III .........................................4
MATH 321, Differential Equations.................................4
CHEM 112-112L, General Chemistry I and Lab ...............4
CHEM 114, General Chemistry II ................................2
CSC 150, Computer Science I, or
CSC 213, Introduction to Programming W/Fortran, or ..........3
CSC 218, Introduction to C/C++ for Engineers .................3
PHYS 318, Advanced Laboratory I ......................... 1
PHYS 341, Thermodynamics.................................. 2
PHYS 343, Statistical Physics................................. 2
PHYS 361, Optics ................................................3
PHYS 418, Advanced Laboratory II .......................... 1
PHYS 421, Electromagnetism ................................4
PHYS 451, Classical Mechanics ...............................4
PHYS 471, Quantum Mechanics ...............................4
PHYS 435, Introduction to Nuclear Engineering, or .......5
PHYS 439, Solid State Physics, or..........................5
PHYS 433, Nuclear and Elementary Particle Physics .......3
GE 101, Introduction to Engineering and Technology .......1
GE 121, Engineering Design Graphics .........................1
MATH 327, Calculus of Several Variables, or ..............3
MATH 331, Advanced Engineering Mathematics, or ........3
PHYS 481, Mathematical Physics ................................4
EE 220-220L, Circuits I and Lab ................................4
EE 221-221L, Circuits II and Lab ..............................4
GE 122, Engineering Design Graphics II ......................1
EM 214, Statics ..................................................3
GE 225, Survey of Machine Tool Applications ...............1
ME 240, Introduction to Mechanical Design .................3
EM 331, Fluid Mechanics .....................................3
PHYS 464, Senior Design I .................................. 1
PHYS 465, Senior Design II .................................. 2

**Electives:** 9
Technical Electives†††.............................................9

**Total Required Credits:** 128
† The Engineering Physics Major, either emphasis, has received an exemption (see * below) in that the second English course may be delayed until the junior year.
‡ Check especially the six credits for SGR Goals 3 and 4 which require courses from two different disciplines. It is recommended that ECON 202 Macroeconomics be one of the elective Social Science courses.
†† Technical electives will be selected with the assistance of the student's advisor from courses offered by the Electrical Engineering, Physics, Computer Science, Chemistry, Biology, and Mathematics Departments. Technical electives must be carefully chosen so as to meet the minimum EAC/ABET "Engineering Topics" component. A complete list of departmentally approved technical electives is available in the Physics Department office. Any departures from this list must be approved by the Head of the Physics Department.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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**
Requirements for Physics Major—Professional Physics Emphasis, Bachelor of Science in Physics

**System General Education Requirements**: 33
Goal #1 Written Communication: ENGL 101, and
ENGL 201 or ENGL 277.................................6
Goal #2 Oral Communication: SPCM 101 ....................3
Goal #3 Social Sciences/Diversity ..................................6
Goal #4 Arts and Humanities/Diversity .........................6
Goal #5 Mathematics: MATH 123 ...............................4
Goal #6 Natural Sciences: PHYS 211-211L, and PHYS 213-213L 8

**Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship ..............3
Goal #2 Personal Wellness ..................................................2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .......3

**Major Requirements:** 64
PHYS 316-316L, Measurement Theory and Experimental Design ...2
PHYS 331, Introduction to Modern Physics ....................3
PHYS 490, Seminar .................................................1
MATH 125, Calculus II ........................................4
MATH 225, Calculus III ........................................4
MATH 321, Differential Equations.................................4
CHEM 112-112L, General Chemistry I and Lab ...............4
CHEM 114, General Chemistry II ................................3
CSC 150, Computer Science I, or
CSC 213, Introduction to Programming W/Fortran, or ..........3
CSC 218, Introduction to C/C++ for Engineers .................3
PHYS 318, Advanced Laboratory I ......................... 1
PHYS 341, Thermodynamics.................................. 2
PHYS 343, Statistical Physics................................. 2
PHYS 361, Optics ................................................3
PHYS 418, Advanced Laboratory II .......................... 1
PHYS 421, Electromagnetism ................................4
PHYS 451, Classical Mechanics ...............................4
PHYS 471, Quantum Mechanics ................................4
PHYS 435, Introduction to Nuclear Engineering, or .......5
PHYS 439, Solid State Physics, or..........................5
PHYS 433, Nuclear and Elementary Particle Physics .......3
GE 101, Introduction to Engineering and Technology .......1
GE 121, Engineering Design Graphics .........................1
MATH 327, Calculus of Several Variables, or ..............3
MATH 331, Advanced Engineering Mathematics, or ........3
PHYS 481, Mathematical Physics ................................4
EE 220-220L, Circuits I and Lab ................................4
EE 221-221L, Circuits II and Lab ..............................4
GE 122, Engineering Design Graphics II ......................1
EM 214, Statics ..................................................3
GE 225, Survey of Machine Tool Applications ...............1
ME 240, Introduction to Mechanical Design .................3
EM 331, Fluid Mechanics .....................................3
PHYS 464, Senior Design I .................................. 1
PHYS 465, Senior Design II .................................. 2

**Electives:** 23
Technical Electives†††.............................................23

**Total Required Credits:** 128
Requirements for Physics Major—Flexible Emphasis, Bachelor of Science in Physics

**System General Education Requirements**: 33
Goal #1 Written Communication: ENGL 101, and
ENGL 201 or ENGL 277...........................................6
Goal #2 Oral Communication: SPCM 101 ....................3
Goal #3 Social Sciences/Diversity ..................................6
Goal #4 Arts and Humanities/Diversity .........................6
Goal #5 Mathematics: MATH 123 ...............................4
Goal #6 Natural Sciences: PHYS 211-211L or PHYS 111/111L, and
PHYS 213-213L or PHYS 113/113L..............................8

198 Department and Program Descriptions and Requirements
Institutional Graduation Requirements*:  8-9
Goal #1 Land and Natural Resource Stewardship 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

Major Requirements: 31
PHYS 316-316L, Measurement Theory and Experimental Design 2
PHYS 331, Introduction to Modern Physics 3
PHYS 490, Seminar 1
MATH 125, Calculus II 4
MATH 225, Calculus III 4
MATH 321, Differential Equations 3
CHEM 112-112L, General Chemistry I and Lab, or 4
CHEM 106/106L, Chemistry Survey and Lab 4
CHEM 114 General Chemistry II, or 4
CHEM 120/120L, Elementary Organic Chemistry and Lab 4
CSC 150 Computer Science I, or 3
CSC 213, Introduction to Programming W/ Fortran, or 3
CSC 218, Introduction to C/C++ for Engineers 3
PHYS 421, Electromagnetism, or 4
PHYS 451, Classical Mechanics, or 4
PHYS 471, Quantum Mechanics 4

Electives: 56
Physics Electives 10
Technical Electives† 20
Directed Electives‡ 26

Total Required Credits: 128

Requirements for Physics Major—Science Teaching Specialization, Bachelor of Science in Physics

System General Education Requirements*: 33
Goal #1 Written Communication: ENGL 101, and ENGL 201 or ENGL 277 6
Goal #2 Oral Communication: SPCM 101 3
Goal #3 Social Sciences/ Diversity: PSYC 101 or SOC 100 6
Goal #4 Arts and Humanities/Diversity: PHIL 200 6
Goal #5 Mathematics: MATH 123 4
Goal #6 Natural Sciences: PHYS 211-211L or PHYS 111-111L, and PHYS 213-213L or PHYS 113-113L 8

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness: ANTH 421 1

Major Requirements: 27
PHYS 185-185L, Introduction to Astronomy I and Lab 3
PHYS 316-316L, Measurement Theory and Experimental Design 2
PHYS 331, Introduction to Modern Physics 3
PHYS 490, Seminar 1
MATH 125, Calculus II 4
MATH 225, Calculus III 4
MATH 321, Differential Equations 3
CSC 150, Computer Science I, or 3
CSC 213, Introduction to Programming W/ Fortran, or 3
CSC 218, Introduction to C/C++ for Engineers 3
PHYS 421, Electromagnetism, or 4
PHYS 451, Classical Mechanics, or 4
PHYS 471, Quantum Mechanics 4

Electives: 12-14
Physics Electives 7
Physics or Chemistry Electives 4
General Electives 1-3

Total Required Credits: 128

Science Teaching Specialization Requirements: 46-48
CHEM 106-106L, Chemistry Survey and Lab, or 4
CHEM 112-112L, General Chemistry I and Lab 4
BIOL 101-101L, Biology Survey I and Lab, or 4
BIOL 151-151L, General Biology I 4
CHEM 114, General Chemistry II, or 4
CHEM 120-120L, Elementary Organic Chemistry and Lab 4
BIOL 103-103L, Biology Survey II and Lab, or 4
BIOL 153-153L, General Biology II and Lab 4
EDFN 338, Foundations of American Education 2
EDFN 365, Computer-Based Technology and Learning 2
EDFN 427, Middle School: Philosophy and Application 2
EDFN 475, Human Relations 3
SEED 314, Supervised Clinical/ Field Experience 1
SEED 400, Curriculum and Instruction in Middle and Secondary Schools 4
SEED 413, Science Methods 3
SEED 410, Social Foundations, Management and Law 2
SEED 450, Teaching Reading in Content Area 2
SEED 488, Student Teaching 8
SPED 401, Introduction to Educating Secondary Students with Disabilities 1
EPSY 302, Educational Psychology 3

† Technical electives will be selected with the assistance of the student’s advisor from courses offered by the Electrical Engineering, Physics, Computer Science, Chemistry, Biology, and Mathematics Departments. A complete list of departmentally approved technical electives is available in the Physics Department Office. Any departures from this list must be approved by the Head of the Physics Department.

‡‡ The Flexible Emphasis Physics Major is designed to allow students the freedom to achieve significant preparation in an area that will complement physics. The resulting physics major will have an emphasis in an area such as: business, biophysics, geophysics, information systems, mass communications, medical physics, or statistical process control. A student is advised to work closely with his or her advisor as emphasis courses are chosen. The emphasis area and emphasis courses, if departing from pre-
* The 30 credit Board of Regents System General Education Requirements (SGER) must be completed as part of a student’s first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGR). (See pages 43-45 for details.)
(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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 Minor
Requirements for Physics Minor: 17
Other Physics Department courses, 3 credits of which must be from courses numbered 300 or greater 6
PHYS 331 Introduction to Modern Physics 3
PHYS 111-111L Introduction to Physics I *, and 4
PHYS 113-113L Introduction to Physics II *, or 4
PHYS 211-211L University Physics I *, and 4
PHYS 213-213L University Physics II * 4

Planning (PLAN)
George White
Department of Geography
Scobey Hall 232
605-688-4511
e-mail: george.white@sdstate.edu

Planning is an essential part of most private and public activities. It is a process that can be learned and applied to increase effectiveness in decision-making and operations.
Plant Pathology  
(See Plant Science)

Plant Science (PS)  
Sue Blodgett, Department Head  
Brent Tumipseed, Teaching Coordinator  
Department of Plant Science  
Agricultural Hall 219  
605-688-5123 (Department Head)  
605-688-4450 (Teaching Office, SNP 247)  
e-mail: sue.blodgett@sdstate.edu  
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http://plantsci.sdstate.edu

The Department offers instruction leading to the Bachelor of Science in Agronomy. Four areas of specialization are  
prepared 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.

Agronomy Major  
Requirements for Agronomy Major, Bachelor of Science in Agriculture:

System General Education Requirements*: 31-34  
Goal #1 Written Communication:  
ENGL 101, Composition I*.............................3  
ENGL 201, Composition II *............................3  
Goal #2 Oral Communication:  
SPCM 101, Fundamentals of Speech* or  
SPCM 215, Public Speaking* or  
SPCM 222, Argumentation and Debate*............3  
Goal #3 Social Sciences/Diversity:  
ECON 201, Principles of Microeconomics* or  
ECON 202, Principles of Macroeconomics* (G) and 3  
SOC 100, Introduction to Sociology* (G) or  
SOC 150, Social Problems **(G) or  
SOC 240, The Sociology of Rural America* **(G) ....3  
Goal #4 Arts and Humanities/Diversity...........6  
Goal #5 Mathematics:  
MATH 102, College Algebra* or  
MATH 115, Precalculus* or  
MATH 120, Trigonometry *..............................3-5  
Goal #6 Natural Sciences:  
BOT 201-201L, General Botany and Lab *...........4  
BOT 153-153L, General Biology II and Lab * or  
BOI 151-151L, General Biology I and Lab ...........4  

Institutional Graduation Requirements**: 8  
Goal #1 Land and Natural Resource Stewardship:  
PS 213-213L, Soils and Lab * **A ..................3  
Goal #2 Personal Wellness:  
GS 143, Mastering Lifetime Learning Skills ** .......2  
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness..3  
Major Requirements: 24-25  
PS 101, Opportunities in Plant ScienceA ............1  
PS 103-103L, Crop Production and LabA ............3
PS 213-213L, Soils and Lab ** (credits count for IGR #1) 3
PS 223-223L, Principles of Plant Pathology and Lab* 3
PS 305-305L, Insect Biology and Lab* 3
PS 323, Soil Fertility and Plant Nutrient Management* 3
PS 343-343L, Weed Science and Lab* 3
PS 390, Seminar (AW)* 1
PS 494, Internship* 10 (0.5x2)
ABS 475-475L, Integrated Natural Resource Management and Lab (AW)* 3

Natural Resources Stewardship Elective:
Select one of the following courses*: 3-4
ABS 203, Global Food Systems ** (G) 3
ABS 482, International Experience ** (G) 4
BIOL/PHIL 383, Bioethics ** (G) 4
PS 243, Principles of Geology* ** 3
PS 307-307L, Insect Pest Management and Lab** 3
PS 310-310L, Soil Geography and Land Use Interpretation and Lab ** (G) 3
PS 362-362L, Environmental Soil Management and Lab* 3
PS 446, Agroecology (G) 3
PS 475, Water Quality in Agriculture 3

Specialization and Elective Courses: 44-57

Total Required Credits: 128

Production Specialization: 45-48
BIOL 202, Genetics and Organismal Biology or
BIOL 371, Genetics or
PS 383-383L, Principles of Crop Improvement and Lab (AW)* 3-4
BOT 327-327L, Plant Physiology and Lab* 4
MICR 231-231L, General Microbiology and Lab or
PS 421-421L, Soil Microbiology and Lab* 3-4
CHEM 106-106L, Chemistry Survey and Lab * or
CHEM 112-112L, General Chemistry I and Lab * 3
CHEM 108-108L, Organic and Biochemistry and Lab * or
CHEM 120-120L, Elementary Organic Chemistry and Lab* 4-5
PHYS 101-101L, Survey of Physics and Lab * or
PHYS 111-111L, Introduction to Physics I and Lab* 4
STAT 281, Introduction to Statistics 3
ENGL 379, Technical Communication (AW) 3

Unrestricted Electives 5-10

Business Specialization: 54-57
BIOL 202, Genetics and Organismal Biology or
BIOL 371, Genetics or
PS 383-383L, Principles of Crop Improvement and Lab (AW)* 3
BOT 327-327L, Plant Physiology and Lab* 4
MICR 231-231L, General Microbiology and Lab or
PS 421-421L, Soil Microbiology and Lab* 3-4
CHEM 106-106L, Chemistry Survey and Lab * or
CHEM 112-112L, General Chemistry I and Lab * 3
CHEM 108-108L, Organic and Biochemistry and Lab * or
CHEM 120-120L, Elementary Organic Chemistry and Lab*. 3-4
PHYS 101-101L, Survey of Physics and Lab * or
PHYS 111-111L, Introduction to Physics I and Lab* 4
ENGL 379, Technical Communication (AW) 3

Unrestricted Electives 5-10

Business Electives: 6
ACCT 211, Principles of Accounting II 3
ACCT 320, Cost Accounting 3
ACCT 271-271L, Farm and Ranch Management and Lab 4
AGEC 354, Agricultural Marketing and Prices or
AS 285-285L, Livestock Evaluation and Marketing and Lab or
BADM 474, Personal Selling 3

Unrestricted Electives 14-19

Plant Science Electives (at least two credits from each of three areas listed below) †...10

Crops
PS 303-303L, Seed Technology and Lab........................ 3
PS 308-308L, Grain Grading and Lab.......................... 2
PS 312, Grain and Seed Production and Processing........... 3
PS 313, Forage Crop and Pasture Management................. 3
PS 320, Crop Judging**........................................ 2
PS 383-383L, Principles of Crop Improvement and Lab** 3
PS 440-440L, Crop Management with Precision Farming and Lab 3
PS 453, Advanced Genetics.......................... 3
PS 480, Environmental Stress Physiology........................ 3

Plant Protection
PS 307-307L, Insect Pest Management and Lab** 3
PS 333-333L, Diseases of Field Crops and Lab................ 3
PS 334-334L, Diseases of Horticultural Crops and Lab........ 3
PS 415-415L, Mycology and Lab................................ 3
PS 431, Insect Ecology and Biological Control................ 3
PS 450-450L, Field Study of Plant Disease Diagnosis and Lab 3

Soils/Environmental Protection
PS 243, Principles of Geology*............................... 3
PS 244, Geological Resources of South Dakota Lab 1
PS 310-310L, Soil Geography and Land Use Interpretation and Studio** 3
PS 321, Soil Judging† (may be repeated up to 3 credits) 1-3
PS 362-362L, Environmental Soil Management and Lab* 3
PS 412, Environmental Soil Chemistry............................ 3
PS 421-421L, Soil Microbiology and Lab* 3-4
PS 446, Agroecology*........................................ 2
PS 473-473L, Rural Real Estate Appraisal and Lab** 3
PS 475, Water Quality in Agriculture 3
PS 483, Irrigation - Crop and Soil Practices 3

1 Cannot be used to solely meet area requirements.
2 Can only be used to meet requirements in one section.

† See Production Specialization for list of approved Plant Science Elective courses in crops, plant protection, and soils/environmental protection areas.
Entomology (6 credits):

- Plant Systems and Environmental Safety (4-8 credits):
  - PS 307-307L, Insect Pest Management and Lab 3
  - PS 334-334L, Diseases of Horticultural Crops and Lab 3
  - PS 415-415L, Mycology and Lab 3
  - PS 450-450L, Field Study of Plant Disease Diagnosis and Lab 2

- Plant Pathology (5-6 credits):
  - PS 333-333L, Diseases of Field Crops and Lab 3
  - PS 334-334L, Diseases of Horticultural Crops and Lab 3
  - PS 412-512, Environmental Soil Management and Lab ** 3
  - PS 450-450L, Field Study of Plant Disease Diagnosis and Lab ** 2

- Pest Management Specialization: 44-51
  - BIOL 202-202L, Genetics and Organismal Biology or
    - BIOL 371, Genetics 3-4
  - BOT 327-327L, Plant Physiology and Lab 4
  - MICR 231-231L, General Microbiology and Lab or
    - PS 421-421L, Soil Microbiology and Lab 3-4
  - CHEM 106-106L, Chemistry Survey and Lab * or
    - CHEM 112-112L, General Chemistry I and Lab ** 4
  - CHEM 108-108L, Organic and Biochemistry and Lab * or
    - CHEM 120-120L, Elementary Organic Chemistry and Lab * 4-5
  - PHYS 101-101L, Survey of Physics and Lab * or
    - PHYS 111-111L, Introduction to Physics I and Lab * 4
  - STAT 281, Introduction to Statistics 3

Unrestricted Electives: 11-21

At least two courses from each of the three areas listed.

To include courses used to fulfill the Biological Sciences Core or Natural Resources Stewardship Elective requirements for the major and specialization.

** Pest Management Specialization: 44-51

- Entomology (6 credits):
  - PS 307-307L, Insect Pest Management and Lab 3
  - PS 431-531, Insect Ecology and Biological Control 3

- Plant Pathology (5-6 credits):
  - PS 333-333L, Diseases of Field Crops and Lab 3
  - PS 334-334L, Diseases of Horticultural Crops and Lab 3
  - PS 415-415L, Mycology and Lab 3

- Pest Management Electives: 15-20

Agronomy Minor

Requirements for Agronomy Minor: 18 cr

- PS 103-103L, Crop Production and Lab 3
- PS 213-213L, Soils and Lab ** 3
- PS 223-223L, Principles of Plant Pathology and Lab 2
- PS 305-305L, Insect Biology and Lab 3
- PS 323, Soil Fertility and Plant Nutrient Management 3
- PS 343-343L, Weed Science and Lab 3

Students must have a 2.5 GPA or higher and a grade of C or higher in the courses used to satisfy the Agronomy Minor in order to graduate with an Agronomy Minor.

Pest Management Minor

Requirements for Pest Management Minor: 18 cr

- PS 223-223L, Principles of Plant Pathology and Lab 2
- PS 305-305L, Insect Biology and Lab 3
- PS 343-343L, Weed Science and Lab 3
- PS 390, Seminar (AW) 1

Plus 8 additional credits from:

- PS 307-307L, Insect Pest Management and Lab 3
- PS 333-333L, Diseases of Field Crops and Lab 3
- PS 334-334L, Diseases of Horticultural Crops and Lab 3
- PS 412-512, Environmental Soil Management and Lab ** 3
- PS 450-450L, Field Study of Plant Disease Diagnosis and Lab ** 2
- PS 491, Independent Study ** 1-4
- PS 492-592, Topics ** 1-3

Students must have a GPA of 2.5 or higher in courses used to satisfy the Agronomy Minor.

Soil Science Certification

Soil Science Requirements:

The following courses are strongly recommended for students seeking certification or licensure as a professional soil scientist:

- Soils Elective: 3
- PS 213-213L, Soils and Lab ** 3
- PS 310-310L, Soil Geography and Land Use Interpretation and Lab (G)** 3
- PS 323, Soil Fertility and Plant Nutrient Management 3
- PS 362-362L, Environmental Soil Management and Lab ** 3
- PS 412-512, Environmental Soil Chemistry 3
- PS 421-421L, Soil Microbiology and Lab 3
- MATH 123-123L, Calculus I and lab * 5
- STAT 281, Introduction to Statistics 3
- ENGL 379, Technical Communication (AW) 3

Area of Emphasis (Crop Science, Entomology, Plant Pathology, Soil Science, or Weed Science) *** 13

Unrestricted Electives 2-4

Courses are to have PS prefix and are not to include courses used to fulfill the Plant Science Biological Science cores of the major. Maximum of 3 credits from PS 492.

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Students must have a 2.5 GPA or higher and a grade of C or higher in the courses used to satisfy the Agronomy Minor in order to graduate with an Agronomy Minor.

Students must have a GPA of 2.5 or higher in courses used to satisfy the Agronomy Minor.

Students must have a 2.5 GPA or higher and a grade of C or higher in the courses used to satisfy the Pest Management Minor in order to graduate with a Pest Management Minor.
Political Science (POLS)
(See History and Political Science)

Professional Writing Minor
(See English)

Psychology (PSYC) Department

Brad Woldt, Head
Department of Psychology
Scobey Hall 336
605-688-4322
e-mail: bradley.woldt@sdstate.edu

Faculty
Professor Woldt, Head; Professors Emeriti Branum, Hillner, Norris; Professors Phelps, Spear; Associate Professors Martin, Nowell, Shaffer.

Programs
The Department offers a Bachelor of Science degree with a major in Psychology. Students interested in preparation for a specific area may pursue one of three specializations: the graduate school preparation specialization, the teaching specialization (preparation for secondary school teaching), or the psychological services specialization.

The minimum departmental requirement for a psychology degree is 30 credits prefixed PSYC which include 101 or 102, 373 or 375, 390, and 409 and STAT 281. A minimum grade of “C” is required in all Psychology courses. Minimum college and university requirements are given in the appropriate sections of this catalog and are incorporated in the curriculum plans listed later. Advisers assist students to personalize curriculum plans.

Graduate School Preparation Specialization
The graduate school preparation specialization 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, historical findings, and theoretical approaches. A minimum grade of “B” is required in all Psychology courses.

Teaching Specialization
The Teaching specialization in psychology prepares students to qualify for certification to teach in secondary schools. Students pursuing this specialization should contact the College of Education and Counseling before their junior year to obtain complete teacher education information and guidance. See Teacher Education.

Psychological Services Specialization
The Psychological Services specialization is designed for those persons interested in working as diagnostic and therapeutic aids in human services facilities. The program for this specialization includes familiarization with standard tests and techniques of therapy, as well as a supervised senior internship at a treatment facility.

Psychology Major
Requirements for Psychology Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ..........6
Goal #2 Oral Communication: SPCM 101 .........3
Goal #3 Social Sciences/Diversity: (not PSYC) ..............6
Goal #4 Arts and Humanities/Diversity ...............6
Goal #5 Mathematics: MATH 102 ..............3
Goal #6 Natural Sciences ...............6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship: (cannot be used to meet another SGE, IGR, or A&S requirement) ........2-3
Goal #2 Personal Wellness ..............................................3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness:
Option 2 ..................................................3

College Requirements: 13
Natural Sciences ..................................................8
Social Sciences: (not PSYC) ........................................3
Humanities ..................................................2

Major Requirements: 33-34
Required Courses: 19-20
PSYC 101, General Psychology, or
PSYC 102, Introduction to Psychology * ** 3-4
PSYC 202, Advanced General Psychology ..............3
PSYC 287, Controversial Issues in Psychology, or
PSYC 289, Pseudoscience and Psychology ..............3
STAT 281, Introduction to Statistics ........................................3
PSYC 375, Research Methods in Psychology ..............3
PSYC 390, Seminar ..................................................1
PSYC 409, History and Systems of Psychology (AW) (G) ..................................................3
Psychology Elective Content Courses: 14 credits or
Choose a Specialization below
Electives: 44
Total Required Credits: 128

Graduate School Preparation Specialization Requirements: 48-49
Major Required Courses (above) except PSYC 375: 16-17
PSYC 373-373L, Research Methods in Experimental Psychology and Lab ..........................4
PSYC 374-374L, Experiments in Psychology and Lab ..................................................4

PSYC 301, Sensation and Perception or
PSYC 411, Physiological Psychology ...........................................3
PSYC 305, Learning and Conditioning or
PSYC 406, Cognitive Psychology ** ...........................................3
PSYC 324, Psychology of Aging ** or
PSYC 327, Child Psychology ** ...........................................3
PSYC 451, Psychology of Abnormal Behavior** or
PSYC 461, Theories of Personality ** ...........................................3
PSYC 441, Social Psychology ** ...........................................3
PSYC 491, Independent Study ..................................................1-3
PSYC 498, Undergraduate Research/Scholarship ..................................................1-12
Psychology Emphasis Courses (see below) ...........................................6
Choose 6 credits from one Emphasis. Cannot duplicate courses in the required list. Other courses can be selected with the approval of the Department Head.

Biopsychology:
PSYC 301, Sensation and Perception ...........................................3
PSYC 411, Physiological Psychology ...........................................3
PSYC 413, Advanced Physiological Psychology ...........................................3
PSYC 414, Drugs and Behavior ...........................................3

Learning/Cognition:
PSYC 305, Learning and Conditioning ...........................................3
PSYC 406, Cognitive Psychology ** ...........................................3
PSYC 407, Cognition and the Visual Arts ...........................................3

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Developmental Psychology:
PSYC 324, Psychology of Aging ** 3
PSYC 327, Child Psychology ** 3
PSYC 367, Psychological Gender Issues ** 3
PSYC 427, Child Psychopathology 3

Clinical:
PSYC 357, Psychological Therapies 3
PSYC 358, Behavior Modification 3
PSYC 440-540, Forensic Psychology 3
PSYC 451, Psychology of Abnormal Behavior ** 3
PSYC 461, Theories of Personality ** 3
PSYC 477, Psychology Testing and Measurement 3
PSYC 480, Clinical Neuropsychology 3

Social:
PSYC 244, Environmental Psychology ** 3
PSYC 331, Industrial and Organizational Psychology 3
PSYC 367, Psychological Gender Issues ** 3
PSYC 417, Health Psychology 3
PSYC 440-540, Forensic Psychology 3
PSYC 441, Social Psychology ** 3

Psychological Services Specialization Requirements: 52-53
Major Required Courses (above): 19-20
PSYC 305, Learning and Conditioning 3
PSYC 357, Psychological Therapies 3
PSYC 358, Behavior Modification 3
PSYC 411, Physiological Psychology 3
PSYC 414, Drugs and Behavior 3
PSYC 441, Social Psychology ** 3
PSYC 451, Abnormal Behavior ** 3
PSYC 461, Theories of Personality ** 3
PSYC 477, Psychology Testing and Measurement 3
PSYC 494, Internship 6-12

Teaching Specialization Requirements: 77-91
Major Required Courses (above): 19-20
PSYC 305, Learning and Conditioning 3
PSYC 327, Child Psychology ** 3
PSYC 367, Psychological Gender Issues ** 3
PSYC 406, Cognitive Psychology ** 3
PSYC 411, Physiological Psychology 3
PSYC 441, Social Psychology ** 3
PSYC 451, Psychology of Abnormal Behavior ** 3
PSYC 461, Theories of Personality ** 3
PSYC 491, Independent Study 1-3
EDFN 365, Computer-Based Technology and Learning 2
SEED 415, 7-12 Social Science Methods 3
ANTH 421-521, Indians of North America ** or
HIST 368, History and Culture of the American Indian ** or
INED 411-511, South Dakota Indian Studies 3

PS I, Professional Semester I:
(the following courses to be taken concurrently):
EDFN 338, Foundations of American Education 1-2
EPSY 302, Education Psychology 3
EDFN 475, Human Relations 3
EDFN 427-527, Middle School: Philosophy and Application 2

PS II, Professional Semester II:
(the following courses to be taken concurrently):
SEED 314, Supervised Clinical/Field Experience 1
SEED 420-420L, Teaching Methods & Lab 2
SEED 450, 7-12 Teaching Reading in Content Area 2

PS III, Professional Semester III:
(the following courses to be taken concurrently):
SEED 400, Curriculum and Instruction in Middle and Secondary Schools 4

Range Science (RANG)
(See Animal and Range Sciences)

Reading Minor, System
Lonell Moeller, Head
College of Education and Counseling
Wenona 107
605-688-4378
e-mail: lonell.moeller@sdstate.edu

The purpose of this System-Wide Initiative minor is to provide additional study for undergraduate students in the preparation of teaching reading. It supports a continuum of preparation in reading from the undergraduate to graduate level and continuing professional development. Graduate preparation for K-12 practicing teachers can be obtained through the Reading Specialist emphasis offered by SDSU graduate courses. The South Dakota Department of Education conducts reading initiatives for practicing K-12 teachers.

Required Courses in the Minor (must select 13-14 credit hours):
This minor requires a total of 18-19 credit hours consisting of a combination of 13-14 credit hours of the following required courses and 3-9 credit hours of electives listed below.
EDFN 450, K-8 Reading Methods Course (Distance from BHSU or DSU) 2-3
EDFN 462-562, Teaching Language Arts for English as Second Language Across the Curriculum 3
ENGL 240, Juvenile Literature ** 3
SEED 450, 7-12 Teaching Reading in Content Area 2
DCOM 212, Language Development or
EDFN 452-552, Literacy Assessment and Remediation 3
EPSY 442-542, Serving Students with Learning Disabilities 3

Elective Courses in the Minor (must select 3-9 credit hours):
EDFN 458-558, Literacy Assessment and Remediation 3
SEED 450, 7-12 Teaching Reading in Content Area 2
DCOM 212, Language Development or
EDFN 458-558, Literacy Assessment and Remediation 3
EDFN 452-552, Foundations of Reading 3
EDFN 492-592, Topics 1-3
EPSY 442-542, Serving Students with Learning Disabilities 3

Religion (REL)
(See Philosophy and Religion)
Reserve Officer Training Corps Program (ROTC)
(See Aerospace Studies, Military Science)

Rural Sociology (CJUS, SOC, ANTH) Department

Diane Kayongo-Male, Interim Head
Department of Rural Sociology
Scobey Hall 224
605-688-4132
e-mail: diane.kayongo-male@sdstate.edu

Faculty
Professor Kayongo-Male, Interim Head; Professors Arwood, Redlin, Stover, Distinguished Regental Professor Emeritus R. Wagner; Professor Emeriti Hess, Mendelsohn, Satterlee; Associate Professors Joffer; Associate Professor Emeritus Grant; Assistant Professors Aschenbrener, Froelich, O'Neil; Instructors Dreiling, McCurry.

Programs
The courses offered by the Department have been organized with two objectives in mind: (1) a sequence for those who may wish to earn an undergraduate major or minor in sociology; and (2) basic service courses that will be of interest and practical help to students in any college. (Students interested in Graduate Program — see University Graduate Catalog and department graduate guide.)

The Department offers the B.A. and B.S. degrees in Arts and Sciences with a major in Sociology. An undergraduate may select from any of the following specializations in the Arts and Sciences curriculum. Each student is assigned to an adviser based on choice of specialization.

General Sociology
Incoming freshmen and transfer student majors usually will be assigned to this option. After taking courses in specialized areas, accomplishing a cumulative grade point average of at least 2.2 and working with General Sociology advisers, students may select any of the following specializations. Those desiring to gain a broad orientation to all areas of Sociology with anticipation of other career interests or graduate school may remain in general sociology. (Minimum GPA of 2.2 in the major.)

Teaching Specialization
Prepares for entrance into middle school or senior high level teaching. These students in consultation with departmental Teaching Adviser and the College of Education and Counseling plan their program to accomplish other teaching endorsements to maximize employment opportunities. One semester is set aside for a teaching-block and off-campus teaching assignment. (Minimum GPA of 2.6 in the major.)

Pre-Social Work Specialization
The undergraduate program in pre-social work at South Dakota State University is a 2 + 2 program. Students who choose this option will take two years at SDSU and two years at the University of South Dakota (USD) to accomplish an accredited degree in Social Work. This degree is for those seeking a specialized career in private or public social welfare. Students need to work closely with the Coordinator of Social Work at SDSU. Students seeking more general social service type careers should select the Human Services specialization. (Minimum GPA of 2.2 in the major.)

Human Services Specialization
Designed for those interested in “working with people” in a variety of social service type agencies. This option differs from the Pre-social Work Specialization in that students are working toward a B.S. degree in Sociology; whereas those in the Pre-Social Work Specialization are seeking a B.A. or B.S. in Social Work. Students in this specialization 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. (Minimum GPA of 2.2 in the major.)

Human Resources Specialization
Designed for those interested in working with employers and employees in business, industry, or organizations. Students are required to take Accounting and must select electives from a variety of Business, Economics, Computer Science, and Sociology courses. An internship is strongly encouraged. (Minimum GPA of 2.2 in the major.)

Criminal Justice Minor
Designed for students seeking careers in probation, parole, court services, pre-law, private security, or general law enforcement. Sociology majors in this minor will usually be working toward a B.A. or B.S. in General Sociology with a minor in Criminal Justice. Both are offered by the Department of Sociology. Students will be expected to work closely with their adviser within the Department to fulfill the necessary requirements of the program. (See CJUS for Minor requirements.)

Criminal Justice Minor
Includes SOC 100, and 15 additional (SOC or ANTH) credits. Six credits must be numbered 300 or above. (Minimum GPA of 2.2 in the minor.)

Students should plan their schedules to take lower level courses (100-200) in their freshman and sophomore years and upper level (300-400) during their junior and senior years. Graduating seniors must take the sociology exit exam. Students anticipating Graduate School should enroll in STAT 281 Introduction to Statistics as a part of their general electives.

Criminal Justice (CJUS)
This inter-college program administered by the Department of Rural Sociology 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.

To enter the minor in Criminal Justice a student must have a cumulative GPA of at least 2.2 and take a total of 18 credit hours from courses offered in Criminal Justice and selected courses available in Sociology, Psychology, and Political Science. Six of these 18 hours consist of two required courses (CJUS 201 and SOC 351). The remaining 12 hours may be selected from the list of CJUS electives. An internship (SOC 494) is strongly recommended as an addition to these hours (See Sociology Internship Coordinator one semester in advance of field placement).

Students desiring more information or interested in minorizing in Criminal Justice should consult with the coordinator of the program no later than the beginning of their junior year.

Criminal Justice Minor
Requirements for Criminal Justice Minor: 18 cr
Must have a cumulative GPA of 2.2 to enter the program.
CJUS 201, Introduction to Criminal Justice ** *** ..................................3
SOC 351, Criminology †† .................................................................3
12 hours from:
CJUS 203, Policing in a Free Society ........................................3
CJUS 331, Civil Rights and Liberties ........................................3

Department and Program Descriptions and Requirements 205
Sociology (SOC) Major

A minimum GPA of 2.2 is required for the major (exception: Teaching specialization requires a minimum GPA of 2.6). Graduating seniors must take the Sociology exit exam.

Requirements for Sociology Major - General:

Bachelor of Science in Arts and Sciences (B.S.)
Bachelor of Arts in Arts and Sciences (B.A.)

System General Education Requirements*: 30

Goal #1 Written Communication:
- ENGL 101, Composition I* ...........................................3
- ENGL 201, Composition II* ...........................................3

Goal #2 Oral Communication: .........................................3

Goal #3 Social Sciences/Diversity ....................................6

Goal #4 Arts and Humanities/Diversity ........................................6

Goal #5 Mathematics .......................................................3

Goal #6 Natural Sciences ....................................................6

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource Stewardship .........................3

Goal #2 Personal Wellness ..................................................2-3

Goal #3 Social Responsibility/Cultural and Aesthetic Awareness (outside major) ......................................3

College Requirements: 20-32

Bachelor of Science: 32

Physical Science (up to 5 additional MATH credits including STAT 281) ...........................................8

Biological Science ..........................................................6

Humanities (SGR Goal #4 or IGR #3) ....................................2

Social Science (SGR Goal #3 or IGR #3) requirement may be met within major requirements.

Bachelor of Arts: 6-14

Modern Language (proficiency must be shown at the 200-level) .......6-14

Social Science (SGR Goal #3 or IGR #3) requirement may be met within major requirements.

Major Requirements: 33

SOC 100, Introduction to Sociology * (G) ..................................3

SOC 307, Research Methods I .............................................3

SOC 308, Research Methods II ............................................3

SOC 403, Sociological Theory (AW) .....................................3

SOC/ANTH Electives .........................................................21

Electives: 19-37

Total Required Credits: 128

Teaching Specialization (B.A./B.S.): 33

Special Methods (varies by content area) ..................................3

SPED 401, Introduction to Educating Secondary Students with Disabilities ........................................1

EDFN 365, Computer Based Technology and Learning .................2

EDFN 427, Middle School Philosophy and Application ..................2

Professional Semester I

EDFN 338, Foundations of American Education ........................................2

EDFN 475, Human Relations .................................................3

Professional Semester II

EPSY 302, Educational Psychology .......................................3

SEED 450, 7-12 Teaching Reading in the Content Area ..................2

SEED 314, Supervised Clinical Experience ................................1

Professional Semester III

SEED 400, Curriculum and Instruction in Secondary and Middle Schools ..................................................4

SEED 410, Social Foundations, Management and Law ..................2

SEED 488, 7-12 Student Teaching and

ELED 488, K-8 Student Teaching ...........................................8

Pre-Social Work Specialization (SDSU/USD Cooperative Program)

Bachelor of Science in Arts and Sciences (B.S.)

See advisor for curriculum listing.

Students who choose this specialization will graduate from USD and not SDSU.

Students who choose this specialization will need to transfer to USD for degree completion prior to the start of their Junior Year.

Students who choose this specialization are not guaranteed admission to the USD Social Work Program.

Human Services Specialization (B.A./B.S.): 45

SOC 100, Introduction to Sociology * (G) ..................................3

SOC 307, Research Methods I .............................................3

SOC 308, Research Methods II ............................................3

SOC 403, Sociological Theory (AW) .....................................3

SOC 270, Introduction to Social Work ....................................3

SOC 271, Social Work Skills and Methods I ............................3

SOC 400, Social Policy ..........................................................3

SOC/ANTH Elective ............................................................12

SOC 494, Internship ............................................................1-12

Human Resources Specialization (B.A./B.S.): 39

SOC 100, Introduction to Sociology * (G) ..................................3

SOC 307, Research Methods I .............................................3

SOC 308, Research Methods II ............................................3

SOC 403, Sociological Theory (AW) .....................................3

SOC 353, Sociology of Work ................................................3

202 Department and Program Descriptions and Requirements

SOC 453, Industrial Sociology .............................................3

SOC/ANTH Elective ............................................................15

BADM/ECON .................................................................3

Electives .......................................................... 3

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)

(AW) Advanced Writing Requirement. (See page 47 for details.)

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 Minor

A minimum GPA of 2.2 is required for the minor.

Requirements for Sociology Minor: 18 cr

300 level or above .........................................................6

Additional SOC or ANTH credits .........................................9

SOC 100, Introduction to Sociology * (G) ..................................3
Safety Management (SM)
(See Engineering Technology and Management)

Sociology (SOC)
(See Rural Sociology)

Software Engineering (SE)
(See Electrical Engineering and Computer Science)

Soils
(See Plant Science)

Spanish (SPAN)
(See Modern Languages)

Speech (SPCM)
(See Communication Studies and Theatre)

Statistics (STAT)
(See Mathematics and Statistics)

Teacher Education Department

Lonell Moeller, Head
Department of Teacher Education
Wenona Hall 107
605-688-4378
e-mail: Lonell.Moeller@sdstate.edu
http://learn.sdstate.edu/teachered/

Faculty
Professor Moeller, Head; Professors Andera, Penrod, Rogers; Associate Professor Boulware; Assistant Professors Edgar, Emo, Moeller, Phillips, Rognness; Instructors Russow, Weber.

Programs
Teacher Education at SDSU is a certification program. Students choose a major and seek a B.S. or B.A. degree first in the academic subject or subjects of their choice. Once accepted into the Teacher Education Program, they progress through a sequence of professional courses to acquire knowledge, skills and dispositions necessary for teaching. Students need to inform their major adviser of their interest in teaching and follow guidelines which are outlined for a teaching specialization. Advisers in teacher education also work with admitted students.

Many students complete their majors and professional training simultaneously; others earn their degree before beginning the professional sequence. In either case, those who successfully complete all requirements will be qualified to earn a certificate in: secondary teaching in one (or more) of 16 different subject areas or K-12 teaching in art, world languages, music, or physical education (the general elementary education program is a cooperative program with other Regental Institutions in South Dakota).

Admission to the teacher education sequence of courses requires an overall GPA of 2.5 and a major GPA of 2.6. Additional prerequisites are required and students seeking admission must demonstrate the personal characteristics desirable for an educator. The professional education/certification program requires professional credits which include student teaching.

The Undergraduate Teacher Education Program is NCATE accredited. For more information regarding teacher education please see the section on the College of Education and Counseling in this catalog.

Career and Technical Education

The Bachelor of Science in Career and Technical Education prepares students to teach in high school, multi district, or post secondary vocational programs. People who have completed a technical specialty at one of the area's technical schools, have occupational experience, or complete a technical specialty at SDSU are eligible for this program. To attain certification, students must meet the certification requirement of the State Department of Education.

Many students who enroll in this program are currently teaching technical education but do not hold a baccalaureate degree. Classes are offered through a combination of delivery methods including on-campus, off-campus, telecommunication, the Internet, and the Dakota Digital Network (DDN).

Agricultural Education (AGED)

The Teacher Education Department provides professional education for the agricultural education, communication and leadership major offered through the College of Agriculture and Biological Sciences. Students preparing to teach agriculture in public schools will complete all of the required core courses in that college. The student's total program is designed so that he/she receives supportive instruction in technical agriculture, basic science, and communication skills. Students must file an application to be admitted to this program.

Endorsement Programs
Coaching endorsements, as well as endorsements in other areas, can be added to a teacher's certificate. For more information contact the secretary of the Teacher Education Department at 605-688-4376.

Career and Technical Education (CTE)

Tim Andera, Coordinator of CTE
Department of Teacher Education
Wenona Hall 104
(605) 688-6798
e-mail: Tim.Andera@sdstate.edu
http://learn.sdstate.edu/cte/index.html

Programs
South Dakota State University offers a Bachelor of Science in Education degree in Career and Technical Education with emphases in an industry or technical field. The program is designed to allow the student that graduates with a CTE degree the flexibility to pursue a career in either a technical field or educational setting.

The major is comprised of traditional and non-traditional students. The traditional student enters after graduating from high school seeking either teaching or industry interests. The student will need to select an area of specialty from a career field. During the time of working on the CTE degree the student will also be employed in a related career field. Usually, employment occurs during the summer or on a part-time basis in conjunction with taking coursework toward the degree. Some
examples of areas of emphasis include, but are not limited to: automotive, agriculture, construction, electrical/electronic, business, and health. A large number of students enrolled in CTE are non-traditional students who are currently teaching in a technical field and are pursuing a bachelor's degree concurrently. The nontraditional students enrolled in CTE and are individuals currently teaching in a technical field and pursuing a bachelor's degree concurrently.

People who have completed a technical specialty at one of the area technical institutes or community colleges outside of South Dakota, have completed or will be completing occupational experience as part of the program, or complete a technical specialty at SDSU are eligible for this program. For the student interested in teaching, certification must be obtained by meeting the requirements of the State Department of Education Office of Career and Technical Education.

More information can be found in the Major and Minor Requirements in this Catalog under the heading Career and Technical Education (CTE) Major.

The CTE Program also offers a specialization in Career and Technical Education at the Master's Level. Please refer to the SDSU Graduate Program Catalog under the Educational Leadership Program. You may also refer to the CTE Web site found at: http://leam.sdstate.edu/cte/index.html for more information regarding the undergraduate or graduate programs in CTE.

Career and Technical Education (CTE) Major

Requirements for Career and Technical Education Major, Bachelor of Science in Education:

The major in CTE is a 128 hour program of study. Being a technical degree, a large number of credits are related to a specific career field. Career coursework can be completed at one of the 4 technical institutes located across the state of South Dakota, completed at a community college or taken at an appropriate university. Individuals currently teaching and enrolled in the CTE major are often under a demanding schedule. Typically participants are scattered across the State and find it challenging to take a significant amount of coursework in a particular semester. Traditional freshman/sophomore/junior and senior years at college are a remote possibility due to full-time employment, scheduling, and locations. Individuals are encouraged to contact a person in the CTE Program at SDSU to begin drafting a schedule and timeline needed to complete an undergraduate program.

There is a five-year rotation schedule of the required courses in CTE and individuals are asked to visit the CTE homepage for the latest information on the course rotations. There are certain CTE courses offered through distance learning activities to accommodate students across the State. Courses within the General Education Core may be taken at other regental institutions offering coursework in an undergraduate program. It is strongly recommended to obtain approval before enrolling in another course at another institution.

The following courses are part of the Career and Technical Education teacher preparation program at SDSU and represent a small number of courses offered:

CTE 105, Principles of CTE .................................................. 1
CTE 201, Mentorship .......................................................... 2
CTE 202, Mentorship .......................................................... 2
CTE 405, Philosophy of Career and Technical Education ................. 2
CTE 419-519, Methods of Teaching .......................................... 3
CTE 420-520, Entrepreneurship in Career and Technical Education . 3
CTE 425-525, Development of Career and Technical Education Thought and Practice .................................................. 3
CTE 430-530, Cooperative Education Coordination Techniques† † 3
CTE 440-540, Curriculum Design in Career and Technical Education (AW) † .................................................. 3

† represents a required course for CTE

There are numerous courses offered in Career and Technical Education that will allow the student flexibility in developing a program to meet the demands of the ever-changing career field. The following is a sample of courses offered to meet individual student needs:

CTE 208, Occupational Internship I ......................................... 1-3
CTE 308, Occupational Internship II ......................................... 1-3
CTE 380, Technical Industrial Training ........................................ 5-6
CTE 408, Occupational Internship III ......................................... 1-3
CTE 463-563, Technical and Industrial Experience ........................ 1-4
CTE 491-591, Independent Study ............................................. 1-4
CTE 492-592, Topics ................................................................ 1-3
CTE 492-592, TP Safety in CTE ................................................. 3

The “CTE 189 Technical Specialty” course permits Career and Technical Education students to receive college credit for technical training or industry experience by meeting specific requirements. A complete description of CTE 189 and the requirements to receive credit can be found in the Course Description area of this catalog. For the CTE student to meet the Board of Regents requirement for the following:

Globalization Requirement
The student will complete SOC 100, Introduction to Sociology.

Advanced Writing Requirement
The student will complete CTE 440, Curriculum Design in CTE.

The undergraduate curriculum in CTE, along with additional education information, can be found at the CTE homepage at the address listed above.

Teacher Education – Certification Only

Lonell Moeller, Head
College of Education and Counseling
Wenona 107
605-688-4378
e-mail: lonell.moeller@sdstate.edu

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."

A certification only program meets the needs of individuals who have completed baccalaureate degrees and want to pursue academic coursework in pedagogy rather than complete an alternative certification process.

The following guidelines are applicable at all South Dakota Regental institutions:

1. The teacher candidate must have a baccalaureate degree from an accredited institution of higher education.

2. In order to be admitted to the certification only program, the candidate must meet teacher education program admission requirements. In addition, the candidate must complete the PRAXIS II content exam in his/her major as specified by the South Dakota Department of Education (SDDOE). The candidate must meet or exceed the minimum score required for certification in South Dakota.

3. The candidate will complete all teacher certification courses as identified by the institution, including the appropriate special methods course but not to include other content major courses, and sit for the PRAXIS II Principles of Learning and Teaching exam.

4. When the candidate meets the minimum required score on the PRAXIS II Principles of Learning and Teaching exam for certification in South Dakota and all other program completion requirements set forth by the institution, the institution will recommend the candidate for teacher certification.
5. The SDDOE will maintain accountability for the candidate scores on the PRAXIS II content exam. The universities will maintain accountability for the candidate scores on the PRAXIS II Principles of Learning and Teaching exam.
6. The certification only program is limited to K-12 specific content areas and 7-12 specific content areas.

Admission to Teacher Education
(in 22 subjects areas)
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.

Admission into Professional Semester II:
Candiates admitted into Professional Semester II are considered members of the Teacher Education Program and are classified as “Education Candidates.” In order to achieve this status, a candidate must have:
1. achieved a junior status at the University;
2. completed 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. completed PSYC 101, SOC 100 or SOC 150, with a grade of “C” or better;
5. met competency requirements:
   • English: a grade of “C” or above in ENGL 101 or credit by examination (or a national percentile ranking of 50 or above on the ACT Assessment “English Usage”)
   • Math: a grade of “C” or above in MATH 102 or 104 or a higher level math course or credit by examination (or a national percentile ranking of 50 or above on the ACT Assessment “Mathematics Usage”)
   • Speech: A grade of “C” or above in SPCM 101, Fundamentals of Speech or a higher level Speech course or credit by examination;
6. completed an application for Admission to Teacher Education which includes appropriate biographical and background information; and
7. have a current transcript on file in the Education 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 GPAs:
   • Education courses 2.8
   • All courses completed at the “C” level or above
   • Courses in the major 2.6
   • Overall cumulative 2.5
   or
   • completed all competency plans and/or other activities prescribed by the Admissions and Scholastic Standards Committee;
6. have recommendations on file in the Teacher Education 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 Fall) or February 1 (for those student teaching in 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 maybe 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 GPAs:
   • Education courses 2.8
   • All courses completed at the “C” level or above
   • Courses in the major 2.6
   • Overall cumulative 2.5
   or
   • 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 score;
5. satisfactorily completed exit interview with Performance Portfolio and required projects in PS-III; and
6. applied for certification through the Certifying Officer in the College of Education and Counseling.

Education Curriculum for Teachers of Academic Subjects

<table>
<thead>
<tr>
<th>Professional Semester I</th>
<th>F</th>
<th>S</th>
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</thead>
<tbody>
<tr>
<td>EDFN 338, Foundations of American Education</td>
<td>2</td>
<td>2</td>
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<tr>
<td>EDFN 475, Human Relations</td>
<td>3</td>
<td>3</td>
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<tr>
<th>Professional Semester II</th>
<th>F</th>
<th>S</th>
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<tbody>
<tr>
<td>EPSY 302, Educational Psychology</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SEED 450, 7-12 Teaching Reading in the Content Area</td>
<td>2</td>
<td>2</td>
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<tr>
<td>SEED 314, Supervised Clinical Experience</td>
<td>1</td>
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<tr>
<th>Professional Semester III</th>
<th>F</th>
<th>S</th>
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</thead>
<tbody>
<tr>
<td>SEED 400, Curriculum and Instruction in Secondary and Middle Schools</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>SEED 410, Social Foundations, Management and Law</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>SEED 488, 7-12 Student Teaching</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

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

In addition, the following courses must be successfully completed prior to entry into Professional Semester III:
Special Methods (varies by content area) | 3 | 3 |
SPED 401, Introduction to Educating Secondary Students with Disabilities | 1 | 1 |
Teaching Certificates

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.

Placement Service

Placement information is available through the Career and Academic Placement (CAP) Center on the SDSU campus.

Teaching Minors

Requirements for Teacher Education Minors:

Frequently students in the teacher education program complete a combination of courses that constitute a minor. These would be courses not included in a student’s major. For detailed information consult with the Certifying Officer of the College of Education and Human Services who is the minor adviser. These minors are listed below.

Social Science Minor: 24 credits

The student must have an emphasis in two of the three following subject areas:

- GEOG 200, Introduction to Human Geography * ** (G) .................3
- GEOG 210, World Regional Geography * ** (G) .................3
- HIST 151, United States History I * *** ......................3
- HIST 152, United States History II * ** ..................3
- POLS 100, American Government * ** ...............3
- POLS 102, American Political Issues * ** ..........3
- POLS 210, State and Local Government * ** ........3
- 8 credits from the following:
  - ENGL Electives .................7
  - MCOM Electives ................2
  - SPCM Elective ................3
  - ENGL 101, Composition I * ..................3
  - ENGL 201, Composition II * ..............3
  - MCOM 210-210L, Basic Newswriting and Lab ..............3
  - SPCM 101, Fundamentals of Speech * ............3

Language Arts Minor: 24

- ENGL Electives ........................................7
- MCOM Elective .....................................2
- SPCM Elective .....................................3
- ENGL 101, Composition I * ..................3
- ENGL 201, Composition II * ..............3
- MCOM 210-210L, Basic Newswriting and Lab ..............3
- SPCM 101, Fundamentals of Speech * ............3

General Science Minor: 24-26

- BIOL 101-101L, Biology Survey I and Lab ** .................3
- BIOL 103-103L, Biology Survey II and Lab * .............3
- CHEM 106-106L, Chemistry Survey and Lab * and CHEM 120-120L, Elementary Organic Chemistry and Lab* or CHEM 112-112L, General Chemistry I and Lab * and CHEM 114-114L, General Chemistry I and Lab ** .............8
- PHYS 101-101L, Survey of Physics and Lab* and PHYS 185, Introduction to Astronomy I* or ..................6
- PHYS 111-111L, Introduction to Physics I and Lab* and PHYS 113-113L, Introduction to Physics II and Lab * .............8

Electives ................................................................4

Any physical geography course
- ABE 353-353L, Physical Climatology and Meteorology and Lab ** .............3
- BIOL 221-221L, Human Anatomy and Lab .............4
- PS 243, Principles of Geology * ** ..................3
- PS 305-305L, Insect Biology and Lab ..................3
- WL 110, Environmental Conservation * ** (G) ........3

Biological Science Minor: 21

Electives in Botany, Zoology, Biology, Microbiology, or Wildlife ........9

- BIOL 311, Principles of Ecology* ......................3
- BIOL 371, Genetics .....................................3
- BIOL 101-101L, Biology Survey I and Lab ** .............3
- BIOL 103-103L, Biology Survey II and Lab * .............3

Physical Science Minor: 24

Physics Elective ........................................1
- CHEM 120-120L, Elementary Organic Chemistry and Lab* .............4
- PHYS 111-111L, Introduction to Physics I and Lab* ..................4
- PHYS 113-113L, Introduction to Physics II and Lab ..................4
- PHYS 331, Introduction to Modern Physics ..................3
- CHEM 112-112L, General Chemistry I and Lab * .............4
- CHEM 114-114L, General Chemistry I and Lab ** .............4

Those planning to teach should consult the dean of the college, college faculty members, and advisers in college major and minor departments early in the junior year for more detailed interpretation of these regulations.

† These teaching minors do not guarantee certification in the areas listed. Certification requirements are established by the South Dakota Department of Education. Please consult the department head or certification officer to obtain the latest information regarding certification requirements. Certification in different states may require additional courses.

Veterinary Science (VET) Department

David Zeman, Head
Department of Veterinary Science
Animal Disease Research 105
605-688-5172
www.vetsci.sdstate.edu

Faculty

Professor Zeman, Head; Professors Chase, Erickson, Francis, Hamilton, Hildreth, Holler, Miskimins, Neiger, Nelson; Associate Professors Christopher-Hennings, Graham, Knudsen, Young; Assistant Professors Kaushik, Leslie-Steen; Instructor Pillatzki; Adjunct Professors Benfield, Harland, Ode, Robl, Rowland, Sathiyaaseelan.

Programs

The Veterinary Science Department provides advising services for students in the pre-veterinary medicine curriculum and offers courses in the biomedical sciences for undergraduate and graduate majors in related sciences. Graduate training is supported by active research programs in natural diseases of food-producing animals and zoonotic diseases.

South Dakota does not have a professional college of veterinary medicine. A pre-veterinary medicine curriculum is offered which allows students to obtain prerequisites for application to Colleges of Veterinary Medicine in other states. Students may meet requirements in three years of pre-veterinary study, but most take four years. Many students...
complete a major for the Bachelor of Science Degree before entering the professional curriculum of Veterinary Medicine. Many degree options are available to students in the pre-veterinary medicine curriculum, but popular choices include Animal Science, Biology, Microbiology, Dairy Science, Wildlife and Fisheries, or others. Students typically select a B.S. option late in their freshman year or during their sophomore year.

Entrance into the professional curriculum in a College of Veterinary Medicine rests with the individual applicant, and is based upon many factors including their academic record and experiences. The applicant should be aware of the challenges involved in being accepted to a College of Veterinary Medicine. Keen competition should be anticipated.

The Veterinary Science Department is home to the SD Animal Disease Research and Diagnostic Laboratory, the Olson Biochemistry Laboratory (SDAES), and the Center for Infectious Disease Research and Vaccinology.

(Pre-) Veterinary Science

Suggested Pre-Veterinary Medicine Plan of Study:

System General Education Requirements*

Goal #1 Written Communication: ENGL 101, and ENGL 201 6

Goal #2 Oral Communication: SPCM 101 3

Goal #3 Social Sciences/Diversity:

ECON 202, Principles of Macroeconomics* (G), and 3
SOC 100, Introduction to Sociology * (G), or 3
SOC 150, Social Problems * ** (G), or 3
SOC 240, The Sociology of Rural America * ** (G) 3

Goal #4 Arts and Humanities/Diversity: 6

Goal #5 Mathematics: MATH 102, College Algebra *, or 3
MATH 115, Precalculus *, or 5
MATH 120, Trigonometry *, or 5
MATH 121-121L, Survey of Calculus and Lab * 5

Goal #6 Natural Sciences: BIOL 151-151L, and BIOL 153-153L 8
CHEM 114-114L, and CHEM 112-112L 8
PHYS 111-111L, and PHYS 113-113L 8

Institutional Graduation Requirements**: 8-9

Goal #1 Land and Natural Resource stewardship 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

Other Suggested Courses

VET 103, Introduction to Veterinary Medicine 1
CHEM 326-326L, Organic Chemistry I and Lab 4
CHEM 328-328L Organic Chemistry II and Lab 4
MICR 231-231L, General Microbiology and Lab 4
VET 223-223L, Anatomy and Physiology of Domestic Animals and Lab 4

BIOL 202-202L, Genetics and Organismal Biology, or 4
BIOL 371, Genetics 3
CHEM 464, Biochemistry I 3
CHEM 466L, Lab Methods- Biochemistry 1
VET 403, Animal Diseases and Their Control 3

Requirements for specific B.S.

Specific requirements for various veterinary colleges.

This curriculum meets the pre-veterinary requirements of some Colleges of Veterinary medicine. the student and his/her adviser may alter the pre-veterinary curriculum to meet specific requirements of certain colleges.

Note: See adviser for chemistry specializations.
The Art Major (B.S. or B.A.)

Specialization in Art Education (B.S. or B.A.)

For the Art Education specialization, the student completes the Department's Visual Arts Core of studio courses (ART 111, 112, 121, 122, 123, 211), the Department Reviews (ART 110, 200, 400) and art history courses (ARTH 100, 211, 212, and ARTH Advanced Writing Requirement); the System Requirements (SGRs-30 credit hours) and Institutional Requirements (IGRs-8-9 credit hours); Teacher Education coursework (32 credit hours); and 15 credit hours in art (ceramics and sculpture), including coursework in discipline-based methods. You can pursue either a B.S. or a B.A. degree. The faculty strongly recommend a double major or emphasis in a Visual Arts program, in order to strengthen the student's artistic or design capacities.

Specialization in Visual Arts (B.S. or B.A.)

The Visual Arts path presents a choice of three emphases in this specialization: (a) Painting/Printmaking Emphasis, (b) Ceramics/Sculpture Emphasis, and (c) General Art Emphasis. You can pursue either a B.S. or a B.A. degree. Each emphasis includes instruction in specific technical skills, application of theory and conceptual development encouraging personal direction in preparation for professional practice and/or graduate study. For each emphasis, the student completes the System Requirements (SGRs-30 credit hours), Institutional Requirements (IGRs-8-9 credit hours) and the Department's Reviews (ART 110, 200, 400); Visual Arts Core of studio courses (ART 111, 112, 121, 122, 123, and 211) and art history courses (ARTH 100, 211, 212, and ARTH Advanced Writing Requirement).

- For either the Ceramics/Sculpture or Painting/Printmaking emphasis, students complete an additional associated 30 credit hours in Art courses. The coursework centers on both areas in the specific emphasis-a minimum of four courses are completed in either discipline, for a total of 18 credit hours. The student fulfills the degree with twelve credit hours of electives with Art (ART), Art History (ARTH), Graphic Design (ARTD), or Art Education (ARTE) prefixes.

- For the General Art Emphasis, 24 credit hours of Visual Arts Department courses allow the student to create their own distinctive set of Visual Arts courses. This selection of coursework must include three courses in one visual art discipline, that is, animation, ceramics, painting, sculpture, or printmaking, or three courses in graphic design for a total of nine credit hours. To complete the coursework, the student completes fifteen credit hours of electives with Art (ART), Art History (ARTH), Graphic Design (ARTD), or Art Education (ARTE) prefixes.

Visual Arts Field Trips

Visual Arts' commitment to concrete and intensifying experiences is realized through regularly scheduled field trips to art centers in the state and region, as well as student trips to art galleries and museums in national and international centers. Recent department-sponsored trips have included central Italy, Chicago, New York, and numerous trips to the Twin Cities.

The Graphic Design Major (B.S. or B.A.)

The Department of Visual Arts offers a major in Graphic Design that is comprised of design studio, lecture, and practical applications. You can pursue either a B.S. or a B.A. degree. Graphic Design majors study visual communications theory and practice in digital, print, time-based, on-line, and interactive media. Areas of study may include, but are not limited to, classical and computer animation, logos, computer graphics, publication and Web page design, illustration, advertising, posters, and multi-media. The program aims to develop a knowledge base for careers that can relate to professional practice, and students prepare a graphic design portfolio for use after graduation to seek positions in business and industry as well as nonprofit organizations.

Students complete the System Requirements (SGRs-30 credit hours), Institutional Requirements (IGRs-8-9 credit hours), and the Department's Visual Arts Core of studio courses (ART 111, 112, 121, 122, 123, and ARTD 202), Department Reviews (ART 110, 200, 400), and art history courses (ARTH 100, 211, 212, and ARTH Advanced Writing Requirement); an associated 21 credit hours of graphic design courses that consist of design theory, visual communications, computer graphics, design media, photography or time-based media; and several credit hours of Art and Graphic Design electives with Art (ART), Art History (ARTH), Graphic Design (ARTD), or Art Education (ARTE) prefixes.

Graphic Design Internships, Field Trips and the MacIntosh Lap-top Requirement

- The program's distinctive interest in practical experiences is realized through internships, regularly scheduled field trips to graphic design, corporate studios, public relations, and advertising offices and studios in the region, as well as student trips to design conferences and art galleries and museums. Annually, trips are made to Minneapolis, Omaha, and Sioux Falls. Special professional trips have included Germany, Los Angeles, Japan, Chicago, Copenhagen, Denver, Dallas, and New York.

- Graphic Design has a MacIntosh laptop computer recommendation: MacBook Pro; suggest minimum of 2 gigabytes RAM.

The Transfer Review

The Transfer Review will be scheduled for the first Friday afternoon of each semester. (1) Transfer studio credits are assessed by these criteria: must meet the Department Standard of 2 contact hours per hour of semester credit as well as meet course syllabus content and expectations. (2) Credit cannot be given for duplication of courses. (3) Students may be advised to repeat a course of study for no credit, if the jury deems it appropriate, in order to meet program's expectations and standards. However, the student is not required to repeat that course, if: (a) it was completed at a SD Board of Regents university and (b) listed as a common course in the numbering system of the SDBOR. (4) The Department Head may ask that ART 200 be conducted at the same time of Transfer Review. If so, this will require adding ART 200 to the student's semester schedule.

The Ritz Gallery, the South Dakota Art Museum, and University Archives

Located in Grove Hall, The Ritz Gallery program of public exhibitions presents works of 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.

The South Dakota Art Museum, the state's official art museum, is not far from Grove Hall. Its "smart" auditorium is the site for the art history courses. Our majors participate in the museum's rich program of exhibitions; these include works from its permanent collections, as well as visiting artists and international exhibitions. The museum also sponsors a series of artists' talks, films, and workshops. Visit their Web site: http://www3.sdstate.edu/Administration/SouthDakotaArtMuseum/

Located in the Hilton Briggs Library, the University Archives contain an important growing collection of graphic design, fine books, the complete volume of original William Hogarth prints, and cuneiform tablets from ancient Sumeria. The archives offers a valuable resource to the material culture study that is essential in art and design history.
Art (ART) Major

Art history courses can be used for the Core's humanities sequence, but Visual Arts students are required to take at least three hours in humanities outside the Department. Modern Languages are required for the B.A.

Requirements for Art Major, Bachelor of Arts in Arts and Sciences

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 ............ 6
Goal #2 Oral Communication: SPCM 101 .................. 3
Goal #3 Social Sciences/Diversity ................................................................. 6
Goal #4 Arts and Humanities/Diversity ....................................................... 6
Goal #5 Mathematics: .............................................................................. 3
Goal #6 Natural Sciences: ......................................................................... 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship .................. 3
Goal #2 Personal Wellness ................................................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .................. 3

College Requirements: 16
Modern Language ............................................................................. 14
Social Sciences ..................................................................................... 2

Major Requirements: 31.5
ART 110, First Review ........................................................................... 0.5
ART 111, Drawing I. ............................................................................. 3
ART 112, Drawing II ........................................................................... 3
ART 121, Design I 2D ......................................................................... 3
ART 122, Design II Color ..................................................................... 3
ART 123, Three Dimensional Design .................................................. 3
ART 200, Portfolio Review Jury on Student Progress ...................... 0.5
ART 211, Drawing III-Figurative ......................................................... 3
ART 400, Senior Review ..................................................................... 0.5
ARTH 100, Art Appreciation * ** (G) .................................................. 3
ARTH 211, History of World Art I * ** (G) ............................................ 3
ARTH 212, History of World Art II * ** (G) .......................................... 3
Art History Advanced Writing Course ........................................... 3

Electives: 73-74

Total Required Credits: 128

Visual Arts Specialization Requirements: 24-30
Choose an emphasis:

Ceramics/Sculpture emphasis:
ART 251, Ceramics I * ** ..................................................................... 3
ART 351, Ceramics II .......................................................................... 3
ART 342, Sculpture III, or ................................................................. 3
ART 352, Ceramics-Intermediate Level .............................................. 3
ART 441, Sculpture-Advanced, or ................................................. 3
ART 451, Ceramics-Advanced ............................................................... 3
ART 241, Sculpture I * ** ................................................................. 3
ART 341, Sculpture II ........................................................................... 3
Art Electives ...................................................................................... 12

General Art emphasis:
ARTD/ART-Area of Specialization .............................................. 9
Art Electives ................................................................................... 15

Painting/Printmaking emphasis:
ART 231, Painting I * ** ................................................................. 3
ART 331, Painting II ........................................................................... 3
ART 332, Painting-Intermediate Level, or ........................................ 3
ART 382, Printmaking-Intermediate Level ........................................ 3
ART 281, Printmaking I * ** ................................................................. 3
ART 431, Painting III, or ................................................................. 3
ART 481, Printmaking-Advanced ......................................................... 3
Art Electives ...................................................................................... 12

Art Education Specialization Requirements: 49
ART 241, Sculpture I * ** ................................................................. 3
ART 251, Ceramics I * ** ................................................................. 3
Art Elective .......................................................................................... 5
Professional Semester I ..................................................................... 5
Professional Semester II ................................................................. 6
Professional Semester III ................................................................. 14
SEED 420, Teaching Special Needs Students Credit ......................... 1
ARTE 414, K-12 Art Methods ............................................................. 2-3
EDFN 427-527, Middle School: Philosophy and Application ............ 2
EDFN 365, Computer-Based Technology and Learning .................. 2
ANTH 421-521, Indians of North America * *, or ................................... 3
HIST 368, History and Culture of the American Indian * ** .................. 3
† You need to take three courses in one of the five studio concentrations: Painting, printing, ceramics, sculpture or graphic design. Two courses should be taken during the Junior Year and one course taken during the Senior Year.

Requirements for Art Major, Bachelor of Sciences in Arts and Sciences

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 .......... 6
Goal #2 Oral Communication: SPCM 101 ....................................... 3
Goal #3 Social Sciences/Diversity .......................................................... 6
Goal #4 Arts and Humanities/Diversity .................................................. 6
Goal #5 Mathematics: .............................................................................. 3
Goal #6 Natural Sciences: ........................................................................... 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship .................. 3
Goal #2 Personal Wellness ................................................................. 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness .................. 3

College Requirements: 8
Natural Science .................................................................................. 8

Major Requirements: 31.5
ART 110, First Review ........................................................................... 0.5
ART 111, Drawing I. ............................................................................. 3
ART 112, Drawing II ........................................................................... 3
ART 121, Design I 2D ......................................................................... 3
ART 122, Design II Color ..................................................................... 3
ART 123, Three Dimensional Design .................................................. 3
ART 200, Portfolio Review Jury on Student Progress ...................... 0.5
ART 211, Drawing III-Figurative ......................................................... 3
ART 400, Senior Review ..................................................................... 0.5
ARTH 100, Art Appreciation * ** (G) .................................................. 3
ARTH 211, History of World Art I * ** (G) ............................................ 3
ARTH 212, History of World Art II * ** (G) .......................................... 3
Art History Advanced Writing Course ........................................... 3

Electives: 75-66

Total Required Electives: 128

Visual Arts Specialization Requirements: 24-30
Choose an emphasis:

Ceramics/Sculpture emphasis:
ART 251, Ceramics I * ** ..................................................................... 3
ART 351, Ceramics II .......................................................................... 3
ART 342, Sculpture III, or ................................................................. 3
ART 352, Ceramics-Intermediate Level .............................................. 3
ART 441, Sculpture-Advanced, or ................................................. 3
ART 451, Ceramics-Advanced ............................................................... 3
ART 241, Sculpture I * ** ................................................................. 3
ART 341, Sculpture II ........................................................................... 3
Art Electives ...................................................................................... 12

General Art emphasis:
ARTD/ART-Area of Specialization .............................................. 9
Art Electives ................................................................................... 15

Department and Program Descriptions and Requirements 213
Painting/Printmaking emphasis:
ART 231, Painting I ** 3
ART 331, Painting II 3
ART 332, Painting-Intermediate Level, or 3
ART 382, Printmaking-Intermediate Level 3
ART 281, Printmaking I ** 3
ART 431, Painting III, or 3
ART 481, Printmaking-Advanced 3-9
Art Electives 12

Art Education Specialization Requirements: 49
ART 241, Sculpture I ** 3
ART 251, Ceramics I*** 3
Art Elective 5

Professional Semester I
EDFN 338, Foundations of American Education 2
EDFN 475, Human Relations 3

Professional Semester II
EPSY 302, Educational Psychology 3
SEED 450, 7-12 Teaching Reading in the Content Area 2
SEED 314, Supervised Clinical Experience 1

Professional Semester III
SEED 400, Curriculum and Instruction in Secondary and Middle Schools 4
SEED 410, Social Foundations, Management and Law 2
SEED 488, 7-12 Student Teaching, and
ELED 488, K-8 Student Teaching 8
SEED 420, Teaching Special Needs Students Credit 1
ARTE 414, K-12 Art Methods 2-3
EDFN 427-527, Middle School: Philosophy and Application 2
ARTE 491, Topics: Secondary Teaching Methods 1-3
EDFN 365, Computer-Based Technology and Learning 2
ANTH 421-521, Indians of North America **, or 3
HIST 368, History and Culture of the American Indian ** 3

† You need to take three courses in one of the five studio concentrations: Painting, printing, ceramics, sculpture or graphic design. Two courses should be taken during the Junior Year and one course taken during the Senior Year.
* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. (See pages 40-42 for details.)
** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). (See pages 43-45 for details.)

(G) Globalization Requirement. (See page 46 for details.)
(AW) Advanced Writing Requirement. (See page 47 for details.)

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.

Art (ART) Minor
Requirements for Art Minor: 24 credits
To include six credit hours in art history.

Graphic Design (ARTD) Major
Requirements for Graphic Design Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 6
Goal #2 Oral Communication: SPCM 101 3
Goal #3 Social Sciences/Diversity 6
Goal #4 Arts and Humanities/Diversity 6
Goal #5 Mathematics 3
Goal #6 Natural Sciences 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

College Requirements: 16
Modern Language 14
Social Sciences 2

Major Requirements: 63.5-64.5
ART 110, First Review 0.5
ART 111, Drawing I 3
ART 112, Drawing II 3
ART 121, Design I 2D 3
ART 122, Design II Color 3
ART 123, Three Dimensional Design 3
ART 200, Portfolio Review Jury on Student Progress 0.5
ARTD 202, Computer Graphics I 3
ART 211, Drawing III-Figurative 3
ART 400, Senior Review 0.5
ARTH 100, Art Appreciation ** (G) 3
ARTH 211, History of World Art I ** (G) 3
ARTH 212, History of World Art II ** (G) 3
Art History Advanced Writing Course 3
ARTD 201, Graphic Design I 3
ARTD 301, Graphic Design II 3
ARTD 302, Computer Graphics II 3
ARTD 351, Visual Communication I 3
ARTD 352, Design Media I 3
ARTD 451, Visual Communication II: Senior Portfolio 3
ARTD 452, Design Media II 3
Art Electives 7
MCOM 265-265L, Basic Photography and Studio 2-3

Electives: 8.5-10.5
Total Required Credits: 128

Requirements for Graphic Design Major, Bachelor of Science in Arts and Sciences:

System General Education Requirements*: 30
Goal #1 Written Communication: ENGL 101, and ENGL 201 6
Goal #2 Oral Communication: SPCM 101 3
Goal #3 Social Sciences/Diversity 6
Goal #4 Arts and Humanities/Diversity 6
Goal #5 Mathematics 3
Goal #6 Natural Sciences 6

Institutional Graduation Requirements**: 8-9
Goal #1 Land and Natural Resource Stewardship 3
Goal #2 Personal Wellness 2-3
Goal #3 Social Responsibility/Cultural and Aesthetic Awareness 3

College Requirements: 8
Natural Science 8

Major Requirements: 63.5-64.5
ART 110, First Review 0.5
ART 111, Drawing I 3
ART 112, Drawing II 3
ART 121, Design I 2D 3
ART 122, Design II Color 3
ART 123, Three Dimensional Design 3
ART 200, Portfolio Review Jury on Student Progress 0.5
ARTD 202, Computer Graphics I 3
ART 211, Drawing III-Figurative 3
ART 400, Senior Review 0.5
ARTH 100, Art Appreciation ** (G) 3
ARTH 211, History of World Art I ** (G) 3

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Wildlife and Fisheries Sciences (WL) Department

David Willis, Head
Department of Wildlife and Fisheries Sciences
Northern Plains Biostress Laboratory 138C
605-688-6121
e-mail: david.willis@sdstate.edu
http://wfs.sdstate.edu

Faculty
Distinguished Professor Willis, Head; Distinguished Professor Emeritus Flake; Distinguished Professor Jenks; Professors Emeritus Higgins, Linder, Salet; Professors Berry, Brown, Hubbard; Associate Professors Chipp, Jensen; Assistant Professors Bertrand, Graeb, Rupp; Adjunct Professors Barnes, Bowyer, Fredrickson, Leslie, Wahl; Adjunct Associate Professors Euliss, Lindsey, Naugle, Shivik, Sutton, Uresk; Adjunct Assistant Professors Austin, Bakker, Blackwell, DePerno, Gigliotti, Holland, Isermann, Jacques, Johnson, Klaver, Klumb, Lehman, Pegg, Rumble, Schmitz, Sovada.

Programs
The Department offers the Bachelor of Science, Master of Science, and Doctor of Philosophy degrees. No minors are offered. A student who plans on a career in research should complete an advanced degree. Each undergraduate student is assigned an academic adviser in the Department to assist with curriculum planning. Students can, with our undergraduate resources, meet the academic requirements for certification by both the Wildlife and Fisheries Sciences (WL) Department and Program Descriptions and Requirements 215
Women’s Studies (WMST)

Christine Stewart-Nunez, Program Coordinator
College of Arts and Sciences
Scooby Hall 008
605-688-4065
e-mail: c.stewart-nunez@sdstate.edu

Program
An interdisciplinary program (minor) 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. Eighteen hours with a “C” or better in each course are required for the minor. The Women’s Studies Program Coordinator assists students to personalize their curriculum plans.

Women’s Studies Minor
Women’s Studies Minor Requirements: 18
WMST 101, Introduction to Women’s Studies ................. 3
WMST 491, Independent Study .................................. 1-4

Choose one course from the following:
SOC 383, Sociology of Sex Roles ................................ 3
HIST 349, Women in American History .................... 3
HIST 350, Women in World History ......................... 3
POLS 305, Women and Politics ............................... 3
PSYC 367, Psychological Gender Issues ** ................... 3
SOC 483, Sociology of Gender Roles (G) .................... 3
WMST 260, Women's Health Issues ........................... 3
WMST 305, Women and Politics ............................... 3
WMST 349, Women in American History .................... 3
WMST 350, Women in World History ......................... 3

WMST 367, Psychological Gender Issues ** ................... 3
WMST 383, Sociology of Gender Roles ....................... 3
WMST 415, Communication and Gender ...................... 3
WMST 420, International Women’s Issues .................... 3

Choose one course from the following:
Appropriate courses in the Humanities and Arts may be substituted with the approval of the Program Coordinator.
ENGL 248 - Women in Literature * ** ......................... 3
WMST 248 - Women in Literature Credits: 3

Elective Courses Credits: 6
Courses can be selected from the required list above and from the following:
AM 453, Socio-Psychological Aspects of Dress ............... 3
CA 340, Work Family Interface (AW) ......................... 3
HDFS 250, Development of Human Sexuality ................. 3
MCOM 419-519, Women in Media ............................. 3
REL 331, Women and Religion .................................. 3
SOC 325, Domestic and Intimate Violence .................... 3
WMST 250, Development of Human Sexuality ................. 3
WMST 325, Domestic and Intimate Violence ................. 3
WMST 331, Women and Religion ................................ 3
WMST 419-519, Women in Media ............................. 3
WMST 453, Socio-Psychological Aspects of Dress ............ 3
WMST 492-592, Topics ........................................... 3

In addition, courses related to the roles of women in society are offered on a periodic basis in various departments. These courses may be used as electives with the approval of the Program Coordinator.

Zoology (ZOOL)
(Biology and Microbiology)
COURSE DESCRIPTIONS ..................217

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# Curriculum Entries

## Course Descriptions

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<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIOL 101</strong> Biology Survey I (COM)</td>
<td>101</td>
<td>1</td>
<td>Biology Survey I</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

1. Course prefix.
2. Course number. The first digit of the three-digit number indicates the level of instruction, as follows:
   - 0 Pre-college, non-degree, remedial
   - 1 Freshman
   - 2 Sophomore
   - 3 Junior
   - 4 Senior
3. Name of the course.
4. Common Course within the Regental System.
5. Number of credits assigned to the course. One credit is usually interpreted as one hour of class work per week or as two to four hours of lab work per week.
6. A brief description of the course. This section will also include other information affecting your enrollment in the course. A course description might include, for instance: “P, MATH 102.” This means that MATH 102 is a prerequisite and must be taken before enrollment in this course. Other information included in various course descriptions would be: “Alternate years,” “Not open to majors,” “May be repeated for a total of six credits,” etc.

## Course Numbering

### 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 postdoctoral level (doctoral and postdoctoral students only)

### Experimental Courses
A course at the 100-600 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

<table>
<thead>
<tr>
<th>A&amp;S, Arts and Sciences</th>
<th>EDAD, Educational Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABE, Agricultural and Biosystems Engineering</td>
<td>EDER, Education Evaluation and Research</td>
</tr>
<tr>
<td>ABS, Agriculture and Biological Sciences</td>
<td>EDFN, Educational Foundations</td>
</tr>
<tr>
<td>ACCT, Accounting</td>
<td>EE, Electrical Engineering</td>
</tr>
<tr>
<td>AGEC, Agricultural and Resource Economics</td>
<td>EET, Electronics Engineering Technology</td>
</tr>
<tr>
<td>AGED, Agricultural Education</td>
<td>EHS, Education and Human Sciences</td>
</tr>
<tr>
<td>AHED, Adult Higher Education</td>
<td>ELED, Elementary Education</td>
</tr>
<tr>
<td>AIR, Aerospace Studies</td>
<td>EM, Engineering Mechanics</td>
</tr>
<tr>
<td>AIS, American Indian Studies</td>
<td>ENGL, English</td>
</tr>
<tr>
<td>AM, Apparel Merchandising</td>
<td>ENT, Entomology</td>
</tr>
<tr>
<td>ANAT, Anatomy</td>
<td>ENTR, Entrepreneurial Studies</td>
</tr>
<tr>
<td>ANTH, Anthropology</td>
<td>ENV, Environmental Management</td>
</tr>
<tr>
<td>ARAB, Arabic</td>
<td>EPSY, Educational Psychology</td>
</tr>
<tr>
<td>ARCH, Architecture</td>
<td>ETM, Engineering Technology and Management</td>
</tr>
<tr>
<td>ART, Art</td>
<td>EURS, European Studies</td>
</tr>
<tr>
<td>ARTD, Art Design</td>
<td>FBME, Food and Biomaterrals Engineering</td>
</tr>
<tr>
<td>ARTE, Art Education</td>
<td>FCSE, Family and Consumer Sciences Education</td>
</tr>
<tr>
<td>ARTH, Art History</td>
<td>FREN, French</td>
</tr>
<tr>
<td>AS, Animal Science</td>
<td>GCOM, General Communication</td>
</tr>
<tr>
<td>AST, Agricultural Systems Technology</td>
<td>GE, General Engineering</td>
</tr>
<tr>
<td>AT, Athletic Training</td>
<td>GEOG, Geography</td>
</tr>
<tr>
<td>AVIA, Aviation</td>
<td>GER, German</td>
</tr>
<tr>
<td>BADM, Business Administration</td>
<td>GERO, Gerontology</td>
</tr>
<tr>
<td>BIOL, Biology</td>
<td>GIS, Geographic Information Sciences</td>
</tr>
<tr>
<td>BIOS, Biological Sciences</td>
<td>GLST, Global Studies</td>
</tr>
<tr>
<td>BIOT, Biotechnology</td>
<td>GS, General Studies.</td>
</tr>
<tr>
<td>BOT, Botany</td>
<td>HD, Human Development</td>
</tr>
<tr>
<td>CA, Consumer Affairs</td>
<td>HDFS, Human Development and Family Studies</td>
</tr>
<tr>
<td>CD, Community Development</td>
<td>HFM, Hotel and Foodservice Management</td>
</tr>
<tr>
<td>CEE, Civil and Environmental Engineering</td>
<td>HIST, History</td>
</tr>
<tr>
<td>CEX, Center of Excellence</td>
<td>HLTH, Health</td>
</tr>
<tr>
<td>CHEM, Chemistry</td>
<td>HO, Horticulture</td>
</tr>
<tr>
<td>CHIN, Chinese</td>
<td>HON, Honors</td>
</tr>
<tr>
<td>CHRD, Counseling and Human Resource Development</td>
<td>HPER, Health, Physical Education and Recreation</td>
</tr>
<tr>
<td>CJUS, Criminal Justice</td>
<td>HSC, Health Science</td>
</tr>
<tr>
<td>CM, Construction Management</td>
<td>ID, Interior Design</td>
</tr>
<tr>
<td>CSC, Computer Science</td>
<td>IM, Industrial Management</td>
</tr>
<tr>
<td>CSCA, Computer Science Applications</td>
<td>JAPN, Japanese</td>
</tr>
<tr>
<td>CST, Communication Studies and Theatre</td>
<td>LA, Landscape Design</td>
</tr>
<tr>
<td>CTE, Career and Technical Education</td>
<td>LAS, Latin American Studies Minor</td>
</tr>
<tr>
<td>DACN, Dance</td>
<td>LAKL, Lakota</td>
</tr>
<tr>
<td>DCOM, Communication Disorders</td>
<td>LEAD, Leadership</td>
</tr>
<tr>
<td>DMCS, Design, Merchandising and Consumer Sciences</td>
<td>LING, Linguistics</td>
</tr>
<tr>
<td>DS, Dairy Science</td>
<td>LMNO, Leadership and Management of Nonprofit Organizations</td>
</tr>
<tr>
<td>ECE, Early Childhood Education</td>
<td>L or lab, laboratory</td>
</tr>
<tr>
<td>ECON, Economics</td>
<td>MATH, Mathematics</td>
</tr>
<tr>
<td>admin, administration</td>
<td>MCOM, Mass Communication</td>
</tr>
<tr>
<td>adv, advanced</td>
<td>ME, Mechanical Engineering</td>
</tr>
<tr>
<td>Ag, Agriculture</td>
<td>MEP, Media Production</td>
</tr>
<tr>
<td>Am, American</td>
<td>MHR, Microbiology</td>
</tr>
<tr>
<td>AV, Audio-Visual</td>
<td>ML, Modern Foreign Languages</td>
</tr>
<tr>
<td>AY, alternate years</td>
<td>MLED, Middle Level Education</td>
</tr>
<tr>
<td>&amp; and</td>
<td>MLES, Medical and Laboratory Sciences</td>
</tr>
<tr>
<td>CAF, Computer Assisted Instruction</td>
<td>MNET, Manufacturing Engineering</td>
</tr>
<tr>
<td>chem, chemistry</td>
<td>Technology</td>
</tr>
<tr>
<td>CITIO, Chief Information Technology Office</td>
<td>MRCH, Merchandising</td>
</tr>
<tr>
<td>COM, Common Course</td>
<td>MS, Military Science Leadership</td>
</tr>
<tr>
<td>comp, composition</td>
<td>MUAP, Music Applied</td>
</tr>
<tr>
<td>conc, Concurrent</td>
<td>MUEN, Music Ensemble</td>
</tr>
<tr>
<td>cr, credit</td>
<td>MUS, Music</td>
</tr>
<tr>
<td>CRN, 5 digit course reference number</td>
<td>NACC, Nursing Accelerated</td>
</tr>
<tr>
<td>dev, development</td>
<td>NFSH, Nutrition, Food Science and Hospitality</td>
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<tr>
<td>econ, economics</td>
<td>NFS, Nutrition, Food Science and Hospitality</td>
</tr>
<tr>
<td>ed, educational</td>
<td>NURS, Nursing</td>
</tr>
<tr>
<td>F, fall semester</td>
<td>PE, Physical Education</td>
</tr>
<tr>
<td>fr, freshman</td>
<td>PHA, Pharmacy</td>
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<tr>
<td>&amp; and</td>
<td>PHIL, Philosophy</td>
</tr>
<tr>
<td>HLS, Health</td>
<td>PHST, Physics Topics for Educators</td>
</tr>
<tr>
<td>HO, Horticulture</td>
<td>PHTH, Physical Therapy</td>
</tr>
<tr>
<td>HON, Honors</td>
<td>PHYS, Physics</td>
</tr>
<tr>
<td>HPER, Health, Physical Education and Recreation</td>
<td>PLAN, Planning</td>
</tr>
<tr>
<td>HSC, Health Science</td>
<td>POLS, Political Science</td>
</tr>
<tr>
<td>ID, Interior Design</td>
<td>PR, Park Management</td>
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<tr>
<td>IM, Industrial Management</td>
<td>PRM, Park and Recreation Management</td>
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<tr>
<td>JAPN, Japanese</td>
<td>PS, Plant Science</td>
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<td>LA, Landscape Design</td>
<td>PSYC, Psychology</td>
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<td>LAS, Latin American Studies Minor</td>
<td>RANG, Range Science</td>
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<td>LAKL, Lakota</td>
<td>RECR, Recreation</td>
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<td>LEAD, Leadership</td>
<td>REL, Religion</td>
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<td>LING, Linguistics</td>
<td>SE, Software Engineering</td>
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<td>SEED, Secondary Education</td>
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<td>SM, Safety Management</td>
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<td>MATH, Mathematics</td>
<td>SOC, Sociology</td>
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<td>STAT, Statistics</td>
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<td>THEA, Theatre</td>
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<td>ML, Modern Foreign Languages</td>
<td>VET, Veterinary Science</td>
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<td>MLED, Middle Level Education</td>
<td>WEL, Wellness</td>
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<td>MLES, Medical and Laboratory Sciences</td>
<td>WI, Wildlife and Fisheries Sciences</td>
</tr>
<tr>
<td>MNET, Manufacturing Engineering</td>
<td>WMST, Women's Studies</td>
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<tr>
<td>Technology</td>
<td>ZOOL, Zoology</td>
</tr>
<tr>
<td>Mr, major</td>
<td>ZOOL, Zoology</td>
</tr>
<tr>
<td>Mrs, married</td>
<td>ZOOL, Zoology</td>
</tr>
<tr>
<td>M.S., Master of Science</td>
<td>ZOOL, Zoology</td>
</tr>
</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. Instructional Method: X.

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: U.

Tracking Courses
This course type is used to track students for zero credit hours. Instructional Method: Q.

Undergraduate Thesis
A formal treatise presenting the results of study submitted in partial fulfillment of the requirements for an undergraduate degree. The process requires extensive and intensive one-on-one interaction between the candidate and professor with more limited interaction between and among the candidate and the other members of the committee. Instructional Method: T.

Workshop
Special sessions in specific topic areas. Approximately 45 hours of work is required for each hour of credit. Workshops may vary in time range. They may include lectures, conferences, committee work, and group activity. Instructional Method: W.
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 multinumbered.

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).
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

In addition, the following 700 and 800 level course numbers are also used in common:

- 788 Master's Research Problems/Projects
- 789 Master's Research Problems/Projects Sustaining
- 798/898/898D* Thesis/Dissertation

*As appropriate, an S or D should be appended to a course number to distinguish between courses for specialist and doctoral degree seekers.
Definitions:

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 of 10 or fewer students with significant one-on-one student/teacher involvement. Instructional method: X.

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 instructor in these courses than is the case with an Internship or Practicum course. Instructional method: S.

x97 Cooperative Education
Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an Internship or Practicum course. Instructional method: S.

498 Undergraduate Research/Scholarship
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. Instructional method: J.

788 Master's Research Problems/Projects
Independent research problems/projects that lead to a research or design paper but not to a thesis. The plan of study is negotiated by the faculty member and the candidate. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical. Instructional method: J.

789 Master's Research Problems/Projects Sustaining
This is a zero credit hour schedule type used to track students who are not currently working with faculty on thesis or doctoral activities. Universities may require students to register under this schedule type to remain active degree candidates. Instructional method: U.

A formal treatise presenting the results of study submitted in partial fulfillment of the requirements for the applicable degree. The process requires extensive and intensive one-on-one interaction between the candidate and professor with more limited interaction between and among the candidate and other members of the committee. Instructional method: T.

This is a zero credit hour schedule 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 schedule type to remain active degree candidates. Instructional method: U.
**A&S (Arts and Science)**

A&S 482-582 - Travel Studies .................................................................(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.

**ABE (Agricultural and Biosystems Engineering)**

ABE 122 Introduction to Agricultural and Biological Engineering .....1
An introduction to applications of engineering to agricultural and biological systems. Emphasis is on engineering as a career and engineering of plant, animal, soil based and biological materials systems.

ABE 132 Engineering Tools for Agricultural and Biological Engineers .................................................................1
Familiarization with the equipment and systems common to agricultural and biological engineering. Introduction to measurement and analysis of parameters affecting engineered components and systems, including tolerance accumulation and external factors. Use of electronic spreadsheets will be developed as an engineering tool for programming and analysis of engineering data from natural resource, bio-processing, and equipment design.

ABE 222 Project Development for Agricultural and Biological Engineers .................................................................1
Introduction to project development. A project oriented experience including problem definition, literature review, development of the state of the art, identification of knowledge or utility gaps, and valuation of the problem. Project objectives are developed and narrowed to performance criteria. Development of a budget to fill the gap identified, as is a project timeline in the form of a Gant Chart to reach the identified objectives. A formal written and oral presentation of the project proposal is required.

ABE 225 Principles of Environmental Science and Engineering ** .....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 #1.

ABE 253 Introduction to Meteorology and Lab .................................................................3
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: ABE 253L

ABE 253L Introduction to Meteorology Lab .................................................................0
Corequisites: ABE 253

ABE 311 Design Project I .................................................................1
Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Notes: Junior standing.

ABE 314 Ag Power and Machines .................................................................4
Analysis and design of off-road vehicles and field machines. Includes engines, transmissions, traction, hitches, and hydraulic systems, as well as equipment for liquid and dry material applications. Prerequisites: EM 215. Corequisites: ABE 314L.

ABE 314L Ag Power and Machines Lab .................................................................0
Corequisites: ABE 314.

ABE 321 Design Project II .................................................................1
Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Notes: Junior standing.

ABE 324 Ag Structures and Indoor Environment .................................................................4
Course is divided into two parts emphasizing design of wood structures and environmental control in animal housing. Loads, structural analysis (statically determinate and indeterminate systems), and wood and wood panel properties are introduced. Design of beams, columns, beams, columns, trusses, sheathing, and diaphragms are emphasized with mechanical fasteners. Desired animal production space (thermal environment and indoor air quality) for production, health, and welfare are discussed. Heating and cooling loads are emphasized along with sizing equipment, fans, inlets, heat exchangers, controls, etc. to maintain the desired animal production space. Prerequisites: ME 314, EM 331 or concurrent. Corequisites: ABE 324L.

ABE 324L Ag Structures and Indoor Environment Lab .................................................................0
Corequisites: ABE 324.

ABE 330 Entrepreneurship Opportunities in Agricultural and Biosystems Engineering .................................................................1
Introduction to entrepreneurship, including types of innovations, the nature and characteristics of entrepreneurs, the traditions and potential roles of Agricultural and Biological Engineers as entrepreneurs. Networking, teamwork, sources of finance, business practices, regulations, intellectual property, ethics, marketing and advertising, cost of production versus pricing, leadership and management. Group development and presentation (oral and written) of an entrepreneurial innovation is required.

ABE 343 Engineering Properties of Biological Materials .................................................................3
Engineering Properties of biological and interacting materials within a system. Relationships between composition, structure, and properties of various biomaterials including food and plant and animal tissues. Definition and measurement of mechanical, physical, thermal and electromagnetic properties and their variability. Use of these properties in engineering applications. Corequisites: ABE 343L.

ABE 343L Engineering Properties of Biological Materials Lab .................................................................0
Corequisites: ABE 343.

ABE 350 Hydraulic and Pneumatic Systems .................................................................3
Fluid properties, pumps, actuators, valves and their selection and performance in hydraulic circuits. Open center, closed center, load sensing and pressure compensated circuits. Proportional electro-
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

hydraulic values and closed-loop control in hydraulic circuits.
Corequisites: ABE350L.

**ABE 350L Hydraulic and Pneumatic Systems Lab**
Corequisites: ABE 350.

**ABE 353 Physical Climatology and Meteorology**

**ABE 353L Physical Climatology and Meteorology Lab**
Corequisites: ABE 353. Notes: **Course meets IGR #1.

**ABE 390 Seminar**
Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Notes: Senior standing.

**ABE 422 Design Project IV (AW)**
Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Notes: Senior standing.

**ABE 434L Natural Resources Engineering Lab**
Precipitation, infiltration, evapotranspiration and runoff from small agricultural watersheds and application to design of conservation structures, water erosion control practices. Design of drainage and irrigation systems. Feedlot pollution control principles. Prerequisites: EM 331. Corequisites: ABE 434L.

**ABE 434L Natural Resources Engineering Lab**
Corequisites: ABE 434.

**ABE 444-544 Unit Operations of Biological Materials Processing**
Transport processes of heat and mass are applied to the following unit operations: evaporation, drying, gas liquid separation processes (humidification cooling towers), vapor-liquid separation processes (distillation), soil-liquid separation processes (leaching), membrane separations (ultrafiltration, reserve osmosis), mechanical separation processes, extrusion. senior standing or consent Corequisites: ABE 444L-544L.

**ABE 444L-544L Unit Operations Biological Materials Processing Lab**
Corequisites: ABE 444-544.

**ABE 454 Advanced Unit Operations in Food/Biological Materials Processing**
Advanced study of engineering principles as they apply to unit operations for food preservation and processing, including effect of heat and time on the lethality of undesirable food microorganisms, heat transfer with foods and containers and its effect on food safety, freezing and refrigeration technology, high temperature short time extrusion processing, and aseptic processing. Prerequisites: senior standing or consent Corequisites: ABE 454L.

**ABE 454L Advanced Unit Operations of Food/Biological Materials Problems Lab**
Corequisites: ABE 454.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ABE 498</td>
<td>Undergraduate Research/Scholarship</td>
<td>1-3</td>
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<tr>
<td>ABE 503</td>
<td>Energy and Environment</td>
<td>3</td>
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<tr>
<td>ABE 512</td>
<td>Advanced Agricultural Tractors and Machines</td>
<td>2</td>
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<td>ABE 522</td>
<td>Bio-Environmental Engineering</td>
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<td>ABE 533</td>
<td>Advanced Irrigation Engineering</td>
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<td>ABE 592</td>
<td>Topics</td>
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<td>ABE 732</td>
<td>Advanced Hydrology in Agriculture</td>
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<td>ABE 733</td>
<td>Ground Water Engineering in Agriculture</td>
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<tr>
<td>ABE 752</td>
<td>Theoretical Micro-Climatology</td>
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<td>ABE 754</td>
<td>Advanced Unit Operations of Food/Biomaterials Processing</td>
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<tr>
<td>ABE 773</td>
<td>Programming Agricultural System</td>
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<td>Independent Study</td>
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<td>ABE 898D</td>
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</table>

**ABS (Agriculture and Biological Sciences)**

ABS 100 Exploring Ag and the Food System ............................................. 1
An introduction for students pursuing the 2 and 4 year General Agriculture majors, this course will provide an overview of issues, opportunities, academic and career possibilities for students interested in agriculture.

ABS 203 Global Food Systems ** (G) ..................................................... 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 IGR #1.

ABS 205 Biotechnology in Agriculture and Medicine .................................. 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 .......................... 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. Crosslisted: AST 210 Introduction to Biorenewable Products and Processing.

ABS 301 Multicultural Agriculture/Biological Science Experience ........................ 2-4
This will be a team-mentored class. Students will work one on one or in small groups with professors that have knowledge of the region and one-to-three week experience to an area in the U.S. that is different from their home agricultural community, to experience and evaluate diverse food/ agricultural systems. For the Bachelor's degree, a maximum of 8 credits is allowed for domestic multicultural travel/study experience (ABS 381) and/or an international travel/study experience (ABS 482). ABS203 is recommended.

ABS 475 Integrated Natural Resource Management (AW) .................................. 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. Prerequisites: dependent on major (for Agronomy majors – PS 390). Corequisites: ABS 475L.

ABS 475L Integrated Natural Resource Management Lab .................................. 0

ABS 482-582 International Experience **(G) ............................................. 2-4
This will be a team-mentored class. 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 one-to-three week travel/study abroad experience to another nation(s) to experience and evaluate diverse food/agricultural systems. For the Bachelor's degree, a maximum of 8 credits is allowed for domestic multicultural travel/study experience (ABS 381) and/or an international travel/study experience (ABS 482). ABS203 is recommended. Notes: ** Course meets IGR #1.

ABS 492-592 Topics .................................................................................. 1-4

ABS 701 Animal Systems ........................................................................... 1-10

ABS 702 Genetics ...................................................................................... 1-10

ABS 703 Microbial Systems ....................................................................... 1-10

ABS 704 Plant Systems .............................................................................. 1-10

ABS 705 Research Methodology ................................................................. 1-10
Prerequisites: Instructor Consent.

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For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

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**ACCT (Accounting)**

**ACCT 210 Principles of Accounting I (COM)**
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)**
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)**
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)**
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 consent of instructor.

**ACCT 320 Cost Accounting (COM)**
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 311.

**ACCT 406-506 Accounting for Entrepreneurs (COM)**
Accounting concepts and practices for entrepreneurs/small business owners. Emphasis given to the use of accounting tools to solve small business problems.

**ACCT 430 Income Tax Accounting (COM)**
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)**
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 consent of instructor.

**ACCT 490 Seminar (COM)**

**ACCT 491 Independent Study (COM)**

**ACCT 492 Topics (COM)**

**ACCT 493 Workshop (COM)**

**ACCT 494 Internship (COM)**

**ACCT 506 Accounting for Entrepreneurs**
Crosslisted: ACCT 406

**ACCT 592 Topics**

**AGEC (Agricultural and Resource Economics)**

**AGEC 271 Farm and Ranch Management**
Farm or ranch business from viewpoint of continuous profit and efficiency. Basics of farm management applied to selection and combination of enterprises, level of production, size of business, labor efficiency, and machinery efficiency. Types of farming, tenure and leasing, risk, prices, credit and starting farming. Business and production records, their analysis and use in budgeting and planning future operations. Prerequisites: one course from MATH except 021, 101, 100T. Corequisites: AGEC 271L.

**AGEC 271L Farm and Ranch Management Lab**

**AGEC 292 Topics**

**AGEC 352 Agricultural Law**
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**
Principal factors which affect the supply, demand and prices of agricultural commodities. Market information in forecasting price trends. Evaluation of alternate marketing strategies, e.g., futures trading, other forward pricing instruments. Alternative agricultural marketing institutions. Prerequisites: ECON 201 or 202.

**AGEC 364 Introduction to Cooperatives**
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 371 Agricultural Business Management**
The course will address the structural, organizational, and functional components of businesses that operate in direct support of commodity production.

**AGEC 372 Introduction to Resource and Environmental Economics**
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. Prerequisites: Econ 101 or Econ 201 or permission. Crosslisted: ECON 372.

**AGEC 421-521 Farming and Food Systems Economics**
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. Notes: ** Course meets IGR #1.

**AGEC 454 Economics of Grain and Livestock Marketing**
Application of economic and marketing principles to the price discovery process and alternative exchange mechanisms; economics of
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AGED (Agricultural Education)

AGED 404 Program Plan in Agricultural Education (AW) ..........4 FFA, Adult Education, and supervised occupational experience programs; policy development.
AGED 434 Special Methods in Agricultural Education ..........3 Aims, course of study selection and organization of subject matter, method in field, laboratory, classroom, and supervised occupational experience programs. Taken first six weeks of semester in which the student completes student teaching, and resumes following student teaching. Prerequisites: PS295-Professional Semester II; CTE 295, CTE 405, EPSY 302, EDFN 475, ECON 201, ACCT 201 Corequisites: AGED 473L Crosslisted: PS 473L.
AGED 454L Teaching Ag Systems Technology Labs ..........2 Shop management, safety, shop plans, selection, care and use of hand and power tools, and equipment, to be taken as part of student teaching block in Agricultural Education. Offered first six weeks of semester. Prerequisites: senior in Agricultural Education; CTE 295, CTE 405, EPSY 302, EDFN 475, ECON 201, ACCT 201 Corequisites: AGED 454L.
AGED 454L Teaching Agricultural Mechanics Lab ..........0 Corequisites: AGED 454L.
AGED 475 Supervised Teaching Internship ..........8 Assigned in the individual student's major, or inappropriate, the teaching minor. An experiential application of teaching pedagogy and content for an extended period of time. Application must be made through the Supervisor of Clinical Experiences no later than the second semester of the junior year. Prerequisites: Professional Semester I courses, Professional Semester II courses, acceptance and admittance into the Teaching Internship Program; CTE 295, CTE 405, EPSY 302, EDFN 475, ECON 201, ACCT 201 Corequisites: AGED 475.
AGED 491 Independent Study ..........(1-3)
AGED 494 Internship ..........(1-12)
AGED 496 Field Experience ..........(1-12)
AGED 497 Cooperative Education ..........(1-12)
AGED 591 Independent Study ..........(1-3)
AGED 690 Seminar ..........(1-2)
AGED 706 Adult Education in Agriculture ..........2
AGED 707 Supervised Occupational Experiences and Student Groups ..........2
AGED 776 Curriculum in Agricultural Education ..........2
AGED 788 Research Problems in Agricultural Education ..........1-2

AHED (Adult Higher Education)

AHED 490 Seminar for Residential Assistants ..........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 496 Field Experience ..........(2-5)
AHED 600 Special Problems in Extension ..........(2-6)
AHED 691 Independent Study ..........(1-3)
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/ 
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

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<th>Course Code</th>
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<td>AHED 693 Workshop</td>
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<td>AHED 711 Assessment and Program Design</td>
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<td>AHED 720 Principles of Post Secondary Education</td>
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<td>AHED 755 Principles of College Teaching</td>
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<td>AHED 772 Administration and Leadership in Student Affairs</td>
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<td>AHED 788 Research Problems in Adult Education</td>
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<td>AHED 794 Internship</td>
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**AIR (Aerospace Studies)**

**AIR 101 The Foundations of the US Air Force**
Professional appearance, customs and courtesies, officer opportunities/benefits, and Air Force installations. Corequisites: AIR 101L.

**AIR 101L Aerospace Studies 100 Lab**
Corequisites: AIR 101.

**AIR 102 The Foundations of the US Air Force**
Interpersonal communication, macro U.S. military history, Air Force organizations/chain of command, cadet/officer candidate/officer, oral communication, and group leadership problems. Corequisites: AIR 102L.

**AIR 102L Aerospace Studies 100 Lab**
Corequisites: AIR 102.

**AIR 201 The Evolution of USAF Air and Space Power**
Air Power from balloons and dirigibles through 1947; Air Force mission, concepts, doctrine and use of air power. Corequisites: AIR 201L.

**AIR 201L Aerospace Studies 200 Lab**
Corequisites: AIR 201.

**AIR 202 The Evolution of USAF Air and Space Power**
History of air power from 1947 to present. Air Force relief missions and civic action programs in the late 1960's. Corequisites: AIR 202L.

**AIR 202L Aerospace Studies 200 Lab**

**AIR 301 Air Force Leadership Studies**
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.

**AIR 301L Aerospace Studies 300 Lab**
Corequisites: AIR 301.

**AIR 302 Air Force Leadership Studies**
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.

**AIR 302L Aerospace Studies 300 Lab**
Corequisites: AIR 302.

**AIR 401 National Security Affairs/Preparation for Active Duty**

**AIR 401L Aerospace Studies 400 Lab**
Corequisites: 401.

**AIR 402 National Security Affairs/Preparation for Active Duty**

**AIR 402L Aerospace Studies 400 Lab**
Corequisites: 402.

**AIS (American Indian Studies)**

**AIS 100 Introduction to American Indian Studies**
Introduction to indigenous cultures of North America with emphasis on those inhabiting the United States. Contemporary issues facing Indian people today are covered along with relevant historical, geographical, legal, cultural, and philosophical information.

**AIS 101 Introductory Lakota I**
An introduction to the Lakota language with emphasis on conversation, language structure, and vocabulary. Notes: * Course meets SGR #3 or ** IGR #3.

**AIS 102 Introductory Lakota II**
A continued introduction to the Lakota language with emphasis on basic conversation, language structure, and vocabulary. Prerequisites: AIS 101 or LAKL 101. Notes: * Course meets SGR #3 or ** IGR #3.

**AIS 201 Intermediate Lakota I**
A continuation of the first-year course, with emphasis on reading, composition, and vocabulary building. Prerequisites: AIS 101 and 102 or LAKL 101 and 102.

**AIS 202 Intermediate Lakota II**
A continuation of intermediate Lakota with emphasis on reading, composition, vocabulary building and the oral tradition. Prerequisites: AIS 101 and 102 or LAKL 101 and 102.

**AIS 238 Native American Religions**
A survey of Native American religious traditions and their relation to both traditional and contemporary cultures. Focus on ritual, myth and practice in traditional settings, as well as forms of religious resurgence in the 20th century. Crosslisted: REL 238.

**AIS 256 Literature of American West**
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.

**AIS 368 History and Culture of the American Indian**
Presents history and culture of North American Indians from before white contact to the present, emphasizing regional Dakota cultures. Crosslisted: HIST 368.

**AIS 410 North American Ethnology**

**AIS 417 American Indian Government and Politics**
An in-depth investigation of federal, state, and tribal laws, and the historical development and status of treaties, legislation, court decisions, and tribal governments.
AM (Apparel Merchandising)

AIS 421 Indians of North America ...................................................... 3
Provides prospective teachers and those interested in Indian people with a basic knowledge of Indian heritage and culture. Emphasis on the Dakota Indians. (Fulfills Teacher Ed. requirement.) Crosslisted: ANTH 421/521.

AIS 445 American Indian Literature.................................................. 3
Concentration of myths and legends of major language groups, particularly the Siouan. Crosslisted: ENGL 351.

AIS 447 American Indian Literature of Present ...................................... 3
Twentieth-century autobiography, fiction, and poetry by Native American authors. Crosslisted: ENGL 352.

AIS 467 Geography of the American Indian
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. Crosslisted: GEOG 467.

AIS 491 Independent Study ................................................................. 1-3
AIS 492 Topics .................................................................................. 3
AIS 496 Field Experience ................................................................. 1-12

AM 121 Dress in Popular Culture .......................................................... 2
Social and cultural factors affecting dress. A look at socio-cultural dynamics of contemporary times and how they affect fashion.

AM 172 Introduction to Apparel Merchandising ..................................... 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 Ready-To-Wear Analysis ......................................................... 3

AM 231L Ready-To-Wear Analysis Lab ................................................ 0
Corequisites: AM 231.

AM 242 Textiles I .............................................................................. 0
Corequisites: AM 242.

AM 242L Textiles I Lab ..................................................................... 0
An investigation of fiber, yarn, fabrication, finishes and their interrelationship to specific end use and consumer satisfaction. Prerequisites: sophomore standing. Corequisites: Corequisite course

AM 274 Fashion Promotion ................................................................. 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: 274L.

AM 274L Fashion Promotion Studio .................................................... 0
Corequisites: 274.

AM 292 Topics .................................................................................(1-3)

AM 315 Apparel Design ..................................................................... 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.

AM 315L Apparel Design Studio .......................................................... 0
Corequisites: AM 315.

AM 331 Aesthetics of Dress ................................................................. 3
Students apply elements and principles of design to the study of dress in order to understand its aesthetic qualities across various cultures. Professional relevance is addressed and applications to the design, manufacture, and merchandising of apparel products are included. Corequisites: AM 331L.

AM 331L Aesthetics of Dress Lab .......................................................... 0
Corequisites: AM 331.

AM 350 Cultural Perspectives on Dress ............................................... 3
The simple act of dressing the body results in a powerful form of non-verbal communication that has the potential to convey many messages including authority, gender, and physical ideals. This course focuses on diversity and social change, the influence of cultural ideals and standards of appearance, and the evolution of dress in response to society's needs, values, and technology. Students will examine these issues from cross-cultural and cross-disciplinary perspectives.

AM 352 History of Dress in the Western World .................................... 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 372 Buying .................................................................................. 3
Analysis of trending and buying for success. Develop strategies for planning acceptable merchandise lines. Construct a buying plan.

AM 381 Professional Behavior at Work ................................................ 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.

AM 453 Socio-Psychological Aspects of Dress ..................................... 3
Examination of clothing behavior from sociological, psychological and cultural perspectives. Crosslisted: WMST 453.

AM 462 Retailing ............................................................................... 3
Principles of retailing. Study of types of retailers and customer demand, retail strategy, merchandise management and store management. Crosslisted: ID 462

AM 472 Merchandising ..................................................................... 3
Analysis of merchandising for profitability. Computer applications will be explored. Consideration of global sourcing options for business sustainability and success. Corequisites: AM 472L.

AM 472L Merchandising Lab ............................................................... 0
Corequisites: AM 472.

AM 473 International Trade in Textiles and Apparel ............................ 3
Examination of the textiles and apparel industries in a global context including history and development, organization and operation, domestic and international trade policies.

AM 480 Travel Studies ......................................................................(1-5)
Study of businesses, museums, and other relevant places through site tours and presentations in selected locations. Includes pre-travel orientation and post-travel written report. Prerequisites: consent of department.

AM 482 Trends Analysis (AW) ............................................................. 3
Study of broad societal trends as they relate to retailing and their relationship and effect on social, political, economic and lifestyle

230 Course Descriptions
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
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patterns. Experience with trend analysis. Prerequisites: Junior or Senior standing.
AM 486 Service Learning .........................................................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.) major or minor, minimum GPA of 2.0, and minimum of
15 credits earned to enroll. Graded S/U.
AM 487 Workplace Strategies ..................................................2
Discussion of professional practices and issues. Experience in goal
setting, reporting and evaluation, and research. Organization and
preparation of professional documents. Prerequisites: AM 462
AM 490 Seminar .................................................................3
Prerequisites: AM 495.
AM 491 Independent Study ....................................................(1-3)
AM 492 Topics ..................................................................(1-3)
AM 495 Practicum ...............................................................(1-7)
Prerequisites: AM 487.
AM 498 Undergraduate Research/Scholarship .........................(1-3)

ANAT (Anatomy)
ANAT 142 Anatomy ...............................................................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) .........................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 or ** IGR #3.
ANTH 220 Physical Anthropology * ** (COM) .........................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 or ** IGR #3.
ANTH 410 North American Ethnology ..................................3
A comparative survey of native North American cultures representative
of major cultural areas of North America. Emphasis on traditional
cultures using a case-study approach. Crosslisted: AIS 410.
ANTH 421-521 Indians of North America .................................3
Provides prospective teachers and those interested in Indian people with
a basic knowledge of Indian heritage and culture. Emphasis on the
Dakota Indians Crosslisted: AIS 421 and INED 411. Notes: ** Course
meets IGR #3.
ANTH 491-591 Independent Study (COM) ..............................(1-3)
ANTH 492-592 Topics ..............................................................(1-3)
ANTH 494 Internship .......................................................(1-12)
ANTH 496 Field Experience ...................................................(1-12)

ARAB (Arabic)
ARAB 101 Introductory Arabic I * ** (COM) (G) ......................4
Introduces the fundamental elements of Arabic writing and vocabulary
and Muslim culture. Emphasizes sound/symbol relationships. Class
work may be supplemented with required aural/oral practice outside of
class. Notes: * Course meets SGR #4 or ** IGR #3.
ARAB 102 Introductory Arabic II * ** (COM) (G) ......................4
Continues with the introduction of the fundamental elements of Arabic
writing and vocabulary and Muslim culture. Emphasizes sound/symbol
relationships. Class work may be supplemented with required aural/oral
practice outside of class. Prerequisites: ARAB 101. Notes: * Course
meets SGR #4 or ** IGR #3.

ARCH (Architecture)
ARCH 101 Introduction to Architecture .................................3
An introduction to the architecture profession, architectural education
and training, an emphasis on current issues impacting architecture.
Additional ARCH course descriptions will be forthcoming subject to
BOR approval.

ART (Art)
ART 110 First Review ..........................................................0.5
An orientation course and an assessment of basic knowledge of Visual
Arts terminology and theory, including visual elements and design
principles. Required of all students entering into Visual Arts or Graphic
Design majors in their first semester. Students must register, attend, and
complete the First Review. Completion of the course will be a
satisfactory (S) or unsatisfactory (U) which is not calculated into the
student's GPA. If the work is unsatisfactory, ART 110 must be repeated
before taking ART 200 Portfolio Review Jury on Student Progress.
Notes: The course will be offered every semester.
ART 111 Drawing I * ** (COM) ..............................................3
Introduces various drawing concepts, media, and processes developing
perceptual and technical skills related to accurate observing and
drawing. Notes: * Course meets SGR #4 or ** IGR #3
ART 112 Drawing II * ** (COM) ............................................3
Emphasizes the continuing development of essential drawing skills and
perceptual abilities as drawing concepts, compositional complexity, and
creativity gain importance. Prerequisites: ART 111. Notes: * Course
meets SGR #4 or ** IGR #3
ART 121 Design I 2D * ** (COM) ...........................................3
Emphasizes the organization of visual elements and principles while
exploring creative thought processes through art theory, concepts,
material, and techniques. Notes: * Course meets SGR #4 or ** IGR #3
ART 122 Design II Color (COM) ............................................3
Introduction to color theory as it applies to basic 2D and 3D design
principles. Prerequisites: ART 121 or consent of instructor.
ART 123 Three Dimensional Design * ** (COM) ......................3
3-D visual problems solved through the organization of design
elements, utilizing three dimensional design language revealed through
its history, theory, aesthetics and materials. Notes: * Course meets SGR
#4 or ** IGR #3.
ART 200 Portfolio Review Jury on Student Progress ........................................... 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) .................................................. 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 consent of instructor. Notes: ** Course meets IGR #3.

ART 231 Painting I ** (COM) ........................................................................ 3
Initial approach to painting, employing history, materials, techniques and process in various media student work with concepts, objects or models. Prerequisites: ART 111 or consent of instructor. Notes: ** Course meets IGR #3.

ART 241 Sculpture I ** (COM) ...................................................................... 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. Prerequisites: ART 123 Notes: ** Course meets IGR #3.

ART 251 Ceramics I ** (COM) ........................................................................ 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 #3.

ART 281 Printmaking I ** (COM) ................................................................. 3
Introduces the history and techniques of relief and intaglio processes, lithography (section 1) and screen printing (section 2) as a primary means of expression. Notes: ** Course meets IGR #3.

ART 311 Figurative Drawing—Advanced ....................................................... 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 Drawing II, ART 122 Color, and ART 211 Drawing III—Figurative. Notes: Course can be repeated for additional credit.

ART 331 Painting II (COM) ........................................................................... 3
Emphasizes painting based on complex combinations of concepts, materials, techniques and processes using objects, models, and individual creativity. Prerequisites: ART 231.

ART 332 Painting—Intermediate Level .......................................................... 3
Continuation of Painting II. Emphasis on composition and expression. Prerequisites: ART 331.

ART 341 Sculpture II (COM) ......................................................................... 3
Continues Sculpture I as students explore individual concepts through various techniques and materials. Prerequisites: ART 241.

ART 342 Sculpture III (COM) ....................................................................... 3
Continues Sculpture II as students further explore individual concepts through various techniques and materials. Prerequisites: ART 341.

ART 351 Ceramics II (COM) ......................................................................... 3
Continues Ceramics I as students explore clay through individually creative application of concepts, techniques and glazing and firing methods. Prerequisites: ART 251.

ART 352 Ceramics—Intermediate Level ......................................................... 3
Continuation of Ceramics II. Emphasis on individual concepts developed through hand-building and/or throwing techniques. Also more advanced glazing and firing techniques, kiln maintenance, and studio operations. Prerequisites: ART 351 (minimum grade of “C”, or consent of instructor).

ART 381 Printmaking II (COM) .................................................................... 3
Continues Printmaking I as students further individualized their application of printing processes and media. Prerequisites: ART 281 or consent of instructor.

ART 382 Printmaking—Intermediate Level ................................................. 3
Continuation of Printmaking II. Creative use of advanced printmaking techniques and processes in relief, intaglio, and serigraphy. Prerequisites: ART 381.

ART 391 Independent Study ........................................................................... (1-3)
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 430 Watercolor ....................................................................................... 3
Generates creative experiences in developing and evaluating visual ideas expressed in watercolor through discussion and utilization of master artists’ watercolor approaches and techniques.

ART 431 Painting III (COM) ....................................................................... 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 consent of instructor.

ART 441 Sculpture—Advanced ................................................................... (3-9)
Continuation of Sculpture III. Advanced exploration of sculpture concepts. Prerequisites: ART 342. Repeatable up to 9 hours.

ART 451 Ceramics—Advanced ................................................................... (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” in ART 352, or consent of instructor. Notes: Repeatable up to 9 hours.

ART 452 Travel Studies ................................................................................. (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 (COM) ............................................................... (1-12)
A continuation of Printmaking III. Prerequisites: ART 382. Repeatable up to 9 hours.
ART 492 Topics (COM) ................................................................. (1-9)
ART 494 Internship (COM) .......................................................... (1-16)
ART 592 Topics ................................................................. (1-9)

ARTD (Art Design)

ARTD 201 Graphic Design I ......................................................... 3
An introduction to graphic design stressing theory and creative
development.

ARTD 202 Computer Graphics I .................................................... 3
A non-programming introduction to drawing, photo-imaging and page
layout design software emphasizing computer-generated design
projects.

ARTD 203 Introduction to Classical Animation I ................................. 3
This studio course focuses on: classical studio practices in cel
animation and traditional hand-drawn techniques, drawing the human
figure in motion, and a wide range of time-based theory and
contemporary applications using both analog and digital methods of
image capture and editing. Prerequisites: ART 111 Drawing I or
concurrent.

ARTD 301 Graphic Design II .......................................................... 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 ..................................................... 3
A non-programming intermediate computer graphics course focusing on
digital-imaging and page-layout applications for graphic designers.
Recommend concurrent enrollment in ARTD301. Prerequisites: ARTD
201, ARTD 202.

ARTD 303 Introduction to Classical Animation II ............................... 3
This studio course expands classical studio practices in cel
animation, in both traditionally and digitally drawn techniques, and studies the
human figure in motion, and a wide range of time-based theory and
contemporary applications using digital methods of image creation and
capture, compositing and editing. Prerequisites: ARTD 203 or
equivalent, ART 112 Drawing II or concurrent enrollment.

ARTD 351 Visual Communication I .................................................. 3
An intermediate Visual Communication course emphasizing theory and
practice that explores graphic design and digital prepress. Prerequisites: ARTD
301, ARTD 302. Corequisites: ARTD 352.

ARTD 352 Design Media I ............................................................. 3
Introduction to animation and web applications. Prerequisites: ARTD
301, ARTD 302 Corequisites: ARTD 351.

ARTD 403 Intermediate Animation .................................................. 3
The studio course develops and expands practices in cel-style
animation, stressing digitally drawn techniques and increases the study of
time-based theory and contemporary applications. Using digital
methods of image creation and capture, compositing and editing,
students produce an original short animation from concept to
completion. Prerequisites: ARTD 303 Classical Animation II or
equivalent, ART 112 Drawing II, ART 122 Color, and ART 211
Drawing III—Figurative. Notes: Course can be repeated for additional
credit.

ARTD 451 Visual Communication II: Senior Portfolio ............................... 3
An advanced Visual Communication course emphasizing portfolio
preparation and corporate identity study. Prerequisites: ARTD 351,
ARTD 352 Corequisites: ARTD 452.

ARTD 452 Design Media II ............................................................. 3
A continuation of Design Media I with emphasis on completed
multimedia and web page projects as portfolio works. Prerequisites:

ARTD 465 Advertising Design ........................................................... 3
A studio course in Advertising Design with an emphasis on concept
development, graphic design, research, organization, and presentation. (For
advertising majors crosslisted as MCOM 470.) Prerequisites: ARTD 351 or
MCOM 371.

ARTE (Art Education)

ARTE 414 K-12 Art Methods (COM) ................................................. (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 ...................................................... (1-3)

ARTH (Art History)

ARTH 100 Art Appreciation ** (COM) (G) ............................................. 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 #3.

ARTH 211 History of World Art I ** (COM) (G) ..................................... 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. Prerequisites: ARTH 100. Notes: *
Course meets SGR #4 or ** IGR #3.

ARTH 212 History of World Art II ** (COM) (G) .................................... 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. Prerequisites: ARTH 100. Notes: *
Course meets SGR #4 or ** IGR #3.

ARTH 310 History of United States Art and Architecture (AW) .................. 3
From colonial times to present. Prerequisites: ARTH 212

ARTH 320 Modern Art and Architecture Survey (AW) ............................. 3
Survey of Modern Art and Architecture from its beginnings in the 19th
century. Emphasis on international studies and cultural diversity.
Prerequisites: ARTH 212.

ARTH 490 Seminar (COM) (AW) .................................................... (1-3)

ARTH 492 Topics (COM) ................................................................ (1-6)
### AS (Animal Science)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites/Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS 100</td>
<td>Opportunities in Animal and Range Sciences</td>
<td>1</td>
<td>An overview of careers and opportunities in the Animal and Range Sciences. Crosslisted: RANG 100.</td>
<td></td>
</tr>
<tr>
<td>AS 101</td>
<td>Introduction to Animal Science</td>
<td>2</td>
<td>Adaptation, breeding, feeding, marketing, behavior, classification, growth, genetics, reproduction and animal health as they apply to farm animals. Corequisites: AS 101L.</td>
<td></td>
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<tr>
<td>AS 101L</td>
<td>Introduction to Animal Science Lab</td>
<td>1</td>
<td>Corequisites: AS 101.</td>
<td></td>
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<tr>
<td>AS 104</td>
<td>Introduction to Horse Management</td>
<td>2</td>
<td>Basic principles in caring for horses, and introduction to the horse industry. Topics include: horse breeds and registry; grooming and safe handling, care and feeding practices; vital signs, body condition scoring, pre-purchase examination, recognition of common lameness and health problems and facilities Corequisites: AS 104L.</td>
<td></td>
</tr>
<tr>
<td>AS 104L</td>
<td>Introduction to Horse Management Lab</td>
<td>0</td>
<td>Laboratory sessions will include involvement with the SDSU Horse Unit’s activities and field trips to nearby facilities. Corequisites: AS 104.</td>
<td></td>
</tr>
<tr>
<td>AS 105</td>
<td>Light (Saddle) Horses</td>
<td>1</td>
<td>Breeds of horses, gaits, grooming, equipment, diets; basic instruction with suitable equipment.</td>
<td></td>
</tr>
<tr>
<td>AS 105L</td>
<td>Light (Saddle) Horses Studio</td>
<td>0</td>
<td>Corequisites: AS 105.</td>
<td></td>
</tr>
<tr>
<td>AS 110</td>
<td>Equine Yearling Halter Training</td>
<td>1</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>AS 161</td>
<td>Companion Animals</td>
<td>2</td>
<td>Introduction to the nutrition, health, care and management of companion animals. Feeding and care of dogs and cats will be the primary focus.</td>
<td></td>
</tr>
<tr>
<td>AS 200</td>
<td>Introduction to Meats Judging</td>
<td>1</td>
<td>Identifying, judging and grading of carcasses and wholesale cuts; training in writing reasons. Prerequisites: Must have completed 12 credits.</td>
<td></td>
</tr>
<tr>
<td>AS 201</td>
<td>Introduction to Livestock and Wool Judging</td>
<td>1</td>
<td>Livestock selection criteria and terminology for beef, sheep, swine, horse and wool; performance selection parameters and EPD’s will be discussed. Prerequisites: AS 101 and sophomore standing.</td>
<td></td>
</tr>
<tr>
<td>AS 210</td>
<td>Equine Two-Year-Old Saddle Training</td>
<td>2</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>AS 213</td>
<td>Equine Health and Diseases</td>
<td>3</td>
<td>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. Prerequisites: AS 104. Corequisites: AS 213L.</td>
<td></td>
</tr>
<tr>
<td>AS 220</td>
<td>Equine Nutrition</td>
<td>3</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

Students are advised to check for most current course description information at: [https://wa-sdsu.state.sd.us/webadvisor/](https://wa-sdsu.state.sd.us/webadvisor/) For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

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AS 233 Applied Animal Nutrition ... 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 or DS 130 Corequisites: AS 233L.


AS 241 Introduction to Meat Science ... Survey of meat science and industry. Meat as a food, structure of muscle, conversion of muscle to meat, food safety, meat quality, color, cooking, grading, inspection, curing, and processing. AS 241L. Corequisites: AS 241L.


AS 285 Livestock Evaluation and Marketing ... Live and carcass evaluation of market animals. Methods of marketing and pricing livestock and carcasses Prerequisites: AS 101. Corequisites: AS 285L.


AS 291 Independent Study ... (1-12)

AS 322 Advanced Livestock Evaluation ... Advanced study of live and carcass evaluation of market animals. Type studies and selection for improvement in beef, sheep, and swine. Prerequisites: AS 200, AS 285.

AS 323 Advanced Animal Nutrition ... Functions of various nutrients; digestion and metabolism of nutrients by different animal species. Prerequisites: AS 233.

AS 332 Principles of Animal Breeding ... 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: BIOL 371.

AS 345 Value-Added Meat Products ... 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.

AS 345L Value-Added Meat Products Lab ... Corequisites: AS 345.

AS 350 Meat Product Safety and HACCP ... 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 Horse Production ... Feeding, breeding and management principles for horses. Prerequisites: AS 101, AS 104. Corequisites: AS 365L.

AS 365L Horse Production Lab ... Corequisites: AS 365.

AS 370 Stable Management ... 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.

234 Course Descriptions
AS 478 Swine Production 3
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. 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: 205 or 215 or consent of instructor.

AS 420 Equine Reproductive Management 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 104, AS 365.

AS 420L Equine Reproduction Management Lab 0
Corequisites: AS 420.

AS 433 Livestock Reproduction 3
Basic physiological processes of reproduction in domestic animals, factors affecting and methods of improving reproductive efficiency. Prerequisites: VET 223 Corequisites: AS 433L.

AS 433L Livestock Reproduction Lab 0
Corequisites: AS 433.

AS 441 Advanced Meat Science and Lab 3
In-depth study of muscle anatomy and physiology, postmortem metabolism, rigor mortis, meat proteins, meat quality, and meat tenderness. Prerequisites: AS 241.

AS 463-563 Agricultural Waste Management 3
Agronomically related pollution and waste problems. Regulations and techniques for collecting, handling, treating and disposing of agricultural wastes to minimize environmental pollution. Design and management of agricultural water systems. Prerequisites: instructor consent. Crosslisted: AST 463-563.

AS 474 Cow/Calf Management 3
Feeding, breeding and management principles of beef cattle production under farm and ranch conditions. Prerequisites: AS 101, AS 233. Corequisites: AS 474L.

AS 474L Cow/Calf Management Lab 0
Corequisites: AS 474.

AS 475 Feedlot Operations and Management 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.

AS 477 Sheep and Wool Production 3
Feeding, breeding and management principles for maximum production of meat and wool in farm and range flocks. Prerequisites: AS 101, AS 233. Corequisites: AS 477L.

AS 477L Sheep and Wool Production Lab 0
Corequisites: AS 477.

AS 478 Swine Production 3

AS 478L Swine Production Lab 0
Corequisites: AS 478.

AS 489 Current Issues in Animal and Range Sciences (AW) 1
Senior capstone course requiring students to conduct independent research of the scientific literature on a current issue in the animal and/or range science field, formulate a position based upon the current science, and communicate this position via written and oral presentations. Crosslisted: RANG 489.

AS 491-591 Independent Study 1
Corequisites: AS 478.

AS 492-592 Topics 1-6
Crosslisted: AS 491.

AS 494 Internship (1-12)
Prerequisites: AS 420.

AS 497 Cooperative Education (1-12)
Prerequisites: AS 241.

AS 541 Advanced Meat Science and Lab 3
Prerequisites: AS 241.

AS 563 Agricultural Waste Management 3
Crosslisted: AS 463.

AS 591 Independent Study 1-3
Crosslisted: AS 491.

AS 592 Topics 1-6
Crosslisted: AS 492.

AS 640 Metabolism 3

AS 711 Ruminology 3

AS 712 Ruminant Nutrition 3

AS 723 Population Genetics 3

AS 730 Endocrinology 3

AS 731 Experimental Procedures 3

AS 732 Advanced Physiology of Reproduction 3

AS 733 Vitamins and Minerals 3

AS 734 Protein and Energy Nutrition 3

AS 736 Monogastric Nutrition 3

AS 750 Animal Growth and Development 3

AS 753 Research Topics in Meat Science 3

AS 754 Research Topics in Meat Science 3

AS 790 Seminar 1

AS 798 Thesis 1

AS 898D Dissertation-PhD 1

AST (Agricultural Systems Technology)

AST 202 Construction Technology and Materials 2
Wood and concrete building materials; efficient construction procedures; hand tools, portable and stationary power tools; safe working practices. Corequisites: AST 202L.

AST 202L Construction Technology and Materials Lab 0

AST 210 Introduction to Biorenewable Products and Processing 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. Crosslisted: ABS 210 Introduction to Biorenewable Products and Processing.
AST 213 Ag, Industrial and Outdoor Power

3

Operation and maintenance of large and small spark ignition engines and diesel engines. Proper selection of tractors with respect to: horsepower, fuel efficiency, safety, cost of operation, traction and power train type will be covered. Corequisites: AST 213L.

AST 213L Ag, Industrial and Outdoor Power Lab

0

Corequisites: AST 213.

AST 225 Principles of Environmental Science and Engineering

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.

AST 252 Auto Mechanics

2

Engine tune-up, servicing and repairing engine accessories; testing valves, carburetors, ignition systems; installing new rings, valves, and general work required of mechanics Corequisites: AST 252L.

AST 252L Auto Mechanics Lab

0

Corequisites: AST 252.

AST 262 Environmental Safety and Society

2

Examination of appropriate safety procedures and practices for rural environments and associated occupations. Explorations of the social, economic and physical consequences of their implementations. Individual and societal responsibilities with regard to safe practices.

AST 273 Microcomputer Applications in Agriculture

3

Application of microcomputers for solving production agriculture problems. Development and application of agricultural software, data management for production agriculture applications and processes. Corequisites: AST 273L.

AST 273L Microcomputer Applications in Agriculture Lab

0

Corequisites: AST 273.

AST 298 Undergraduate Research/Scholarship

1-3

Corequisites: AST 303.

AST 303 Design Management Experience

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, GE 123. Corequisites: AST 303L.

AST 303L Design Management Experience Research

0

Corequisites: AST 303.

AST 313 Farm Machinery Systems Management

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.

AST 313L Farm Machinery Systems Management Lab

0

Corequisites: AST 313.

AST 333 Soil and Water Mechanics

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. Notes: ** Course meets IGR #1.

AST 333L Soil and Water Mechanics Lab

0

Corequisites: AST 333. Notes: ** Course meets IGR #1.

AST 342 Applied Electricity

3


AST 342L Applied Electricity Lab

0

Corequisites: AST 342.

AST 390 Seminar

1

Corequisites: AST 390.

AST 412-512 Hydraulic and Pneumatic Systems and Controls

3


AST 412L-512L Hydraulic and Pneumatic Systems and Controls Lab

0

Corequisites: AST 412-512.

AST 422-522 Environmental Control in Structures

2

Study of heat and moisture balance, gases, dust, and odors. Selection and design of fans, ducts, diffusers and efficient ventilation patterns Corequisites: AST 422L-522L.

AST 422L-522L Environmental Control in Structures Lab

0

Corequisites: AST 422-522.

AST 423 Rural Structures

3

Study-frame and post-frame design specifications and techniques. Snow and wind loads, truss and header design, mechanical properties of lumber and composite wood materials, and concrete reinforcement. Insulation, energy use, psychometrics and environmental control systems. Planning beef, dairy and swine livestock systems. Corequisites: AST 423L.

AST 423L Rural Structures Lab

0

Corequisites: AST 423.

AST 434 Landscape Irrigation

3

Design and management of landscape, turf, and golf irrigation systems. Characteristics of uniform and efficient irrigation systems. Estimating cost of installation and operation. Responsible resource utilization, conservation, and protection. Prerequisites: MATH 102 or 115 or 121 or 123 Corequisites: AST 434L.

AST 434L Landscape Irrigation Lab

0

Corequisites: AST 434.

AST 443 Food Processing and Engineering Fundamentals

3

Mechanics, refrigeration, heat transfer, instrumentation, and equipment operation as applied to materials, handling, storing, preserving, packaging and processing agricultural products. Corequisites: AST 443L.

AST 443L Food Processing and Engineering Fundamentals Lab

0

Corequisites: AST 443.

AST 452 Teaching Agricultural Systems Technology

2

Shop management, safety, shop plans, selection, care, and use of hand and power tools and equipment to be taken as part of student teaching block in Agricultural Education. senior in agricultural education. Offered first half of semester. Equivalent to AGED 454. Prerequisites: AST 202. Corequisites: AST 452L.

AST 452L Teaching Agricultural Mechanics Lab

0

Equivalent to AGED 454L. Corequisites: AST 452.

AST 460 Senior Design I Environmental Science/Engineering

1

Development of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report for preliminary design and plan for second semester final design project.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>AST 461</td>
<td>Senior Design II Environmental Science/Engineering</td>
<td>2</td>
</tr>
<tr>
<td>AST 462</td>
<td>Advanced Topics in Natural Resources Technology</td>
<td>2</td>
</tr>
<tr>
<td>AST 463-563</td>
<td>Agricultural Waste Management ** (AW)</td>
<td>3</td>
</tr>
<tr>
<td>AST 482-582</td>
<td>Advanced Farm Engines</td>
<td>2</td>
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<tr>
<td>AST 491</td>
<td>Independent Study</td>
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<td>AST 494</td>
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<td>AST 496</td>
<td>Field Experience</td>
<td>1-12</td>
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<tr>
<td>AST 497</td>
<td>Cooperative Education</td>
<td>1-12</td>
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<tr>
<td>AST 498</td>
<td>Undergraduate Research/Scholarship</td>
<td>1-3</td>
</tr>
<tr>
<td>AST 562</td>
<td>Advanced Topics in Natural Resource Technology</td>
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<tr>
<td>AST 791</td>
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</tr>
<tr>
<td>AST 792</td>
<td>Topics</td>
<td>1-4</td>
</tr>
</tbody>
</table>

AT (Athletic Training)

AT 164 Introduction to Athletic Training (COM) 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 2
Clinical application of course presented in AT 454-554. This course will enable the athletic training student to achieve an appropriate level of skill competency related to each area taught in AT 454-554 and according to the requirements established by the National Athletic Trainers' Association. Prerequisites: permission.

AT 372 Athletic Training Clinical Experience II 2
Clinical application of course content presented in AT 456-556. This course will enable the athletic training student 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. Instructor's consent required.

AT 373 Athletic Training Clinical Experience III 2
Clinical application of course content presented in AT 474-574. This course will enable the athletic training student to achieve an appropriate level of skill competency related to athletic rehabilitation according to the requirements established by the National Athletic Trainers' Association. Instructor's consent required. Prerequisites: permission.

AT 374 Athletic Training Clinical Experience IV 2
Clinical application of course content presented in AT 464-564. This course will enable the athletic training student to achieve an appropriate level of skill competency related to therapeutic modalities and according to the requirements established by the National Athletic Trainers' Association.

AT 441-541 Athletic Training Techniques I 3
This course is the first 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. Prerequisites: AT 441-541 includes: concepts and techniques relative to injury assessment and management, pathology of tissue injury and repair, mechanisms of injury, management of blood borne pathogens/soft tissue injuries/fragments, athletic injuries related to environmental stress and on/off field injuries/management related to the spine (including a posture and neurological assessment) Prerequisites: permission.

AT 442-542 Athletic Training Techniques II 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. These courses should be taken in sequence. Prerequisites: permission.

AT 443-543 Athletic Training Techniques III 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. Prerequisites: AT 443-543 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. Prerequisites: AT 442, permission.

AT 444-544 Athletic Training Techniques IV 3
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 athletes and others involved in physical activity. Prerequisites: permission.

AT 454-554 Athletic Injury Assessment-Lower Extremity 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.

AT 456-556 Athletic Injury Assessment-Upper Extremity 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.
AT 464-564 Therapeutic Modalities in Athletic Training ...................2
This course is designed to have the student develop a sound understanding of the use of modalities in the treatment of the injured athlete. The class will be taught through lectures and demonstrations and provide for practical experience.

AT 471 Fall Clinical Experience .............................................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. Graded S/U. Prerequisites: senior status and consent.

AT 474-574 Rehabilitation of Athletic Injuries (AW) ....................2
This course is designed to have the student develop a sound understanding of the use of exercise in the rehabilitation of the injured athlete. The class will be taught through lectures and demonstrations and provide for practical experience. Prerequisites: permission.

AT 490 Seminar .................................................................2

AVIA (Aviation Education)

AVIA 101 Introduction to General Aviation .........................1
Overview of the general aviation industry. This course provides 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 189 Airframe & Powerplant Course .........................1-40
The Airframe & Powerplant Course is a block of up to 40 credits awarded to students enrolling in the Aviation Maintenance Management specialization who have completed a Federal Aviation Administration (FAA) approved airframe & powerplant program. Students will be required to produce a FAA airframe & powerplant certificate as proof of successful completion. Notes: These credits will only apply to the aviation maintenance management specialization.

AVIA 200 Aviation Safety ....................................................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 ..................................................3
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: ABE 492.

AVIA 250 Advanced Flight Principles .................................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 270 Private Pilot Theory .............................................3
Aviation principles for the beginning aviator. 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.

AVIA 272 Private Pilot Flight I ............................................2
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, Stage 2 requirements of the Private Pilot Syllabus as a requirement for course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. Corequisites: AVIA 270.

AVIA 273 Private Pilot Flight II ..........................................3
Individual flight instruction for the FAA Private Pilot Certificate. Topics include cross-country flight and flight planning, night operations, lost and emergency procedures, basic instrument flight control, and basic Air Route Traffic Control and Airport Tower operations. Student will obtain, under the supervision of SDSU flight instructors, the FAA Private Pilot Single Engine Land Certificate, as a requirement of course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. Prerequisites: AVIA 270, AVIA 272.

AVIA 295 Practicum .........................................................1
Prerequisites: AVIA 370.

AVIA 300 Human Factors in Aviation ..................................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 topics 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 ......................................................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 ................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, ACCT 210.

AVIA 350 Tail-wheel Transition ...........................................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 371 Instrument Pilot Theory .................................................. 3
Theory preparing students for FAA Instrument Rating. Topics include navigation principles and procedures, air traffic control procedures, applicable FAA regulations, and meteorological considerations for flight in the airspace system. Students completing this course will successfully complete the FAA Instrument Pilot written examination as a requirement for course completion. Prerequisites: AVIA 273.

AVIA 372 Instrument Flight .......................................................... 2
Individual flight instruction for the FAA Instrument 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. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. Prerequisites: AVIA 273. Corequisites: AVIA 371.

AVIA 375 Commercial Pilot Theory .............................................. 4
Theory preparing students for commercial flight operations. Includes federal regulations, complex aircraft performance and operation, high performance aircraft characteristics, and safe operation of commercial aircraft in the US air transportation system. Student will successfully complete the FAA Commercial Pilot Certificate written examination as a requirement of course completion. Prerequisites: AVIA 371, AVIA 372. Corequisites: AVIA 373.

AVIA 376 Commercial Flight I ..................................................... 3
Individual flight instruction for the FAA Commercial Pilot Certificate. Student will complete, under the supervision of SDSU flight instructors, Stage IV requirements of the Commercial Pilot Syllabus of instruction as a requirement for course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. Prerequisites: AVIA 372 Corequisites: AVIA 370.

AVIA 377 Commercial Flight II .................................................... 3
Completion of individual flight instruction for the FAA Commercial Pilot Certificate. Students will obtain, under the supervision of SDSU flight instructors, the FAA Commercial Pilot Certificate as a requirement for course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. Prerequisites: AVIA 373.

AVIA 400 Air Transportation System .......................................... 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: senior standing.

AVIA 470 Flight Instructor Theory/Flight ..................................... 3
Defines the responsibilities and role of the professional flight instructor in the process of flight training and general aviation development. The student will study the market of new aspiring pilots and learn how to attract and retain flight students as permanent general aviation customers. This course focuses on the practical aspects of teaching adults to fly. Students completing this course are prepared to challenge the FAA Fundamentals of Instruction knowledge exam Prerequisites: AVIA 374.

AVIA 472 Certified Flight Instructor Instrument ........................... 1
This course prepares the flight instructor to teach students in an instrument flight environment Prerequisites: AVIA 470.

AVIA 473 Certified Flight Instructor Multi-Engine .......................... 1
This course prepares the flight instructor to teach students in an aircraft with two or more engines. Prerequisites: AVIA 470, AVIA 472.

AVIA 488 Student Flight Instruction ............................................ 3
Supervised flight instruction in a post-secondary setting. Prerequisites: AVIA 470 or equivalent FAA Flight Instructor Certification, AVIA 295, prior application, and permission of instructor.

AVIA 494 Internship ................................................................. 3

BADM (Business Administration)

BADM 260 Principles of Production and Operations Management .... 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, 101, 100T. Crosslisted: MNET 260

BADM 280 Personal Finance (COM) .......................................... 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 (COM) ........................................ 1-4

BADM 292 Topics (COM) .......................................................... 1-3

BADM 293 Workshop (COM) ..................................................... 1-3

BADM 310 Business Finance (COM) .......................................... 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.

BADM 334 Small Business Management (COM) ......................... 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 1 (COM) ........................................ 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 Crosslisted: ENTR 366

BADM 350 Legal Environment of Business (COM) .................. 3
This is a study of legal topics as they apply to the business environment. Topics include common and preferred stocks and corporate bonds, auto, life, and health insurance, home ownership, and will and estate planning.

BADM 351 Business Law (COM) ................................................ 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) ..................... 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.

Course Descriptions 239
Students are advised to check for most current course description information at: http://via-<studentid>.state.sd.us/webadvisor/ For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

**BADM 370 Marketing (COM)**
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. Crosslisted: ECON 370.

**BADM 406-506 Accounting for Entrepreneurs (COM)**

**BADM 411 Investments (COM)**
This course is a thorough study of the equity market including fundamental valuation techniques, asset allocation, the efficient markets hypothesis and its implications, portfolio theory, risk and return, the primary and secondary market mechanisms, security market indicators, and international investing. An overview of the bond market including bond valuation, duration, and bond portfolio management, and an introduction to options, futures, and forward contracts are provided. The vital roles of computer technology and electronic trading are also explored.

**BADM 412 Security Analysis (COM)**
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)**
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 AGECD 478.

**BADM 424 Operations Research (COM)**
This course looks at quantitative tools and methods used in the decision making process of business organizations. Linear programming, decision making under uncertainty, simulation, inventory models, and queuing models will be studied. Prerequisites: ECON 301, STAT 281.

**BADM 438-538 Entrepreneurship II (COM)**
This course focuses on the process of screening an opportunity, drafting a business plan, making under uncertainty, simulation, inventory models, and queuing models will be studied. Prerequisites: ECON 301, STAT 281.

**BADM 460 Human Resource Management (COM)**
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.

**BADM 474 Personal Selling (COM)**
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)**
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 MATH 281 or STAT 281. Crosslisted: ECON 476-576.

**BADM 482 Business Policy and Strategy (COM)**
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)**
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. Crosslisted: ENTR 483

**BADM 489 Business Plan Writing and Competition (COM)**
Students will write a business plan and present it to a panel of faculty and business community members. The top three business plan presenters will move on to a statewide competition. ENTR 489.

**BADM 490 Seminar (COM)**

**BADM 491 Independent Study (COM)**

**BADM 492 Topics (COM)**

**BADM 493-593 Workshop (COM)**

**BADM 494 Internship (COM)**
Prerequisites: BADM 310, BADM 350, BADM 360, BADM 370, and senior standing.

**BADM 498 Undergraduate Research/Scholarship (COM)**

**BIOL (Biology)**

**BIOL 101 Biology Survey I ** (COM)**

**BIOL 101L Biology Survey I Lab **(COM)**
Laboratory experience that accompanies BIOL 101. Corequisites: BIOL 101 Notes: ** Course meets IGR #1.

**BIOL 103 Biology Survey II * (COM)**
Study of energetics; plant growth; development and reproduction; animal structure and function. Intended for those not majoring in biology. Duplicate credit for BIOL 103 and BIOL 153 not allowed. Prerequisites: BIOL 101. Corequisites: BIOL 103L Notes: * Course meets SGR #6.

**BIOL 103L Biology Survey II Lab * (COM)**
Laboratory experience that accompanies Corequisites: BIOL 103 Notes: * Course meets SGR #6.

**BIOL 105 Human Biology **
Prepares 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. Duplicate credit for BIOL 105 and BIOL 101 or BIOL 151 not allowed. Notes: ** Course meets IGR #2.

** BIOL 142 Anatomy (COM) .................................................. 3
An elementary study of the gross structure of the human body.

** BIOL 151 General Biology I * (COM) ........................................ 4
The introductory course for those majoring in biology and microbiology. Presents the concepts or cell biology, evolution, heredity, molecular genetics and ecology. Corequisites: BIOL 151L. Notes: SGR #5.

** BIOL 151L General Biology I Lab * (COM) .................................. 0
Laboratory experience that accompanies Corequisites: BIOL 151. Notes: SGR #5.

** BIOL 153 General Biology II * .................................................. 4
A continuation of BIOL 151, the introductory course for those majoring in biology and microbiology. Presents the concepts of plant structure and function, energetics, and reproduction. Prerequisites: BIOL 151. Corequisites: BIOL 153L. Duplicate credit for BIOL 153 and 153 not allowed. Notes: SGR #5.

** BIOL 153L General Biology II Lab * (COM) .................................. 0
Laboratory experience that accompanies BIOL 153 Corequisites: BIOL 153. Notes: SGR #5.

** BIOL 200 Animal Diversity * .................................................. 4
Investigate all members of the animal kingdom comprising the living world focusing on diversity, systematics, reproductive patterns, principles of structure and function, ecology, and environmental relationships. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BIOL 200L. Notes: * Course meets SGR #5.

** BIOL 200L Animal Diversity Lab * (COM) .................................. 0
Laboratory experience that accompanies BIOL 200. Corequisites: BIOL 200.

** BIOL 202 Genetics and Organismal Biology .................................. 3
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. This course is designed to be taken in conjunction with BIOL 202L. Prerequisites: BIOL 153 or BIOL 103; CHEM 114-114L Corequisites: BIOL 202L.

** BIOL 202L Genetics and Organismal Lab .................................... 1

** BIOL 204 Genetics and Cellular Biology ..................................... 3
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. This course is designed to be taken in conjunction with BIOL 204L. One semester of Organic Chemistry is highly recommended. Prerequisites: BIOL 202.

** BIOL 204L Genetics and Cellular Lab ......................................... 1
Laboratory experience that accompanies BIOL 204 Corequisites: BIOL 204.

** BIOL 210 Human Physiology for Allied Health Professionals ............ 4
Lectures, laboratory work and demonstrations of human physiological processes both normal and abnormal.

** BIOL 210L Human Physiology for Allied Health Professionals Lab ....... 0
Laboratory experience that accompanies BIOL 210.

** BIOL 221 Human Anatomy (COM) ............................................ 4
Structures of various systems in the human body are presented as a structural basis for physiology. Corequisites: BIOL 221L.

** BIOL 221L Human Anatomy Lab (COM) ..................................... 0
Laboratory experience that accompanies BIOL 221. Corequisites: BIOL 221.

** BIOL 290 Seminar .................................................................... 1

** BIOL 291 Independent Study (COM) .......................................... (1-4)

** BIOL 311 Principles of Ecology **(COM) ........................................ 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. Notes: ** Course meets IGR #1.

** BIOL 311L Principles of Ecology Lab ......................................... 0

** BIOL 325 Physiology (COM) .................................................... 4
Basic cell physiology, nervous, hormonal and neuroendocrine control systems. Coordinated body functions. Prerequisites: BIOL 221. Corequisites: BIOL 325L.

** BIOL 325L Physiology Lab (COM) ............................................. 0

** BIOL 371 Genetics (COM) ....................................................... 4
Principles governing the nature, transmission and function of hereditary material with application to plants, animals, humans, and microorganisms.

** BIOL 373 Evolution (COM) .................................................... 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 **(G) ....................................................... 4
Ethical, social and public dilemmas in medicine and biology. PHIL 383. Prerequisites: BIOL 101 or BIOL 151. Notes: ** Course meets IGR #1 or IGR #3.

** BIOL 415-515 Mycology (COM) .................................................. 3
Comprehensive taxonomic survey of the kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship to fungi to human affairs Prerequisites: BIOL 151. Corequisites: BIOL 415L-515L Crosslisted: PS 415-515.

** BIOL 415L-515L Mycology Lab (COM) ........................................ 0

** BIOL 439-539 Biology of Aging .................................................. 4
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, physiology course.

** BIOL 440 Restoration Ecology .................................................. 4
Scientific principles involved in restoration of natural ecosystems on degraded and disturbed lands. An understanding of ecological principles is recommended prior to enrollment. LA 440. Corequisites: BIOL 440L.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

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<td>BIOL 453-553</td>
<td>Advanced Genetics</td>
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<td>BIOL 457-557</td>
<td>Ecological Modeling</td>
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<td>BIOL 458-558</td>
<td>Mathematical Models in Microbiology</td>
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<tr>
<td>BIOL 466-566</td>
<td>Environmental Toxicology and Contaminants</td>
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<td>BIOL 467-567</td>
<td>Parasitology</td>
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<td>BIOS 662</td>
<td>Advanced Molecular and Cellular Biology</td>
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<td>BIOS 663</td>
<td>Advanced Concepts in Infectious Disease</td>
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<td>BIOS 788</td>
<td>Master's Research Problems</td>
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**BIOS (Biological Sciences)**

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<td>BIOS 662</td>
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<td>BIOS 788</td>
<td>Master's Research Problems</td>
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**BIOT (Biotechnology)**

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**BIST (Biology Topics)**

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For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

**BOT (Botany)**

**BOT 127 Ethnobotany**

This course is designed to provide an overview of the traditional and current uses of plants native to the Great Plains. The course will help students: (1) Become familiar with standard field keys and to become competent with identification of plants of the region. (2) Learn to find and recognize 40-50 plant species of special significance to the indigenous peoples of the region. (This includes sight identification, knowledge of common plant habitats, preparation of herbarium collections, methods of propagation and modern horticultural practices.) (3) Participate in hands-on demonstrations of traditional and modern methods for the preparation and utilization of native plants (e.g., cooking, dye making) (4) Discover and share with the class in-depth information on one native plant species, not covered in the formal portion of the class.

**BOT 201 General Botany * (COM)**

A phylogenetic approach to the study of plant diversity and evolutionary relationships emphasizing structure and function of plant systems. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BOT 201L. Notes: SGR #5.

**BOT 201L General Botany Lab * (COM)**

Laboratory experience that accompanies BOT 201. Corequisites: BOT 201. Notes: * Course meets SGR #6.

**BOT 301 Plant Systematics (COM)**

Principles of phylogeny, classification, nomenclature, evolution; demonstrations, field study and laboratory practice in collection, preserving, and identifying plants. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BOT 301L.

**BOT 301L Plant Systematics Lab (COM)**

Laboratory experience that accompanies BOT 301. Corequisites: BOT 301.

**BOT 303 Forest Ecology and Management**

The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed. Corequisites: BOT 303L. Crosslisted: PR 303.

**BOT 303L Forest Ecology and Management Lab**

Corequisites: BOT 303. Crosslisted: PR 303L.

**BOT 327 Plant Physiology (COM)**

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. Corequisites: BOT 327L.

**BOT 327L Plant Physiology Lab (COM)**

Laboratory experience that accompanies BOT 327. Corequisites: BOT 327.

**BOT 405-505 Grasses and Grasslike Plants**

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. Prerequisites: BIOL 101 or BIOL 151. Corequisites: BOT 405L-505L.

**BOT 405L-505L Grasses and Grasslike Plants**

Laboratory experience that accompanies BOT 405-505. Corequisites: BOT 405-505.

**BOT 412-512 Morphology of Non-Vascular Plants**

A systematic survey of vascular plants that grow in wetland habitats, and a study of their adaptations to life in the water. Field and laboratory practice in identification and recognition of common aquatic plants. Prerequisites: consent of instructor. Corequisites: BOT 412L-512L.

**CA (Consumer Affairs)**

**CA 110 Individual Financial Literacy**

Introduction to personal financial management. Topics covered include banking, budgeting, and financial statements.
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<td>Individual Financial Management</td>
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<td>CA 150</td>
<td>Introduction to Consumer Affairs</td>
<td>2</td>
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<tr>
<td>CA 289</td>
<td>Consumers in the Market</td>
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<td>CA 291</td>
<td>Independent Study</td>
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<td>Topics</td>
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<tr>
<td>CA 300</td>
<td>Work Family Interface (AW)</td>
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<tr>
<td>CA 345</td>
<td>Foundations in Financial Management</td>
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<td>CA 350</td>
<td>Family Financial Management: Theory and Practice</td>
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<td>CA 340</td>
<td>Transition to the Professional World</td>
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<td>CA 412</td>
<td>Emerging Issues in Consumer Affairs</td>
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<td>CD 601</td>
<td>Organizing for Community Change</td>
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<td>CD 602</td>
<td>Community and Regional Economic Policy and Analysis</td>
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<td>CD 603</td>
<td>Community Natural Resource Management</td>
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<td>CD 604</td>
<td>Community Analysis</td>
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<td>CD 605</td>
<td>Principles &amp; Strategies of Community Change</td>
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<td>CD 606</td>
<td>Clusters and Regional Economic Development Workshop</td>
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<td>Introduction to Native Community Development</td>
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<td>CD 615</td>
<td>Wellness in Native Communities: Challenges and Opportunities</td>
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<td>CD 616</td>
<td>Youth Development in Native Communities</td>
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<td>CD 617</td>
<td>Role of Tribal colleges in Economic Development</td>
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<td>CD 620</td>
<td>Local Economic Analysis</td>
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<td>CD 623</td>
<td>Ecological Economics</td>
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<td>CD 624</td>
<td>Building Native Community and Economic Capacity</td>
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<td>CD 625</td>
<td>Land Development Planning</td>
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<td>Economic Development Strategies</td>
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<td>CD 633</td>
<td>Introduction to Environmental Law</td>
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<td>CD 634</td>
<td>Native American Natural Resource Management</td>
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Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.
Public land surveys, land subdivisions, land boundaries, land descriptions, measurement. Additional topics include; horizontal curves, traverse work methods such as triangulation, base line measurements. Prerequisites: CEE CD 642 Grant Writing 3

**CEE (Civil and Environmental Engineering)**

**CEE 106 Elementary Surveying**

Care and operation of instruments, concepts of horizontal and vertical control; measurement of horizontal distances, vertical angles and elevation differences. Coverage includes the definition and analysis of errors of measurement. Additional topics include: horizontal curves, traverse work and construction surveying. The course includes an introduction to the concepts and applications of GPS and GIS to surveying practice. Prerequisites: GE 121, take MATH 120 or MATH 115. Corequisites: CEE 106L.

**CEE 106L Elementary Surveying Lab**

Corequisites: CEE 106.

**CEE 208 Engineering Surveys**

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.

**CEE 208L Engineering Surveys Lab**

Corequisites: CEE 208.

**CEE 211 Materials of Construction**

(For non-CEE students.) Sources, applications, and properties of materials used in construction. Laboratory tests to determine these properties. Prerequisites: sophomore standing.

**CEE 216 Materials**

Basic structure of materials and its effect on material properties. Laboratory tests on materials, principles of concrete mixes. Prerequisites: CHEM 112. Corequisites: CEE 216L.

**CEE 216L Materials Lab**

Corequisites: CEE 216.

**CEE 225 Principles of Environmental Science and Engineering**

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.

**CEE 304 Land Surveying**

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 Photo Interpretation and Photogrammetry**

Engineering evaluation of aerial photographs, including topography, analysis of soils and surface drainage characteristics. Use of aerial photographs for location and design of highways, airports and other construction projects. Prerequisites: CEE 208. Corequisites: CEE 306L.

**CEE 306L Photo Interpretation and Photogrammetry Lab**

Corequisites: CEE 306.

**CEE 311 Structural Materials Lab**

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 Water Supply and Wastewater Engineering**

Analysis of water and wastewater quality, water demands and wastewater flows; water and wastewater treatment process concepts; preliminary design of unit processes for municipal water and wastewater treatment systems, impacts of regulations on system design. Prerequisites: CEE 225. Corequisites: CEE 323L.

**CEE 323L Water Supply and Wastewater Engineering Lab**

Corequisites: CEE 323.

**CEE 331 Fluid Mechanics Lab**

Measurement of properties of common fluids, and tests on fluids in motion. Corequisites: Corequisite Course EM 331.

**CEE 333 Hydrology**

Principles of hydrology. Components of the hydrological cycle including the impact of precipitation, evaporation, infiltration, ground water flow and surface runoff on flow routing, water availability, extreme flows and drainage systems. Prerequisites: STAT 281 or STAT 381.

**CEE 340 Engineering Geology**

From an Engineering prospective, the principles of physical and environmental geology; minerals, rocks, weathering, soils, hydrologic cycle, groundwater and frost will be explored and related to engineering applications such as mechanics of unconsolidated materials, slope failures, subsidence, pollution, waste disposal, and exploration methods. Prerequisites: CEE 216.

**CEE 340L Engineering Geology Lab**

Corequisites: CEE 340.

**CEE 346 Geotechnical Engineering (COM)**

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. Crosslisted: This course is crosslisted with MINE 346-346L.

**CEE 346L Geotechnical Engineering Lab (COM)**

Corequisites: CEE 346.

**CEE 353 Structural Theory (COM)**

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 284 or EM 215/MATH 321 or EM 215/MATH 321/ME 311.

**CEE 363 Highway and Traffic Engineering**

Highway administration, traffic characteristics, highway standards, drainage, geometric design, construction methods. Prerequisites: CEE 106.

**CEE 390 Seminar**

Corequisites: CEE 390.

**CEE 411-511 Bituminous Materials**

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. Prerequisites: CEE 216. Corequisites: CEE 411L-511L.

CEE 411L-511L Bituminous Materials Lab..........0
Corequisites: CEE 411-511.

CEE 422-522 Environmental Engineering Instrumentation........3
Analysis of water and waste water samples, using environmental laboratory instrumentation. Design of treatment facility process instrumentation and controls. Prerequisites: CEE 323 or consent. Corequisites: CEE 422L.

CEE 422L-522L Environmental Engineering Instrumentation Lab......0
Corequisites: CEE 422.

CEE 423-523 Municipal Water Distribution and Collection System Design..................0
Design of municipal water distribution and collection systems utilizing modern design tools including the utilization of software to simulate system behavior in response to environmental changes. Prerequisites: CEE 323 and EM 331.

CEE 424-524 Industrial Waste Treatment................................3
Characteristics and composition of industrial wastes, sampling and methods of analysis of these wastes and remedial measures for treatment and disposal. Prerequisites: CEE 323.

CEE 429-529 Solid Waste Engineering and Management.............3
Solid waste regulation and characterization. Design of disposal facilities, management of collection, transport, transfer, storage and disposal systems. Field trips to various disposal facilities required. Prerequisites: CEE 346. Corequisites: CEE 429L-529L.

CEE 429L-529L Solid Waste Engineering and Management Lab......0
Corequisites: CEE 429-529.

CEE 432 Hydraulic Engineering..........................3
Development of fundamental principles related to closed conduit flow, flow in open channels, open channel transitions and controls, introduction to wave mechanics, hydraulic structures. Prerequisites: EM 331.

CEE 435-535 Water Resources Engineering......................3
Topics related to water resources engineering including: multiple purpose river development, economic analysis of flood control measures, aspects of water law, advanced topics related to surface and ground water hydrology and administrative aspects of water resources planning. Prerequisites: CEE 225.

CEE 443-543 Matrix Analysis of Structures......................3
Theory and application of matrix methods in structural analysis. Prerequisites: CEE 353.

CEE 444-544 Precast Concrete Structures........................3

CEE 446-546 Advanced Geotechnical Engineering..................3
Development of a fundamental understanding of engineering properties of soils and the factors controlling their magnitude and changes with time and environment. Development of why this knowledge is important and how it can be used in the solution of geotechnical and geoenvironmental problems. Students enrolling in CEE 546 will be held to a higher standard than those enrolling in CEE 446. Prerequisites: CEE 346.

CEE 447-547 Foundation Engineering (COM)......................3
Application of the fundamental concepts of soil behavior to evaluation, selection, and design of shallow and deep foundation systems. Related topics such as temporary support systems for excavations and pile driving are also included. Students enrolling in CEE 547 will be held to a higher standard than those enrolling in CEE 447. Prerequisites: CEE 346. Corequisites: CEE 447L-547L.

CEE 447L-547L Foundation Engineering Lab........................0
Corequisites: CEE 447-547.

CEE 452-552 Prestressed Concrete............................3
Theory and design of prestressed concrete including pre-tensioning and post-tensioning. Prerequisites: CEE 456.

CEE 455 Steel Design........................................3
Limited states in design and the probabilistic nature of loads and resistance. Design of members subjected to tension, axial compression, bending and combined forces. Elementary concepts of frame design with an introduction to secondary effects. The importance of structural stability in design is stressed. Design of basic bolted and welded connections. Prerequisites: CEE 353. Corequisites: CEE 455L.

CEE 455L Steel Design Lab....................................0
Corequisites: CEE 455.

CEE 456 Concrete Theory and Design (COM)......................3

CEE 457 Indeterminate Structures (COM).........................3
Analysis of indeterminate structures by classical and matrix methods. The classical methods are the force method, the slope-deflection equations and the moment-distribution method. The classical methods also are used to determine influence lines for indeterminate structures. Stiffness matrices for truss and beam elements are derived and used to analyze trusses, beams and frames. Prerequisites: CEE 353. Corequisites: CEE 457L.

CEE 457L Indeterminate Structures Lab (COM)..................0
Laboratory experience that accompanies CEE 457. Corequisites: CEE 457.

CEE 458-558 Design of Timber Structures........................3
Gravity and lateral loads, physical and mechanical properties of wood, properties of dimension lumber and glued laminated timber, design of beams and columns, properties of structural wood panels. Design of sheathing, diaphragms and shearwalls. Design of connections. Prerequisites: CEE 353.

CEE 459-559 Advanced Structural Mechanics......................3
Review of principal moments of inertia; relationship of plane stresses and strains; use of rosettes; shear center; unsymmetrical bending; theories of failure; curved beams and closed rings; thick-walled cylinders; beams on continuous elastic support, miscellaneous topics in structural analysis. Prerequisites: CEE 353. Corequisites: CEE 459L-559L.

CEE 459L-559L Advanced Structural Mechanics Lab.............0
Corequisites: CEE 459-559.

CEE 460 Senior Design I Environmental Science/Engineering.........1
Development of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report for preliminary design and plan for second semester final design project.

CEE 461 Senior Design II Environmental Science/Engineering.......2
Completion of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report, and plans for final design project.

CEE 464 Civil Engineering Capstone Design I (COM).............1
Content will include major engineering design experience integrating fundamental concepts of mathematics, basic science, engineering science,
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For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

CEE 465 Civil Engineering Capstone Design II (COM) (AW) .................................. 2
Content will include major engineering design experience integrating fundamental concepts of mathematics, basic science, engineering science, engineering design, communications skills, humanities, and social science. Prerequisites: CEE 464.

CEE 467-567 Transportation Engineering............................................................ 3
Engineering principles in various common modes of transportation. Prerequisites: CEE 363.

CEE 472-572 Geosynthetics............................................................... 3
Detailed study of the types of geosynthetic materials used in environmental, geotechnical, and transportation engineering as well as how they are used and manufactured. Particular emphasis will be placed on erosion control, landfill, transportation, drainage, filtration and reinforcement applications. Students enrolling in CEE 572 will be held to a higher standard than those enrolling in CEE 472. Prerequisites: CEE 346.

CEE 482 Engineering Administration............................................................. 3

CEE 483 Municipal Engineering................................................................. 3
Design/construction of municipal facilities including subdivisions, drainage, streets, water and wastewater systems, and solid waste disposal. Duties and responsibilities of city engineer. Prerequisites: CEE 208. Corequisites: CEE 483L.

CEE 483L Municipal Engineering Lab.......................................................... 0
Corequisites: CEE 483.

CEE 490 Seminar (COM)................................................................................... (1-3)
CEE 491 Independent Study (COM).............................................................. (1-3)
CEE 492-592 Topics (COM)............................................................................ (1-3)
CEE 494 Internship........................................................................................... (1-6)
CEE 496 Field Experience.................................................................................. (1-6)
CEE 497 Cooperative Education....................................................................... (1-6)

CEE 620 Water Treatment Plant Design.......................................................... 3
CEE 620L Water Treatment Plant Design Lab................................................. 0
CEE 623 Advanced Sanitary Engineering......................................................... 3
CEE 624 Biological Principles of Environmental Engineering......................... 3
CEE 625 Environmental Engineering Planning................................................ 3
CEE 626 Physical/Chemical Principles of Environmental Engineering................ 3
CEE 626L Physical/Chemical Principles of Environmental Engineering............. 0
CEE 629 Waste Water Treatment Plant Design................................................. 3
CEE 632 Advanced Foundation Engineering..................................................... 3
CEE 633 Open Channel Hydraulics.................................................................... 3
CEE 634 Fluvial Hydraulics.............................................................................. 3
CEE 639 Geotechnical Testing........................................................................... 3
CEE 639L Geotechnical Testing Lab................................................................. 0
CEE 654 Advanced Design of Steel Structures.................................................. 3
CEE 656 Advanced Reinforced Concrete Design............................................ 3

CEE 664 Highway Capacity Analysis.............................................................. 3
CEE 690 Seminar.............................................................................................. 0
CEE 692 Topics................................................................................................. (1-3)
CEE 702 Advanced Civil and Environmental Engineering............................... (1-13)
CEE 702L Advanced Civil and Environmental Engineering Lab....................... 0
CEE 721 Environmental Engineering............................................................... 3
CEE 722 Hazardous/Toxic Waste Disposal....................................................... 3
CEE 722L Hazardous/Toxic Waste Disposal Lab............................................... 0
CEE 724 Land Treatment of Wastes.................................................................. 3
CEE 724L Land Treatment of Waste Lab.......................................................... 0
CEE 733 Water Resources Engineering........................................................... 3
CEE 734 Surface Water Quality Model............................................................. 3
CEE 737 Hydraulic Design................................................................................ 3
CEE 738 Advanced Hydraulics.......................................................................... 3
CEE 738L Advanced Hydraulics Lab................................................................. 0
CEE 749 Structural Dynamics........................................................................... 3
CEE 756 Reinforced Masonry Design............................................................... 3
CEE 762 Pavement Management and Rehabilitation......................................... 3
CEE 762L Pavement Management and Rehabilitation Lab.................................. 0
CEE 765 Pavement Design................................................................................ 3
CEE 769 Design Steel and Concrete Bridges..................................................... 3
CEE 787 Research............................................................................................. (1-9)
CEE 788 Engineering Research or Design Paper............................................. (1-3)
CEE 790 Seminar.............................................................................................. 1
CEE 791 Independent Study............................................................................... (1-3)
CEE 792 Topics................................................................................................. (1-3)
CEE 792L Topics Lab....................................................................................... 0
CEE 798 Thesis.................................................................................................. (1-7)

CEX (Center of Excellence)

CEX 491 Independent Study (COM)................................................................. (1-4)
CEX 494 Internship (COM).............................................................................. 1-8

CHEM (Chemistry)

CHEM 106 Chemistry Survey * (COM)............................................................. 3
A one-semester survey of chemistry. Not intended for those needing an extensive chemistry background. Introduction to the properties of matter, atomic structure, bonding, stoichiometry, kinetics, equilibrium, states of matter, solutions, and acid-base concepts. Prerequisites: MATH 101 or higher (102, 115, 120, 121, 123, 125, 281, or placement). Corequisites: CHEM 106L. Notes: SGR #5.

CHEM 106L Chemistry Survey Lab * (COM).................................................... 1
Laboratory designed to accompany CHEM 106. Corequisites: CHEM 106. Notes: * Course meets SGR #6.
CHEM 108 Organic and Biochemistry *(COM) ................................................. 4
A survey of the chemical principles important to biological systems. For students who do not plan to take additional chemistry. Not a prerequisite for any 200 level and above course. Prerequisites: CHEM 106. Corequisites: CHEM 108L. Notes: * Course meets SGR #6.

CHEM 108L Organic and Biochemistry Lab *(COM) ......................................... 1
Laboratory designed to accompany CHEM 108. Prerequisites: CHEM 106L. Corequisites: CHEM 108. Notes: * Course meets SGR #6.

CHEM 112 General Chemistry I *(COM) .......................................................... 3
An introduction to the basic principles of chemistry for students needing an extensive background in chemistry (including chemistry majors, science majors, and pre-professional students). Completion of a high school course in chemistry is recommended. Corequisites: CHEM 112L and MATH 102. Notes: * Course meets SGR #6.

CHEM 112L General Chemistry I Lab *(COM) ................................................ 1
Laboratory designed to accompany CHEM 112. Corequisites: CHEM 112. Notes: * Course meets SGR #6.

CHEM 114 General Chemistry II *(COM) ........................................................ 3
A continuation of CHEM 112. An introduction to the basic principles of chemistry for students needing an extensive background in chemistry. Prerequisites: CHEM 112, MATH 102 or higher (115, 120, 121, 123, 125, 281) Corequisites: CHEM 114L. Notes: * Course meets SGR #6.

CHEM 114L General Chemistry II Lab *(COM) ............................................. 1
Laboratory designed to accompany CHEM 114. Prerequisites: CHEM 112L Corequisites: CHEM 114. Notes: * Course meets SGR #6.

CHEM 115 Atomic and Molecular Structure .................................................. 3
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. This course is intended for students majoring in chemistry or biochemistry, or those who have been admitted to the honors college. Completion of a high school course in chemistry is required. 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. Corequisites: CHEM 115L and MATH 102.

CHEM 115L Atomic and Molecular Structure Lab ....................................... 1
Laboratory course to accompany CHEM 115. Corequisites: CHEM 115.

CHEM 120 Elementary Organic Chemistry .................................................. 3
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. Notes: * Course meets SGR #6.

CHEM 120L Elementary Organic Chemistry Lab ....................................... 1
Notes: * Course meets SGR #6.

CHEM 127 Structures and Function of Organic Molecules .............................. 3
A continuation of CHEM 115 which introduces the chemistry of carbon containing compounds. It is the second course in a four-course sequence. Topics covered include: nomenclature, functional group analysis, stereochemistry, acid/base chemistry, organic chemistry reactions, mechanistic explanation of electron movement, and thermochemistry of organic reactions. Chemistry, Biochemistry, and Honors College students only. CHEM 326 may not be substituted for CHEM 127 unless explicitly allowed by the department head. Prerequisites: CHEM 115. Corequisites: CHEM 127L.

CHEM 127L Structure and Functions of Organic Molecules Lab ....................... 1
Laboratory designed to accompany CHEM 127. Prerequisites: CHEM 115L. Corequisites: CHEM 127.

CHEM 229 Transformations of Organic Molecules ........................................ 3
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. Prerequisites: CHEM 127. Corequisites: CHEM 229L.

CHEM 229L Transformations of Organic Molecules Lab ................................ 1
Laboratory designed to accompany CHEM 229. Prerequisites: CHEM 127L. Corequisites: CHEM 229.

CHEM 237 Energetics of Molecular Systems .................................................. 3
Advanced general chemistry principles with calculus based mathematical manipulations are covered in this course, specifically related to equilibrium, nuclear chemistry, quantitative kinetics and thermodynamics, and descriptive inorganic chemistry. It is the fourth course in a four-course sequence. Completion of calculus II (MATH 125) is strongly suggested. CHEM 114/114L may not be substituted for CHEM 237/237L unless explicitly allowed by the department head. Prerequisites: CHEM 229 and MATH 123. Corequisites: CHEM 237L.

CHEM 237L Energetics of Molecular Systems Lab ........................................ 1
Laboratory course designed to accompany CHEM 237. Prerequisites: CHEM 229L. Corequisites: CHEM 237.

CHEM 326 Organic Chemistry I *(COM) ....................................................... 3
A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. Prerequisites: CHEM114, minimum 4 credits. Corequisites: CHEM 326L.

CHEM 326L Organic Chemistry I Lab *(COM) .............................................. 1
Laboratory designed to accompany CHEM 326. Corequisites: CHEM 326.

CHEM 328 Organic Chemistry II *(COM) ..................................................... 3
A continuation of CHEM 326. A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. Prerequisites: CHEM 326. Corequisites: CHEM 328L.

CHEM 328L Organic Chemistry II Lab *(COM) ........................................... 1
Laboratory designed to accompany CHEM 328. Prerequisites: CHEM 326L. Corequisites: CHEM 328.

CHEM 332 Analytical Chemistry *(COM) ..................................................... 3
Fundamental concepts and principles of quantitative chemical analysis including quantitative chemical equilibrium calculations and error analysis applied to the evaluation of experimental measurements and data. Prerequisites: CHEM 114, minimum 4 credits. Corequisites: CHEM 332L.

CHEM 332L Analytical Chemistry Lab *(COM) ............................................. 1
Laboratory to accompany CHEM 332. Also, laboratory to accompany CHEM 230 at SDSMT. Prerequisites: CHEM 114L. Corequisites: CHEM 332.

CHEM 342 Physical Chemistry I *(COM) (AW) ............................................. 3
A study of the fundamental principles governing the behavior of chemical systems. Topics covered in the two-semester sequence include thermodynamics, chemical kinetics, quantum mechanics, and statistical mechanics. Prerequisites: CHEM 332 and MATH 125. Corequisites: CHEM 342L.

CHEM 342L Physical Chemistry I Lab *(COM) ............................................. 1
Laboratory designed to accompany CHEM 342. Corequisites: CHEM 342.
CHEM 344 Physical Chemistry II (COM).................................3
A continuation of Physical Chemistry I. A study of the fundamental
principles governing the behavior of chemical systems. Prerequisites:
CHEM 342. Corequisites: CHEM 344L.

CHEM 344L Physical Chemistry II Lab ................................1
Corequisites: CHEM 344.

CHEM 348 Biophysical Chemistry ......................................3
A study of the fundamental principles governing the physical chemistry of
biological systems. Topics covered include the forces governing protein
and nucleic acid stability, the thermodynamics of protein folding and protein-
ligand interactions, bioenergetics, kinetics of biochemical reactions,
biochemical membranes and membrane transport. The physical basis of protein
purification, probing protein-ligand interactions, and the determination of
macromolecular structure is also discussed. CHEM 342-342L and 344-344L
may be taken as electives but may not be substituted for CHEM 348-348L.
Prerequisites: MATH 123, PHYS 211-211L, PHYS 213-213L, CHEM 332-
332L, CHEM 464-464L. Corequisites: CHEM 348L.

CHEM 348L Biophysical Chemistry Lab ................................1
Fundamental physical chemistry principles and techniques of physical
chemistry used in studying biomacromolecules and biological systems.
Prerequisites: PHYS 211L, PHYS 213L, CHEM 332L, and CHEM-464L.
Corequisites: CHEM 348.

CHEM 381 Techniques in Clinical Laboratory Technology ............3
Introduction to techniques used in the clinical laboratory including
urinalysis, hematology and clinical chemistry. Corequisites: CHEM 382L.

CHEM 382L Techniques in Clinical Laboratory Technology I Lab ......1
Corequisites: CHEM 382.

CHEM 383 Techniques in Clinical Laboratory Technology II (AW) ....3
Continuation of 382. Prerequisites: CHEM 382-382L.

CHEM 416-516 Chemical Communication Skills .........................2
Searching chemical literature by traditional and computer assisted methods;
techniques of written and oral communication of chemical information.

CHEM 434 Instrumental Analysis (COM) ...............................3
Theory and application of modern instrumental methods to chemical
analysis. Prerequisites: CHEM 328, CHEM 332, CHEM 344. Corequisites:
CHEM 434L.

CHEM 434L Instrumental Analysis Lab (COM) ........................1
Laboratory designed to accompany CHEM 434. Corequisites: CHEM 434.

CHEM 452 Inorganic Chemistry (COM) ..................................3
Theoretical and periodic aspects of inorganic chemistry. Prerequisites:
CHEM 332 Corequisites: CHEM 452L.

CHEM 452L Inorganic Chemistry Lab (COM) ..........................1
Synthesis and characterization of inorganic compounds. Prerequisites:
CHEM 328L. Corequisites: CHEM 452.

CHEM 464 Biochemistry I (COM) .........................................3
A study of the fundamental principles governing the behavior of biochemical
systems. Topics covered in the two semester sequence include the study of
proteins, lipids and carbohydrates, metabolic processes, biological oxidation
and reduction processes, molecular aspects of DNA replication and repair
pathways, transcription and RNA processing, and protein translation.
Prerequisites: CHEM 328.

CHEM 465 Biochemistry II (COM) ........................................3
A continuation of CHEM 464. Prerequisites: CHEM 464.

CHEM 466 Laboratory Methods in Biochemistry .......................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) ..........................(3-4)
Examination of the chemistry and chemical processes of the environment,
including the role of chemistry in current environmental issues.
Prerequisites: CHEM 326

CHEM 491 Independent Study (COM) .................................(1-9)
CHEM 492 Topics (COM) .............................................(1-4)
CHEM 494 Internship (COM)(AW).................................(1-4)
CHEM 498 Undergraduate Research/Scholarship (COM) (AW)....(3-6)
Prerequisites: Instructor's consent.

CHEM 601 Intermolecular Interactions & Phases of Matter ............3
Prerequisites: Instructor's consent.

CHEM 642 Advanced Physical Chemistry ..........................3

CHEM 643 Advanced Analytical Chemistry ..........................3

CHEM 645 Organic & Biochemistry .................................3
Prerequisites: Instructor's consent.

CHEM 654 Advanced Inorganic Chemistry ..........................3

CHEM 662 Principles of Biochemistry ..............................(2-5)

CHEM 691 Independent Study .........................................(1-4)

CHEM 710 Chemistry Instruction in Higher Education ..........2

CHEM 711 Chemical Education Research .........................2

CHEM 713 Qualitative Research Methods .........................2

CHEM 714 Quantitative Research Methods ..................2

CHEM 715 Chemistry Instruction in Higher Education ........2

CHEM 716 Polymer Chemistry Lab ..................................0

CHEM 724 Structural Determination of Organic Compounds ....3

CHEM 724L Structural Determination of Organic Compounds Lab ....0

CHEM 725 Polymer Chemistry ..................................4

CHEM 725L Polymer Chemistry Lab ..................................0

CHEM 726 Advanced Organic Chemistry II ......................3

CHEM 728 Bioorganic Chemistry ............................3

CHEM 731 Advanced Environmental Chemistry ..................3
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

CHEM 732 Aquatic Chemistry ........................................... 3
CHEM 733 Atmospheric Chemistry ........................................... 3
CHEM 734 Environmental Surface Chemistry ......................... 3
CHEM 735 Analytical Spectroscopy ........................................... 3
CHEM 736 Chromatography and Separation .......................... 3
CHEM 738 Electroanalytical Chemistry .................................... 3
CHEM 741 Quantum Chemistry I ........................................... 3
CHEM 742 Quantum Chemistry II ........................................... 3
CHEM 744 Chemical Thermodynamics ..................................... 3
CHEM 745 Statistical Thermodynamics ..................................... 3
CHEM 748 Chemical Kinetics ............................................. 3
CHEM 752 Descriptive Inorganic Chemistry ....................... 3
CHEM 752L Descriptive Inorganic Chemistry Lab ................... 0
CHEM 753 Organometallic Chemistry .................................... 3
CHEM 764 Biochemistry I ............................................... 3
CHEM 766 Biochemistry II ............................................. 3
CHEM 767 Biophysical Chemistry ....................................... 3
CHEM 768 Plant Biochemistry ............................................ 3
CHEM 772 Seminar Preparation ........................................... 1
CHEM 781 Bioinorganic Chemistry ....................................... 3
CHEM 788 Research Problems in the Chemistry Classroom .......... 1-2
CHEM 790 Seminar ....................................................... 1
CHEM 792 Topics .......................................................... (1-6)
CHEM 798 Thesis ........................................................... (1-7)
CHEM 898D Dissertation PhD ............................................ (1-12)

CHRD (Counseling and Human Resource Development)
CHRD 430-530 Gender Issues in Counseling ........................ 3
CHRD 471-571 Gerontology Issues in Counseling ................. 3
CHRD 601 Introduction to Professional Issues & Ethics ........ 1
CHRD 602 Research and Evaluation in Counseling ............... 3
CHRD 610 Developmental Issues in Counseling .................... 3
CHRD 651 Mental Health and Personality Development ........ 3
CHRD 661 Theories of Counseling ....................................... 3
CHRD 690 Seminar ....................................................... (1-3)
CHRD 691 Independent Study ............................................ (1-3)
CHRD 692 Topics .......................................................... (1-3)
CHRD 693 Workshop ....................................................... (1-3)
CHRD 700 Public School Administration ............................ 3
CHRD 701 Professional Issues & Ethics II ......................... 1
CHRD 706 Counseling the Victim ........................................ 3
CHRD 713 Administration and Management of Mental Health Organizations ........................................... 3
CHRD 716 Human Resource Management in Business and Industry .................................................. 3
CHRD 721 School Counseling ........................................... 3
CHRD 722 Administration and Management of School Counseling Programs .................................................. 3
CHRD 723 Counseling the Family ......................................... 3
CHRD 731 Multicultural Counseling and Human Relations .......... 3
CHRD 736 Appraisal of the Individual ................................. 3
CHRD 742 Career Counseling and Planning ........................ 3
CHRD 751 Overview of Rehabilitation & Mental Health Counseling .................................................. 3
CHRD 752 Medical and Psychological Aspects of Disability .... 3
CHRD 753 Case Management Principles and Plan Development .... 3
CHRD 755 Clinical Diagnosis and Treatment Planning ........... 4
CHRD 756 Counseling the Addictive Client .......................... 3
CHRD 757 Advanced Testing: Intellectual Assessment ............ 3
CHRD 759 Advanced Testing: Personality Assessment ............. 3
CHRD 766 Group Counseling ............................................ 3
CHRD 770 Student Development: Theory and Practice .......... 3
CHRD 771 Student Personnel Services ................................. 3
CHRD 772 Administration and Leadership in Student Affairs .... 3
CHRD 785 Pre-Practicum .................................................. 3
CHRD 786 Counseling Practicum .......................................... (3-5)
CHRD 787 Group Counseling Practicum .................................. 3
CHRD 788 Research Problems in Counseling and Guidance ...... (1-3)
CHRD 791 Independent Study ............................................ (1-3)
CHRD 794 Internship ...................................................... (2-6)
CHRD 798 Thesis ........................................................... (1-6)

CHST (Chemistry Topics)
Graduate Courses
CHST 601 Chemistry Topics for Educators .......................... (1-12)

CJUS (Criminal Justice)
CJUS 201 Introduction to Criminal Justice * ** (COM) ............ 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 or ** IGR #3.
CJUS 203 Policing in a Free Society (COM) ......................... 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.

250 Course Descriptions
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Description</th>
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<tbody>
<tr>
<td>CJUS 331</td>
<td>Civil Rights and Liberties</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 412</td>
<td>Criminal Prosecution and Defense (COM)</td>
<td>3</td>
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<tr>
<td>CJUS 431</td>
<td>Criminal Law (COM)</td>
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<td>CJUS 433</td>
<td>Criminal Procedure (COM)</td>
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<td>CJUS 436</td>
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<tr>
<td>CJUS 491-591</td>
<td>Independent Study (COM)</td>
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<tr>
<td>CJUS 492-592</td>
<td>Topics (COM)</td>
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<tr>
<td>CM 101</td>
<td>Introduction to Construction</td>
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<tr>
<td>CM 200</td>
<td>Construction Management Off Campus Orientation</td>
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<tr>
<td>CM 210</td>
<td>Construction Surveying</td>
<td>3</td>
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<tr>
<td>CM 210L</td>
<td>Construction Surveying Lab</td>
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<tr>
<td>CM 216</td>
<td>Construction Materials</td>
<td>3</td>
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<tr>
<td>CM 230</td>
<td>Applied Construction</td>
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<tr>
<td>CM 232</td>
<td>Cost Estimating</td>
<td>3</td>
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<tr>
<td>CM 320</td>
<td>Construction Soil Mechanics</td>
<td>3</td>
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<tr>
<td>CM 321</td>
<td>Strength of Materials</td>
<td>3</td>
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<tr>
<td>CM 332</td>
<td>Building Construction Methods and Systems</td>
<td>3</td>
</tr>
<tr>
<td>CM 333</td>
<td>Mechanical, Electrical, Plumbing Systems</td>
<td>3</td>
</tr>
<tr>
<td>CM 335</td>
<td>Construction Structures</td>
<td>3</td>
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<tr>
<td>CM 353L</td>
<td>Construction Structures Lab</td>
<td>0</td>
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<tr>
<td>CM 360</td>
<td>Building Design and Evaluation Concepts</td>
<td>3</td>
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<td>CM 374</td>
<td>Heavy Construction Methods and Systems</td>
<td>3</td>
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<tr>
<td>CM 400</td>
<td>Risk Management and Construction Safety</td>
<td>3</td>
</tr>
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**Course Descriptions 251**
CM 410 Construction Project Management and Supervision
The study of the ethical, procedural, and supervisory concepts involved with the execution of a construction project. Prerequisites: senior standing, CM 332, CM 333, CM 374.

CM 420 Construction Student Competitions
Participation and related preparation for student competitions hosted by regional, national, and international industry organizations. Prerequisites: Instructor Approval.

CM 421 Commercial Building Inspection and Plan Checking
Preparation to become a certified building inspector or building plan checker/reviewer by studying the prevailing building code. Prerequisites: CM 332

CM 430 Building Environmental Certification
Preparation for accreditation by a recognized authority in the efficient construction of buildings.

CM 443 Construction Planning and Scheduling
Planning and scheduling construction projects. Both manual methods and computer programs will be used to schedule activities, control cost and manage resources. Prerequisites: CM 332, CM 374.

CM 452 Heavy and Highway Estimating
The study of the procedures and methods required to determine the value of heavy, highway, and site development projects with associated bidding procedures. Prerequisites: ACCT 211, CM 232, CM 374.

CM 455 Residential Construction
The study of the residential construction process including design, documentation, and construction. Prerequisites: Prerequisites: GE 123, CM 353.

CM 460 Sustainable Building Systems Concepts and Analysis
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

CM 473 Construction Law and Accounting (AW)
The study of the application of legal, contractual, and generally accepted accounting principles to the construction industry. Prerequisites: BADM 350. Notes: Registration Restriction: Senior Standing or instructor approval.

CM 475 Engineering Administration

CM 485 Site Development and Feasibility Analysis
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.

CM 485L Site Development and Feasibility Analysis Lab
Corequisites: CM 485.

CM 491 Independent Study
CM 492 Topics
CM 493 Workshop
CM 494 Internship
CM 497 Cooperative Education

CSC (Computer Science)

CSC 105 Introduction to Computers (COM)
Overview of computer applications with emphasis on word processing, spreadsheets, database, presentation tools and internet-based applications.

CSC 110 Introduction to Ethical/Legal Issues of Information Technology
This course explores key social, cultural, legal, ethical and policy issues associated with the use of technology in modern society. The course will focus on the sociological features of technology, influences on society and culture, the legal and ethical issues of various technological-based activities, and the current status of policies governing technology use in our global society.

CSC 112 Principles of Internet Applications
This course provides students with a conceptual and practical understanding in the effective and critical use of the Web and other Internet services through the application of problem-based activities. Includes a general grounding in interacting with the Internet, using e-mail, news and web-resources, basic HTML, as well as social and security issues.

CSC 130 Visual Basic Programming (COM)
Fundamentals of programming using Visual Basic. Focus on problem solving, visual design, and programming concepts. Topics include sequence, selection, repetition, procedures, and functions.

CSC 150 Computer Science I (COM)
An introduction to computer programming. Focus on problem solving, algorithm development, design, and programming concepts. Topics include sequence, selection, repetition, functions, and arrays.

CSC 150L Computer Science I Lab (COM)
Accompanies CSC 150.

CSC 205 Advanced Computer Applications (COM)
This course covers advanced topics in word processing and spreadsheet applications such as macros, advanced functions, graphics, merging, linking, and transferring data. The course emphasizes the efficient use of software packages. Operating systems/environment topics are also addressed. Prerequisites: CSC 105 or consent.

CSC 213 Introduction to Programming W/Fortran
FORTRAN programming for engineering and computer science majors. Prerequisites: MATH 115.

CSC 218 Introduction to C/C++/Unix for Engineers
This is an introductory course on the topics of structured programming using C/C++. Topics covered will be top-down design, step-wise refinement, functions, and decisions statements, loops, arrays, pointers, dynamic allocation of memory, use of external files, character strings, macros, introduction to objects and structures.

CSC 241 Computer Logic
An introduction to computer operating principles, computer based number systems, and Boolean logic gates. A more advanced study of Boolean logic and Boolean algebra. An introduction to simplifying Boolean functions using Boolean algebra and other simplification techniques. An introduction to computer logic design and analysis. Prerequisites: CSC 150.

CSC 250 Computer Science II (COM)
Problem solving, algorithm design, standards of program style, debugging and testing. Extension of the control structures and data structures of the high-level language introduced in CSC 150. Elementary data structures and basic algorithms that include sorting and searching. Topics include more advanced treatment of functions, data types such as arrays and structures, and files. Prerequisites: CSC 150.
CSC 291 Independent Study (COM) .................................................. (1-5)
CSC 292 Topics (COM) ................................................................ (1-5)
CSC 294 Internship ........................................................................ (1-6)
CSC 300 Data Structures (COM) ..................................................... 3
A systematic study of data structures and the accompanying algorithms used in computing problems; structure and use of storage; methods of representing data; techniques for implementing data structures; linear lists; stacks; queue; trees and tree traversal; linked lists; and other structures. Prerequisites: CSC 250.

CSC 303 Ethical and Security Issues in Computing (G) .................... 3
This course will cover the code of ethics adopted by the major computer science societies and the consequences of violating the code. Laws affecting computer and information processing as well as the varied interpretations of those laws will be covered. It also provides students with a fundamental knowledge of computer security including security terminology, software and hardware vulnerabilities, and encryption. Notes: ** Course meets IGR #3.

CSC 314 Assembly Language (COM) ................................................. 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) ............... 3
A course in computer organization with emphasis on the hierarchical structure of computer systems. Covers such topics as: components of computer systems and their configuration, design of basic digital circuits, the microprogram level, the conventional machine level, the operating system level, assembly language, address modes, interpreters/translators, computer arithmetic. Prerequisites: EE 245-245L.

CSC 325 Management Information Systems (COM) .......................... 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 330 Cobol I (COM) .................................................................... 3
Introduction to structured COBOL programming: input, output, and reformatting; arithmetic program design; report writing; intrinsic functions; conditional branching; condition-names; iteration; control breaks; program maintenance; validity checking; and interactive programming. Prerequisites: CSC 150 or CSC 213.

CSC 331 Cobol II (COM) .................................................................... 3
Advanced structured COBOL programming with arrays; table look-ups; subprograms; sequential file processing; sorting and merging; indexed file processing; text manipulations; debugging; and on-line applications. Prerequisites: CSC 330.

CSC 346 Object Oriented Programming (COM) ................................. 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 ................................ 3
The study of macros, subroutines, subroutine linkage, conditional assembly, input-output, interrupt processing, assemblers, loaders and linkers. Prerequisites: CSC 300, CSC 314.

CSC 391 Independent Study (COM) .................................................. (1-5)
CSC 392 Topics (COM) ..................................................................... (1-5)

CSC 422 GUI Programming (COM) .................................................. 3
This course is event-driven graphical user interface (GUI) programming will cover topics such as C++ programming for Windows. Prerequisites:

CSC 433-533 Computer Graphics (COM) ......................................... 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, MATH 125.

CSC 445 Introduction to Theory of Computation (COM) ................... 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, MATH 316.

CSC 446 Compiler Construction ....................................................... 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, CSC 445.

CSC 447-547 Artificial Intelligence (COM) ....................................... 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 ..................................................... 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.

CSC 456 Operating Systems (COM) ............................................... 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, CSC 314.

CSC 461 Programming Languages (COM) ....................................... 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) .......................................... 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 ................................................. 3
Analysis of current and future computer networks with emphasis on the OSI model. Local and wide area networks. TCP/ISNA, 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.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

CSC 480 Methods of Teaching Computer Science...............................3
The principles, methods and theories in teaching computer science subjects to secondary school students will be studied. Prerequisites: CSC 300.

CSC 481 Systems Analysis (COM).......................................................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).................................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 485 Software Engineering II (AW)..............................................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 490 Seminar (COM).................................................................(1-3)
CSC 491 Independent Study (COM).................................................(1-4)
CSC 492-592 Topics (COM)............................................................(1-5)
CSC 494 Internship (COM)..............................................................(1-8)
CSC 496 Field Experience (COM)....................................................(1-3)
CSC 497 Cooperative Education....................................................(1-6)
CSC 498 Undergraduate Research/Scholarship (COM).........................(1-6)
CSC 601 Accelerated Computer Science Fundamentals.........................3
CSC 630 Principles of Data Base System Design................................3
CSC 643 System Analysis and Design..............................................3
CSC 705 Design and Analysis of Computer Algorithms.........................3
CSC 710 Structure and Design of Programming Languages..................3
CSC 720 Theory of Computation.....................................................3
CSC 740 Management Information Systems.....................................3
CSC 750 Recent Advances in Parallel Process................................3
CSC 770 Software Engineering Management....................................3
CSC 787 Research........................................................................(1-9)
CSC 788 Research Report/Design Paper.........................................(1-2)
CSC 790 Seminar...........................................................................1
CSC 791 Independent Study............................................................(1-3)
CSC 792 Topics.............................................................................(1-3)
CSC 798 Thesis............................................................................(1-7)

CSCA (Computer Science Application)

CSCA 120 Introduction to Microsoft Windows..................................1
Basic information needed for effective computer use is presented. Course content includes: working with menus, directories and subdirectories, creating, naming, deleting and batch files. Techniques for working with the hard disk are included. P, permission of instructor.

CSS (Computational Science and Statistics)

CSS 701 Foundations of Applied Mathematics (COM)..........................3
CSS 702 Elements of Computational Science (COM)..........................3
CSS 703 Statistical Modeling and Computing (COM).........................3
CSS 704 Computing Paradigms (COM)............................................3
CSS 890 Seminar in Computational Science and Statistics (COM).......1
CSS 891 Independent Study Computational Science and Statistics (COM)......................................................(1-3)
CSS 892 Topics in Computational Science and Statistics (COM).......(1-3)
CSS 898 Dissertation Research (COM)............................................(1-36)
CSS 899 Dissertation Sustaining (COM)..........................................0

CTE (Career and Technical Education)

CTE 105 Principles of Career and Technical Education.......................(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:.........................................................(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.....................................................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.....................................................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..................................................(1-3)
Coordinated work experience in an occupation related to a specific vocational education content area. Prior application is required. Prerequisites: permission of instructor.

CSC 251 Occupational Analysis......................................................(1-3)
An analysis breakdown of a trade or occupation to determine units for instruction.

CTE 295 Practicum...........................................................................1
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/ For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

CTE 301 Mentorship/Practicum III ....................................................... 2
This class is the third class in a two-year mentorship/practicum program designed for new faculty in their second year in secondary and postsecondary 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 and 202. Emphasis will be placed on developing leadership skills and abilities in the education profession.

CTE 302 Mentorship/Practicum IV ....................................................... 2
This course is the fourth class in a two-year mentorship/practicum program designed for new faculty in their second year in secondary and postsecondary 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, 202 and 301. Emphasis will be placed on developing leadership skills and abilities in the education profession.

CTE 308 Occupational Internship II ................................................... 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 311 Career and Technical Adult Education .................................. 1-3
Objectives, principles, methods and practices to be used in the teaching of adult classes. Emphasis will be placed upon classes for retraining and upgrading adults in skilled or technical occupations.

CTE 312 Technical Education ........................................................... 1-3
Technical education programs are studied in regard to their development, curriculum content, equipment, and staff requirements.

CTE 313 Organization and Coordination of Cooperative Educational Programs .......................................................... 3
The development of an effective cooperative relationship between school based coordinator and the business/industrial sponsor; the selection, orientation and training of sponsors; reporting and record keeping; the evaluation and selection of students; and program evaluation.

CTE 314 The Special Needs Learner ................................................... 3
Introduction to vocational education for learners with special needs. Historical and current issues and trends, including review of existing programs.

CTE 352 Instructional Resources Development .................................. 2
Study of instructional materials, sources and application; emphasis on principles for making resources useful to CTE teachers. Construction and application of materials required.

CTE 371 Laboratory Organization and Management ............................... 1-3
The basic elements of organizing and managing a vocational program, the selection of equipment, faculty development, legal responsibilities of laboratory instructors, inventory, storage control and safety.

CTE 380 Technical Industrial Training ............................................. 5-6
(Registration is initiated by submitting CTE Form No. 149 to the Coordinator of Vocational Technical Teacher Education.) Manufacturers, industries, and service firms offer many special technical courses that are available to vocational trade, industrial and technical instructors or prospective instructors. Some of these courses are suitable for college credit, and upon approval credit may be granted. The following guidelines are used to award such credit: 1. The student must submit CTE Form No. 149 to receive approval for registration. 2. The student must make all the necessary arrangements with the industrial firm offering the industrial training session.

3. Credit is awarded on the basis of one-half credit for twenty hours of attendance.

CTE 405 Philosophy of Career and Technical Education ...................... 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 ................................................ 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 419-519 Methods of Teaching .................................................... 3
This course will feature lesson presentation and methods of delivering instruction in vocational technical education. The course is designed for individuals who are presently teaching in the vocational technical education field. Content builds upon existing knowledge of the program participants in order to increase comprehension of the field of vocational technical education. Instructional techniques appropriate for vocational technical education are developed based on models identified in competency-based or performance-based education. Special emphasis is placed upon teaching methods which coexist with a performance-based philosophy. Participants are actively involved in current teaching assignments which creates an enormous opportunity for reflection and debate.

CTE 420-520 Entrepreneurship in Career and Technical Education .......... 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 entrepreneur 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 .......................................................... 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 .............. 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 438 Industrial Safety ............................................................... 2
Industrial accident prevention considering the nature and extent of the accident problem. Emphasis upon the development of a safety program for instructional programs and industrial management.
CTE 440-540 Curriculum Design in Career and Technical Education (AW) .......................................................... 3
A development process of selection, organization and management of instructional content and supplemental materials; development of objectives; the integration of teaching/learning strategies; implementation of evaluation measures.

CTE 457 Instructional Technology .......................................................... 2
Visual aids used in vocational and technical education and their relationship to the various occupational areas.

CTE 463-563 Technical and Industrial Experience ..................................(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 472 Public Relations and Advisory Committee ..................................(1-3)
Techniques and media for communicating with the public information on different types of advisory committees used in vocational technical education and industrial firms.

CTE 474 Industrial Conference Leading .................................................(1-3)
Methods, procedures and techniques utilized by the vocational technical educator in arranging and conducting conferences with industrial personnel.

CTE 475 Vocational Youth Organizations ..............................................(1-3)
Methods of establishing organizations at the local level.

CTE 477 Job Analysis and Employee Evaluation ..................................... 3
Analyzing jobs and evaluating employee performance for purposes of training, promotion, salary adjustments, and establishing hiring criteria.

CTE 488 Student Teaching ................................................................. 8
Full time off-campus supervised teaching in a secondary or post-secondary Vocational Technical setting for 10 weeks. Student teaching fee assessed.

CTE 490 Seminar .............................................................................(2-3)
CTE 491-591 Independent Study .........................................................(1-4)
CTE 492-592 Topics ........................................................................(1-3)
CTE 700 Technology in Career Education ............................................ 3
CTE 720 Entrepreneurship Career Education ....................................... 3
CTE 731 Administration and Supervision of Career Education ............... 3
CTE 751 Curriculum in Home Economics Education .............................. 2
CTE 761 Evaluation in Home Economics ............................................. 2
CTE 776 Curriculum in Agricultural Education ..................................... 2
CTE 788 Research Problems ................................................................(1-2)
CTE 790 Seminar .............................................................................(1-3)
CTE 791 Independent Study ...............................................................(1-3)
CTE 792 Topics ..............................................................................(1-3)
CTE 794 Internship ..........................................................................(1-3)
CTE 798 Thesis ............................................................................... 5

DANC (Dance)

DANC 130 Dance Fundamentals .......................................................... 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. Notes: ** Course meets IGR #3.

DANC 131 Movement 1 ................................................................. 2
The basic principles of human movement as they apply to the individual, the actor, the dancer and the musician.

DANC 132 Movement 2 ................................................................. 2
The advanced principles of human movement as they apply to the individual, actor, dancer and the musician. Prerequisites: DANC 131.

DANC 230 Technique 1 ................................................................. 1
Technical dance training in basic structures of Classical Ballet and Jazz.

DANC 231 Technique 2 ................................................................. 1
Technical dance training in basic structures of Modern and Tap dance.

DANC 240 Multicultural Dance Activities .................................................. 1
Folk dances from around the world, including cultural background, costumes, skill differences for elementary, middle and high school, or adults. Notes: ** Course meets IGR #3.

DANC 241 Creative Movement for Children ........................................... 2
Theory and laboratory class which studies how creative movement activities meet special needs of children. Emphasis is on a problem-solving approach. Consideration is given to developmental stages of children, basic elements of dance, creative movement, games, rhythms and manipulatives, plus teaching methods, structuring and presenting lessons.

DANC 241L Creative Movement for Children Lab .................................. 0

DANC 330 Technique 3 ................................................................. 1
Technical dance training in intermediate and advanced structures of Classical Ballet and Jazz. Prerequisites: DANC 230 or Instructor Consent.

DANC 331 Technique 4 ................................................................. 1
Technical dance training in intermediate and advanced structures of Modern and Tap Dance. Prerequisites: Technique 2 or Instructor Consent.

DANC 420 Techniques of Teaching Dance .................................................. 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, DANC 240.

DANC 430 Composition and Choreography ................................................. 1
Methods of creating dance choreography. Prerequisites: DANC 230 and 231, or DANC 330 and 331, or Instructor Consent.

DANC 431 Dance for the Musical Theatre .................................................. 1
Dance exploration in many genres of dance for the musical theatre. Prerequisites: DANC 230 and 231, or DANC 330 and 331, or Instructor Consent.

DANC 491 Independent Study .........................................................(1-3)
Prerequisites: consent.

DANC 492 Topics ............................................................................(1-5)

DCOM (Communication Disorders)

DCOM 112 Voice and Articulation ......................................................... 3
The study of vocal production and phonology/articulation.
DS (Dairy Science)

DS 101 Opportunities in Dairy Science .............................................. 1
An introduction to the diversity of Dairy Science and career opportunities; resume development and goal setting for a profession in Dairy Science. Fall.

DS 130 Introduction to Dairy Science .................................................. 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. Fall and Spring. Corequisites: DS 130L.

DS 130L Introduction to Dairy Science Lab ......................................... 0
Corequisites: DS 130.

DS 202 Dairy Products Judging .............................................................. 1
Quality of milk, cheddar cheese, ice cream, and cottage cheese. Spring.

DS 212 Dairy Cattle Evaluation .............................................................. 2
Fundamental aspects of evaluation of dairy cattle for type; type classification of dairy cattle. Spring

DS 231 Dairy Foods .............................................................................. 3
Survey of the dairy processing industry. Principles of processing and manufacturing dairy foods including quality standards and nutritive quality. For non-dairy manufacturing majors only. Fall.

DS 301 Dairy Microbiology ................................................................. 3
Quality control problems during the production and processing of fluid milk for human use, including role of regulatory agencies and quality standards. Odd Spring. Prerequisites: MICR 231. Corequisites: DS 301L.

DS 301L Dairy Microbiology Lab ......................................................... 0
Corequisites: DS 301.

DS 311 Dairy Cattle Judging ................................................................. 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. Fall. Prerequisites: DS 212.

DS 313 Technical Control of Dairy Products I ......................................... 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. Fall. Prerequisites: DS 130, CHEM 106 or CHEM 112. Corequisites: DS 313L.

DS 313L Technical Control of Dairy Products I Lab ............................. 0
Corequisites: DS 313.

DS 321 Dairy Product Processing I ....................................................... 5
Principles and practices in assembling, receiving, processing, and packaging milk and cream for beverage use, frozen milk and cream, concentrated milks, and ice cream. Sanitation procedures. Odd Fall. Prerequisites: DS 130, DS 313 (or concurrent), and MICR 231, or consent. Corequisites: DS 321L.

DS 321L Dairy Product Processing I Lab ............................................... 0
Corequisites: DS 321.

DS 322 Dairy Product Processing II ..................................................... 5
Processing or manufacturing of relatively nonperishable dairy products such as butter, cultured milks, cheese, dried milk, casein, lactose, and anhydrous milk fat. Even Spring. Prerequisites: DS 130, DS 313, and MICR 231, or consent. Corequisites: DS 322L.

DS 322L Dairy Product Processing II Lab .............................................. 0
Corequisites: DS 322.

DS 401 Advanced Dairy Products Judging ........................................... (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. Fall. Prerequisites: DS 202 and written consent. Maximum of 3 credits.

DS 411 Dairy Breeds and Breeding ....................................................... 3
Origin, genetics, characteristics, and development of major breeds of dairy cattle. Breeding and selection based on pedigrees, production records, type classification, and sire analysis. Odd Fall. Prerequisites: DS 130. Corequisites: DS 411L.

DS 411L Dairy Breeds and Breeding ...................................................... 0
Corequisites: DS 411.

DS 412 Dairy Farm Management ....................................................... 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. Odd Spring. Prerequisites: DS 130 or consent. Corequisites: DS 412L.

DS 412L Dairy Farm Management Lab ............................................... 0
Corequisites: DS 412.

DS 413-513 Physiology of Lactation .................................................... 3
Anatomy, physiology, and biochemistry of mammary glands. Factors affecting quality and quantity of milk. Even Spring.

DS 421 Dairy Plant Management .......................................................... 3
General costs, buildings, equipment, merchandising, personnel, other management factors of dairy processing plants. Even Fall. Prerequisites: junior standing or consent.

DS 422 Technical Control of Dairy Products II .................................... 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. Spring. Prerequisites: DS 313 and CHEM 108 or 120. Corequisites: DS 422L.

DS 422L Technical Control of Dairy Products II Lab ............................ 0
Corequisites: DS 422.

DS 432 Dairy Cattle Feeding ................................................................. 3
Practical considerations involved in feeding dairy cattle. Even Fall. Prerequisites: AS 233.

DS 442-542 Dairy Product and Process Development ......................... 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. Odd Spring. Prerequisites: DS 313.

Course Descriptions 257
practitioners. Prerequisites: ECE/HDFS 227 with a minimum grade of "C."

Course Descriptions

HDFS 227. Observation and guidance in preschool under supervision of professional
development as it changes behavior and shapes the individual. Crosslisted:
ECE 227 Human Development I: Childhood

Knowledge and understanding of human beings through study of methods for teaching health, safety and nutrition in early childhood.

Corequisites: ECE 150L.

Consideration given to biological growth, social, emotional and intellectual
development beginning at conception continuing to adolescence.

Corequisites: ECE 150.

ECE 150 Early Experience

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.

ECE 150L Early Experience Clinical Experience

Corequisites: ECE 150.

ECE 220 Health, Safety and Nutrition of Young Child

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.

ECE 227 Human Development I: Childhood

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. Crosslisted: HDFS 227.

ECE 228 Guidance with Young Children

Observation and guidance in preschool under supervision of professional practitioners. Prerequisites: ECE/HDFS 227 with a minimum grade of "C."

ECE 228L Observation and Participation in Early Childhood Lab (COM)

Accompanies ECE 228.

ECE 292 Topics

Best practices in preschool pedagogy will be studied. Material applications for preschool (0-5 years) classrooms and lesson planning will be examined. NOTE: Credit will not be given for both ECE 351 and ECE 361.

ECE 351L Methods and Materials in Preschool Education Lab

Current practices in preschool curriculum including curriculum models, ethical standards, and principles of developmentally appropriate practice inclusive of all children from birth to age 5. NOTE: Credit will not be given for both ECE 352 and ECE 362.

ECE 352 Preschool Curriculum

Current practices in preschool curriculum including curriculum models, ethical standards, and principles of developmentally appropriate practice inclusive of all children from birth to age 5. NOTE: Credit will not be given for both ECE 352 and ECE 362.

ECE 352L Lab: Preschool Curriculum

Laboratory component to ECE 352.

ECE 361 Methods and Materials/Early Childhood Education (AW)

Applications for early childhood classrooms will be studied. Inquiry-based, hands-on methods which are both developmentally appropriate and inclusive for all children from ages three to eight. Prerequisites: ECE/HDFS 227, ECE 228. Corequisites: ECE 361L. Notes: Admission to PS II concurrent with 362.

ECE 361L Methods Lab

Corequisites: ECE 361.

ECE 362 Early Childhood Education Curriculum

Curriculum models that have evolved from historical and theoretical bases will be studied. Rules and regulations, ethical standards, as well as principles of developmentally appropriate practice, that are inclusive for all children from ages three to eight, will be discussed. An emphasis will be placed on inquiry-based practices and multilingual perspectives. Prerequisites: Admission to PS II; ECE/HDFS 227, ECE 228; concurrent with 361. Corequisites: ECE 362L.

ECE 362L Curriculum Lab

Corequisites: ECE 362.

ECE 364 Parent/Child Relationships in a Professional Context

The focus of this course is effective communication with families through a parent education needs assessment, parent education programs, conferencing, parental involvement in schools, newsletter development, and interaction with other agencies for referral purposes. Crosslisted: HDFS 364. ECE/HDFS 227.

ECE 365 Emergent Literacy in Birth to Eight Education

This course will focus on language and emergent literacy 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 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 and home literacy.

ECE 365L Emergent Literacy in Birth to Eight Education Lab

ECE 371 Infant and Toddler: Developmentally Appropriate Practices (COM)

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
programs including identification of community needs, evaluation and
This course is designed as an orientation to the cooperative elementary
ECE 441 Professional Issues in Child and Family Studies 3
Prerequisites: ECE 228, ECE 361, ECE 362.
ECE 468 Early Intervention in Family-Centered Practices 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 227, ECE 228. Corequisites: ECE 488.
ECE 470 Early Childhood Inclusion Strategies 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.
ECE 473 Orientation to K-3 Student Teaching 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 488-3.
ECE 475 Pedagogy and Guidance in Primary Grade Classrooms 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.
ECE 478 Integrated Curriculum in Birth-to-Age Eight Education 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: senior standing, admission into PS 111, consent of instructor. Corequisites: ECE 488-3.
ECE 480 Travel Studies 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.
ECE 487 Orientation to Child and Family Services Practicum 1
Orientation to Child and Family Services Practicum will identify expectations of 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: Jr. standing, to be taken prior to Practicum course: ECE 495.
ECE 488 Student Teaching (COM) 1-12
Students preparing for teaching in the early childhood setting will observe, participate, and teach under the supervision of the regular classroom teacher in an approved early childhood setting. An additional “Mandatory Fee” applies to this course.
ECE 491-591 Independent Study 1-3
ECE 492-592 Topics 1-3
ECE 495 Practicum (COM) 1-12
Croslisted: ECE 412
ECE 512 Kindergarten Education 3
Crosslisted: ECE 412
ECE 543 Child Inquiry 2
ECE 591 Independent Study 1-3
Croslisted: ECE 491
ECE 592 Topics 1-3
ECE 601 Orientation in Graduate Study 1
ECE 645 Contemporary Perspectives in Early Childhood Education 3
ECE 665 Parent Education: Theory and Issues 3
ECE 676 Early Childhood Education Administration and Practicum 1-4
ECE 700 Research Methods 4
ECE 700L Research Methods Studio 0
ECE 711 Child Development Theory and Application 3
ECON 101 Global Economy *(G)..................................................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. (Not a substitute for ECON 201 or ECON 202.) Notes: * Course meets SGR #3

ECON 201 Principles of Microeconomics *(COM)..........................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. Prerequisites: MATH 102 or 115 or 120 or 121 or 123 or 125 or 281. Notes: * Course meets SGR #3

ECON 202 Principles of Macroeconomics *(COM) *(G)..................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. Prerequisites: MATH 102 or 115 or 120 or 121 or 123 or 125 or 281. Notes: * Course meets SGR #3

ECON 292 Topics........................................................ (1-4)

ECON 301 Intermediate Microeconomics (COM)...........................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, MATH 121.

ECON 302 Intermediate Macroeconomics (COM)............................3
Intermediate macroeconomics examines more advanced macroeconomic theories, then uses them to understand the determinants of national output, prices, interest rates, and employment under various conditions, and to evaluate effectiveness of monetary and fiscal policies. Prerequisites: ECON 202; MATH 102 or 115 or 120 or 121 or 123 or 125 or 281.

ECON 330 Money and Banking (COM)........................................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, ECON 202.

ECON 370 Marketing..............................................................3
Marketing: market organization and cooperative marketing functions; pricing; efficiency, and role and management of marketing activities. Prerequisites: ECON 201 or ECON 202 Crosslisted; BADM 370.

ECON 372 Introduction to Resource and Environmental Economics....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. Prerequisites: ECON 101 or ECON 201 or permission. Crosslisted: AGE 372.

ECON 403-503 History of Economic Thought (COM)........................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).........................(2-3)
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, ECON 202.

ECON 420-520 Economics of the Public Sector................................3
(offered on demand) 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.

ECON 423 Statistics II (COM)..................................................3
Statistics II studies probability, point and interval estimation, test of hypotheses, multiple regression and correlation, chi-square analysis, and analysis of variance. Prerequisites: MATH 121, STAT 281.

ECON 428 Mathematical Economics............................................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, MATH 121.

ECON 431-531 Managerial Economics.........................................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 301, STAT 281.

ECON 433 Public Finance (COM) *(AW)........................................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, ECON 202.

ECON 440-540 Economics of International Sector..........................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, ECON 330 or consent.

ECON 450-550 Industrial Organization (COM)...............................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, ECON 202.

ECON 453 Risk Management-Personal and Business.......................3
Protection against or adaptation to risk and uncertainty. Principles and practices of fire, casualty, surety and life insurance and other risk management techniques.
For the most current course description information, please visit:
https://wa-sdsu.state.sd.us/webadvisor/

**ECON 460-560 Economic Development (G)** 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, ECON 202, or
consent.

**ECON 467 Labor Law and Economics** 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, junior standing.

**ECON 472-572 Resource and Environmental Economics** *(COM)* 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.
Notes: ** Course meets IGR #1.

**ECON 476-576 Marketing Research** 3
Marketing problems confronting agribusinesses and businesses. Descriptive
and analytical techniques in a research methods approach. Marketing
research techniques. Prerequisites: ECON 370, STAT 281. Crosslisted:
BADM 476.

**EDAD (Educational Administration)**

**EDAD 695 Practicum** 1

**EDAD 700 Introduction to School Administration** 2

**EDAD 707 The Principalship** 2

**EDAD 708 Elementary Principalship Practicum** 1

**EDAD 709 Secondary Principalship Practicum** 1

**EDAD 710 Elementary School Administration** 3

**EDAD 711 Secondary School Administration** 3

**EDAD 715 Supervision** 3

**EDAD 730 School Finance** 2

**EDAD 732 School Buildings and Grounds** 2

**EDAD 735 School Law** 3

**EDAD 741 Community and Public Relations** 2

**EDAD 788 Research Problems in Educational Administration** 1-2

**EDAD 790 Seminar** (1-3)

**EDAD 791 Independent Study** (1-3)

**EDAD 792 Topics** (1-3)

**EDAD 793 Workshop** (1-3)

**EDAD 794 Internship** (1-6)
Corequisites: EDAD 707, EDAD 715, EDAD 741 (allowing pre or
concurrent enrollment in 741).

**EDER (Education Evaluation and Research)**

**EDER 415 Educational Assessment** 2
A study of educational measurements covering both the elementary and
secondary fields.

**EDER 492-592 Topics** (1-3)

**EDER 691 Independent Study** (1-3)

**EDER 711 Educational Assessment** 3

**EDER 761 Informational Literacy** 3

**EDER 763 Educational Inquiry** 3

**EDER 778 Research Problems in Education** 1-2

**EDER 792 Topics** (1-3)

**EDFN (Education Foundations)**

**EDFN 193 Workshop** 1

**EDFN 293 Workshop** 1

**EDFN 338 Foundations of American Education** *(COM)* 1-2
A survey of the goals, history, organization, and philosophy of pre-K-12
American education, with emphasis on teaching as a profession;
contemporary issues and practices, legal and ethical responsibilities, and
attributes of effective teachers.

**EDFN 365 Computer-Based Technology and Learning** *(COM)* 2
Prepares students to integrate computers into the curriculum by exploring the
evolving uses and expectations of technology as a teaching and learning tool.
Course objectives based on ISTE standards.

**EDFN 366 Teaching Using Video Conferencing** *(COM)* 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.

Course Descriptions 261
EDFN 393 Workshop (COM) ........................................... 1
EDFN 420 History and Philosophy of Education ............. 2
An overview of the history of education coupled with the development and application of educational philosophy in contemporary practice.
EDFN 427-527 Middle School: Philosophy and Application .... 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: admitted to teacher education program, junior standing, an adolescent psychology/development course of 3 credits.
EDFN 428 528 Middle School Curriculum and Instruction .......... 3
The essential methods and materials of judging high/middle school instruction. Methods and topics included are the middle school concept, team teaching, mastery learning, exploratories, classroom management, and grouping strategies. Representative curriculum materials, appropriate to the transescent learner, are examined and utilized in multi-disciplinary team planning projects. Prerequisites: admitted to teacher education program, junior standing, adolescent developmental/psychology course of 3 credits.
EDFN 451-551 Curriculum and Instruction in Gifted Education .......... 3
Examines curriculum methods and materials for gifted and talented children and youth. Students will be exposed to various programming models, IEP development, differentiated curricular concepts, as well as skills in self-directed learning.
EDFN 452-552 Foundations of Reading ................................... 3
Description of normal process of development in reading skills and techniques which may be used in remedying deviations which hinder readers in speed or comprehension. Recommended for graduate students in Language Skills and Communications programs.
EDFN 458-558 Literacy Assessment and Remediation ............. 3
General nature of causes of reading disability; principles of diagnosis and use of instruments; basic principles of individual remediation; case studies; evaluation of progress of the disabled reader; adaptation of techniques to classroom. Prerequisites: EPSY 302.
EDFN 460-560 Applied Linguistics for Teaching English as a Second Language ........................................... 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 U.S. culture such as the rhetoric of public and school interactions. Crosslisted: LING 460-560.
EDFN 461-561 Cultural and Psychological Perspectives in the Acquisition of English as a Second Language .......... 3
Addresses the social and cognitive processes involved in the acquisition of a second language including developmental influences.
EDFN 462-562 Teaching Language Arts for English as Second Language Across the Curriculum ........................................... 3
The teaching of reading and writing to students with limited English proficiency. Emphasis will be on reading and writing as it pertains to performance in educational and public settings.
EDFN 463-563 Methods of Teaching English as Second Language .......... 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. Crosslisted: ENGL 463-563.
EDFN 466-566 Literacy in Primary Grades ................................... 3
This course is designed for individuals interested in teaching literacy in the primary grades. It follows the International Reading Association's (IRA) professional standards and includes scientifically-based reading research regarding instruction and assessment. Corequisites: EDFN 466L-566L
EDFN 466L-566L Literacy in Primary Grades Lab ...................... 0
Lab to teach reading methods in local elementary primary classrooms. This will be an application of material learned in EDFN 466-566. Corequisites: EDFN 466-566.
EDFN 475 Human Relations (COM) ....................................... 3
Focuses on characteristics, contributions, and strengths of a pluralistic society; various cultural perspectives and specific information about cultures, the dehumanizing impact of biases and negative stereotypes; and the human relations approach to teaching.
EDFN 489 Professional Issues in Education ......................... 1
EDFN 492-592 Topics (COM) .......................................... 1-3
EDFN 496 Field Experience ........................................... 1
EDFN 528 Middle School Curriculum and Instruction .......... 3
EDFN 590 Seminar (COM) .............................................. 1-3
EDFN 592 Topics ......................................................... 1-3
EDFN 605 Computers in the Classroom .............................. 2
EDFN 648 Learning Styles .................................................. 3
EDFN 691 Independent Study ............................................. 1-3
EDFN 700 Exceptional Learners .......................................... 3
EDFN 725 Education in a Pluralistic Society ......................... 3
EDFN 727 Group Processes .................................................. 3
EDFN 730 Current Issues in Education .................................. 3
EDFN 745 Effective Teaching: Theory into Practice .............. 3
EDFN 747 Curriculum: Theory and Practice ....................... 2
EDFN 750 Technology in Education ..................................... 3
EDFN 751 Teaching Reading Across Disciplines ................... 3
EDFN 754 Clinical Practice in Reading .................................. 3
EDFN 790 Seminar (COM) .............................................. 1-3
EDFN 792 Topics (COM) ................................................. 1-3
EDFN 794 Internship ..................................................... 1-6

EE (Electrical Engineering)

EE 101 Introduction to Electrical Engineering .................. 1
This course provides an introduction to the concepts of electrical engineering. It provides an opportunity for students to be exposed to circuit theory, electronics, microprocessors, sensors, electric power, and control systems in a hands-on setting. It is designed to help students decide if electrical engineering is an appropriate career choice.
EE 220 Circuits I (COM) ..................................................... 3
This course is designed to provide the electrical engineering students 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-sipe is used to analyze electrical circuits using personal computers. Prerequisites: "C" or better in MATH 125.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

EE 220L Circuits I Lab (COM) ........................................1
Accompanies EE 220.

EE 221 Circuits II (COM) .................................................3
This course is designed to provide the electrical engineering student with an understanding of the basic concepts of the profession. Topics covered include resistive 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: MATH 321 and "C" or better in EE 220.

EE 221L Circuits II Lab (COM) ........................................1
Accompanies EE 221.

EE 245 Digital Systems ..................................................3
The fundamental concepts of analysis and design of digital circuits including combinational and sequential logic design using TTL, CMOS, PLD's and software tools. Corequisites: EE 245L, and CSC 150 or 218.

EE 245L Digital Systems Lab ..............................................1
Laboratory topics which enhance the design concepts of the lecture course, EE 245 Corequisites: EE 245.

EE 260 Electronic Materials .............................................3
Introduction to the materials, processes and designs used for the fabrication of electronic devices and packaging. Prerequisites: CHEM 112, PHYS 213 Corequisites: EE 220.

EE 292 Topics (COM) ....................................................(1-3)
EE 300 Basic Electrical Engineering I .................................2
Circuit analysis and measurement concepts applicable to dc and sinusoidal ac electrical systems, including Ohm's Law and Kirchhoff's Laws. Non-EE students. Prerequisites: MATH 125, PHYS 213

EE 300L Basic Electrical Engineering I Lab ..........................1
Hands-on exposure to electrical components, circuits, test equipment and safety issues. Experiments are designed to reinforce the theoretical concepts presented in EE 300. For non-EE students Corequisites: EE 300.

EE 302 Basic Electrical Engineering II .................................2
Introduction to analog and digital electronic devices and applications. For non-EE students. Prerequisites: EE 300, EE 300L.

EE 302L Basic Electrical Engineering II Lab ..........................1
Hands-on exposure to electronic devices, analog and digital circuits, and electrical measurement issues. Experiments are designed to reinforce the theoretical concepts presented in EE 302. For non-EE students Corequisites: EE 302.

EE 310 Probabilistic Methods in Electrical Engineering ..........3
Basic probability and random variables. Applications to system reliability and effect of tolerance specifications. Description of engineering systems and problems using nondeterministic modeling. Prerequisites: EE 316.

EE 315 Linear Control Systems .........................................3
Feedback control systems by operational and differential methods. Topics include differential and Laplace system modeling, Nyquist and Routh-Hurwitz stability analysis, and cascade PID/lead/lag and state-space feedback compensation design using root-locus, Bode and Ackermann's pole-placement methods. Prerequisites: EE 316.

EE 316 Signals and Systems I (COM) ..................................3
Description of deterministic signals through use of Fourier Series, Fourier and Laplace transforms. System descriptions and response treated by differential equations and transform theory. Prerequisites: "C" or better in EE 221.

EE 317 Signals and Systems II (COM) ..................................3
Continuation of EE 316 emphasizing discrete time signals and systems. Includes difference equations, discrete Fourier transforms, and Z transform.

EE 320 Electronics I (COM) .............................................3
Presents concepts of electronic devices and circuits including modeling of semiconductor devices, analysis and design of transistor biasing circuits, and analysis and design of linear amplifiers. Use of computer simulation tools and breadboarding as part of the circuit design process is emphasized. Students are introduced to methods for designing circuits that still meet specifications even when there are statistical variations in the component values. Prerequisites: "C" or better in EE 221.

EE 320L Electronics Lab I (COM) ...................................1
Accompanies EE 320.

EE 321 Electronics II ..................................................3

EE 321L Electronics Lab II ...............................................1
Experimental design and analysis of electronic circuits Corequisites: EE 321.

EE 347 Microcontroller Systems Design ............................3
Hardware concepts, organization and design of microcomputer systems, including single-chip microcomputers. Principles of microcomputer programming and operation using machine and assembly language. Prerequisites: 'C' or better in EE 245 and either CSC 218 or 250. Corequisites: EE 347L.

EE 347L Microcontroller Systems Design Lab ........................1
Laboratory topics which enhance the design concepts of the concurrent lecture course, EE 347. Corequisites: EE 347.

EE 360 Electronic Devices .............................................3
Introduction to microelectronic devices, semiconductor and junction theory, semiconductor devices, other solid-state devices. Prerequisites: EE 260. Corequisites: EE 320.

EE 385 Electromagnetics ..............................................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, MATH 225.

EE 416-516 Passive and Active Filters ...............................3
The analysis and design of passive and active filters for electrical signals. Topics include Butterworth, Chebyshev, Bessel-Thompson response characteristics, biquad and Sallen-Key circuits, frequency and impedance transformations, sensitivity, gyrators, negative impedance elements, leapfrog filters and switched capacitor filters. Prerequisites: EE 416 only: 321 or consent.

EE 420-520 Electronics III ............................................3
Selected topics in the design of analog and digital electronics. Provides increased understanding of theory, simulation, and application of semiconductor devices. Prerequisites: EE 321-321L, EE 245. Corequisites: EE 420L-520L.

EE 420L-520L Electronics Lab III ....................................1
Experimental design and analysis of analog and digital electronic circuits. Corequisites: EE 420-520.

EE 422 Engineering Economy ...........................................2
Economic aspects of engineering, annual cost-percent worth calculations, decisions among alternatives. Prerequisites: senior standing.
EE 424-524 RF Electronics
Performance analysis and design methods for the functional blocks of radio frequencies operating below the microwave bands. Prerequisites: EE 321, EE 316.

EE 430 Electromechanical Systems
Basic engineering laws and concepts in analysis of electromechanical energy-conversion systems and devices. Includes study of DC and AC machines, and electronic drives. Topics include drives, electric machines, and mechanical loads, are analyzed in open-loop and closed-loop control for systems under steady-state and transient conditions. Corequisites: EE 385 Corequisites: EE 430L.

EE 430L Electromechanical Systems Laboratory
Experimental work with electronic drives and electric machines. Corequisites: EE 430.

EE 433-533 Computer Analysis Power Systems
Concepts used in formulating load flow and fault study problems and stability analysis of power systems using computer solutions. Prerequisites: EE 434 or consent.

EE 434 Power Systems
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. Prerequisites: EE 385.

EE 434L Power Systems Analysis Lab
Computer (PowerWorld Simulator and/or PSCAD) modeling and simulation of power systems. Load-flow and load-flow control, symmetrical and asymmetrical faults, and contingency analysis studies are performed. Corequisites: EE 430L.

EE 435 Seminar in Power Systems
Guest speakers, field trips, panel discussions and selected films on pertinent electric power and energy topics. Senior standing or consent.

EE 436-536 Applied Photovoltaics
Fundamentals of hybrid photovoltaic power systems. Topics may include: an overview of energy and electricity use; solar resource characteristics; load assessment; the fundamentals of solar cells, batteries, power electronics, and generators and other power sources; power system design; the National Electric Code; and energy economics. Prerequisites: EE 321, EE 360.

EE 436L-536L Applied Photovoltaics Lab
This lab provides practical experience in the design of hybrid photovoltaic power systems. Prerequisites: EE 436/536.

EE 440-540 VLSI Design (COM)
Provides an introduction to the technology and design of VLSI integrated circuits. Topics include MOS transistors, switch and gate logic, scalable design rules, speed and power considerations, floor planning, layout techniques, and design tools. (Design content-two credits) Prerequisites: EE 245 and EE 320 Corequisites: EE 440L-540L.

EE 440L-540L VLSI Design Lab
Accompanies EE 440-540.

EE 450-550 Biomedical Signal Processing
Methods and techniques for the analysis and processing of physiological signals. Off-line and real-time digital signal processing using time and frequency domain techniques. Emphasis on signal processing of electrocardiographic signals. Prerequisites: EE 317.

EE 454-554 Biomedical Instrumentation and Electrical Safety
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 healthcare facilities. Prerequisites: EE 321 or consent.

EE 460-560 Sensor Theory and Design
Introduction to the operation, design, testing and applications of modern sensors in use and under development. Signal conditioning and system integration are also reviewed. Prerequisites: EE 360. Corequisites: EE 460L-560L.

EE 460L-560L Sensor Theory and Design Lab
Corequisites: EE 460-560.

EE 462L-562L Electronic Materials Lab
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)
This course will focus on the design process and culminate with the EE faculty approval of design projects that include a presentation, and the final project report. Courses: EE 464/564. Typical topics include: the development of a concept statement, identification of the customer and customer needs, development of a design matrix, project management techniques, legal and ethical issues, FCC verification and certification, uses of probability and statistics for reliable design, interpretation of data sheets, and component selection. Prerequisites: Senior standing and completed EE 315, EE 317, EE 321, EE 321L, EE 347, EE 347L, EE 360, ENGL 277 Corequisites: EE 464L.

EE 464L Senior Design I Research (COM)
0. Accompanies EE 464.

EE 465 Senior Design II (COM) (AW)
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. Corequisites: EE 465L.

EE 465L Senior Design II Research
Lab experiences to accompany EE 465.

EE 470 Communications Engineering
Modulation and detection methods including circuit analysis and design for digital and analog communication systems are presented. Prerequisites: EE 316, EE 320.

EE 471-571 Fiber Optic Communications
Theory and application of optical fibers and communication systems. Topics include fundamentals of optical fiber waveguides, electroluminescent sources, single-mode and multimode, propagation, coupling consideration, photo-detectors, signal degradation, fabrication and cabling, and transmission linkage analysis. Prerequisites: EE 316 or consent. Corequisites: EE 471L/571L.

EE 471L-571L Fiber Optic Communications Lab
This laboratory reinforces the theoretical concepts presented in the lecture course, EE 471-571. 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. Corequisites: EE 471L-571.

EE 475-575 Digital Image Processing
Introduction to the fundamentals of digital image processing. Topics include image formation, transforms, enhancement, restoration, compression, and analysis. Prerequisites: EE 317 or consent.

EE 491 Independent Study (COM)
(1-3)
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

EE 492-592 Topics (COM) (1-3)
This course provides opportunities for students to engage in hands-on experience in subject material that does not already have a laboratory component.

EE 497 Cooperative Education (1-3)
EE 498 Undergraduate Research/Scholarship (1-3)
EE 570 Digital Communication Systems (3)
EE 615 Linear Systems Theory (3)
EE 620 Advanced Digital Hardware (3)
EE 636 Photovoltaics (3)
Prerequisites: Instructor consent. Corequisites: EE 660.
EE 660 Electric Properties of Materials (3)
EE 670 Information and Signal Processing (3)
EE 685 Microwave Theory (3)
EE 691 Independent Study (1-3)
EE 692 Topics (1-3)
EE 736 Advanced Photovoltaics (3) Prerequisites: EE 636.
EE 760 Advanced Electronic Materials (3)
EE 788 Engineering Research or Design Paper (1-2)
EE 790 Seminar (1)
EE 791 Independent Study (1-9)
EE 792 Topics (1-3)
EE 798 Thesis (1-7) Variable
EE 898D Dissertation

EET (Electronics Engineering Technology)

EET 100 Survey of Electronics (4)
Nonmathematical survey of fundamental electronic components and circuits. Corequisites: EET 100L.
EET 100L Survey of Electronics Lab (0) Corequisites: EET 100.
EET 114 DC Concepts (4)
Direct Current Circuits. Topics covered are basic laws and theorems directed toward resistive circuits. Kirchhoff's Laws, series and parallel circuits. Corequisites: EET 114L.
EET 114L DC Concepts Lab (0) Corequisites: EET 114.
EET 116 AC Concepts (4)
Alternating Current Circuits. Study of series and parallel circuits, network analysis, capacitance, inductance, and impedance. Prerequisites: EET 114 Corequisites: EET 116L.
EET 116L AC Concepts Lab (0) Corequisites: EET 116.
EET 118 DC and AC Concepts (6)
Direct and alternating current circuit concepts. Study of laws, theorems, and techniques used to predict, analyze, and measure electrical circuits. Basic electrical components, Kirchhoff's Laws, series/parallel circuits, instruments, network analysis, capacitance, inductance, and impedance. Prerequisites: EET 118L.
EET 118L DC and AC Concepts Lab (0) Corequisites: EET 118.
EET 122 Introductory Circuits (4)
The course provides a foundation in the theory and operation of semiconductor devices including solid-state diodes, bipolar junction and field effect transistors and other components related to discrete active circuits. Troubleshooting, schematic interpretation, and measurement techniques will be covered. Prerequisites: EET 114 or 118. Corequisites: EET 122L.
EET 122L Introductory Circuits Lab (0) Corequisites: EET 122.
EET 200 EET-Off Campus Orientation (0)
EET 220 Advanced Circuits (4)
A study in the operation of active devices and their applications. Primary focus is on regulators, multivibrators, timers, and microcontrollers. Troubleshooting methods, measurement techniques, introductory circuit board design and soldering fundamentals are also explored. Prerequisites: EET 122. Corequisites: EET 220L.
EET 220L Advanced Circuits Lab (0) Corequisites: EET 220.
EET 222 Radio Frequency Systems I (4)
Radio wave propagation, transmission line theory, and antennas, and practical applications of each. Emphasis is placed on conduction of radio waves from a source to a load and its propagation through space. Prerequisites: EET 220. Corequisites: EET 222L.
EET 222L Radio Frequency Systems I Lab (0) Corequisites: EET 222.
EET 230 Introductory Digital (4)
Binary and hexadecimal number systems, switching theory, Boolean Algebra, logic diagrams, Karnaugh mapping, counter circuits, and pulse circuits. Prerequisites: EET 114 Corequisites: EET 230L.
EET 230L Introductory Digital Lab (0) Corequisites: EET 230.
EET 232 Advanced Digital (4)
EET 232L Advanced Digital Lab (0) Prerequisites: EET 230L. Corequisites: EET 232.
EET 240 Techniques of Servicing (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 220.
EET 251 Electricity and Electronics I (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. Prerequisites: 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, or MATH 102. Corequisites: EET 251L. Crosslisted: MNET 251.
EET 251L Electricity and Electronics I Lab (0) Corequisites: EET 251.
EET 252 Electricity and Electronics II
This course is the continuation of EET 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: EET 251 Corequisites: EET 252. Crosslisted: MNET 252.

EET 252L Electricity and Electronics II Lab
Corequisites: EET 252.

EET 291 Independent Study
(1-3)

EET 292 Topics
(1-3)

EET 293 Workshop
(0-3)

EET 296 Field Experience
(1-3)

EET 320 Analog Devices
Detailed overview of operational amplifier circuits, linear and switching power supplies, advanced linear circuit applications, and analog system design considerations Prerequisites: EET 220, MATH 123 or MATH 121. Corequisites: EET 320L.

EET 320L Analog Devices Lab
Corequisites: EET 320.

EET 324 Radio Frequency Systems II
Complex resonant circuits, antenna arrays, impedance matching devices, transmission lines and microwave components. Emphasis is placed on antenna systems and related components. The student is given the opportunity to study the operation and theory of a variety of electronic instruments used in industry. Prerequisites: EET 222. Corequisites: EET 324L.

EET 324L Radio Frequency Systems II Lab
Corequisites: EET 324.

EET 330 Microprocessors
Design and usage of the microprocessor in microcomputers and process control applications. Includes concepts, properties and basic architectures of Intel-type microprocessors. Programming on an assembly language level. Prerequisites: EET 232-232L. Corequisites: EET 330L.

EET 330L Microprocessors Lab
Corequisites: EET 330.

EET 370 Computer Systems
A course to familiarize students with hardware/software configurations, installations, usage, and basic troubleshooting techniques of past and current personal computers. Prerequisites: EET 330. Corequisites: EET 370L.

EET 370L Computer Systems Lab
Corequisites: EET 370.

EET 380 Prototype Techniques
A lecture-laboratory course to acquaint the student with procedures used to prototype and construct circuits used in electronics. Topics include metal chassis pre-fabrication, printed circuit board layout and production, design techniques for audio and RF circuits and final test procedures. Project management techniques will be introduced and followed in the student's projects Prerequisites: EET 320 Corequisites: EET 380L.

EET 380L Prototype Techniques Lab
Corequisites: EET 380.

EET 422 Video Systems
The study of circuits used in television and video displays. Color and monochrome video systems are studied simultaneously. Modern digital TV standards studied. Prerequisites: EET 320. Corequisites: EET 422L.

EET 422L Video Systems Lab
Corequisites: EET 422.

EET 426 Communication Systems
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: EET 320. Corequisites: EET 426L.

EET 426L Communication Systems Lab
Corequisites: EET 426.

EET 428 Advanced Communication Systems
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: EET 426. Corequisites: EET 428L.

EET 428L Advanced Communication Systems Lab
Corequisites: EET 428.

EET 451 Industrial Electronics and Control
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: EET 252 or EET 320. Corequisites: EET 451L. Crosslisted: MNET 451.

EET 451L Industrial Electronics and Control Lab
Corequisites: EET 451.

EET 453 Manufacturing Automation
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: EET 453L. Crosslisted: MNET 453.

EET 453L Manufacturing Automation Lab
Corequisites: EET 453. Crosslisted: MNET 453L.

EET 470 Project Management (AW)
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. Must take EET 471-471L in spring semester. Prerequisites: instructor consent Corequisites: EET 470L. Crosslisted: MNET 470.

EET 470L Project Management Lab
Corequisites: EET 470. Crosslisted: MNET 470L.

EET 471 Capstone Experience (AW) Conclusion of technical projects started in EET 470 Project Management. Teams document and present the results of the implemented projects. Prerequisites: EET 470-470L.

EET 471L Capstone Experience Lab
Corequisites: EET 471.

EET 472 Networking I The study of personal computer systems, concentrating on Intel-type personal computers, networking and data connections from a software and management point of view. Microsoft NT and Novell are explored. Prerequisites: EET 370 Corequisites: EET 472L.

EET 472 Networking II
**EM (Engineering Mechanics)**

**EM 214 Statics (COM)**

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)**

Newton's laws of motion are applied to particles and rigid bodies. Absolute and relative motion; force, mass and acceleration; work and energy; and impulse and momentum. Prerequisites: EM 214.

**EM 216 Statics and Dynamics (COM)**

Statics: The study of effects of external forces acting on stationary rigid bodies in equilibrium. Frames and machines, friction, centroid and moments of inertia on areas and mass are discussed. Dynamics: Newton's laws of motion are applied to particles and rigid bodies. Topics considered are absolute and relative motion; force, mass, and acceleration (or particles and rigid bodies); work and energy; and impulse and momentum (of particles). Prerequisites: MATH 125, PHYS 211 or consent.

**EM 321 Mechanics of Materials (COM)**

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)**

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, MATH 321, ME 311 for ME majors Corequisites: CEE 331- CE majors only.

**EM 421-521 Introduction to Mechanics of a Continuous Medium**

General theory of a continuous medium. Kinematics of deformation and flow; stress tensors; conservation of mass, momentum and energy; invariance requirements; constitutive equations for solids and fluids; applications for special problems. Prerequisites: EM 331, MATH 331.

**EM 422-522 Theory of Elasticity**

Analysis of stress and strain; equilibrium and compatibility equations; Hooke's law; fundamental problems in the theory of elasticity; plane-stress and plane-strain problems of the narrow beam, rotating discs and a plate with a circular hole. Prerequisites: EM 321, MATH 331.

**EM 423-523 Theory of Plasticity**

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: 422522 or consent.

**EM 624 Theory of Plates and Shells**

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: 422522 or consent.

**EM 631 Advanced Fluid Mechanics**

**EM 641 Finite Element Analysis**

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**ENGL (English)**

**ENGL 3 English as a Second Language: Grammar Review and Intermediate Composition**

Conversation, listening, and reading comprehension, vocabulary and idioms, grammar review and intermediate composition.

**ENGL 13 English as a Second Language: More Complex Structural Patterns and Advanced Composition**

Conversation, listening, and reading comprehension, vocabulary and idioms, more complex structural patterns, and advanced composition. Prerequisites: ENGL 003 or placement.

**ENGL 23 English as a Second Language: Listening and Reading, Grammar, Comprehension**

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 31 Basic Writing I**

Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation. (Taught only as needed.)
ENGL 32 Basic Writing II
Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

ENGL 33 Basic Writing III
Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

ENGL 101 Composition I
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, 033, or placement. Notes: * Course meets SGR #1.

ENGL 125 Introduction to Peace and Conflict Studies
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.

ENGL 151 Introduction to English Studies
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
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.

ENGL 210 Introduction to Literature
Readings in fiction, drama, and poetry to acquaint students with literature and aesthetic form. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 211 World Literature I
Selected works of world literature in translation from ancient times through the Renaissance. Prerequisites: ENGL 101. Notes: * Course meets SGR #4.

ENGL 212 World Literature II
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 #3.

ENGL 221 British Literature I
A chronological survey of British literature from Old English through the 18th century. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 222 British Literature II
A chronological survey of British literature from the 19th century to the present. ENGL 221 and 222 need not be taken in sequence. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 240 Juvenile Literature
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 #3.

ENGL 241 American Literature I
Background to and survey of major works from the beginnings to the Civil War. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 242 American Literature II
Background to and survey of major works from the Civil War to the present. ENGL 241 and 242 need not be taken in sequence. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 248 Women in Literature
Study of literature by and about women from early times to the present. Crosslisted: WMST 248. ENGL 101. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 249 Literature of Diverse Cultures
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. Accepted as humanities credit. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 250 Science Fiction
A survey of short stories and novels from the 19th century to the present. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 256 Literature of the American West
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. Notes: * Course meets SGR #4 or ** IGR #1.

ENGL 268 Literature
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 or ** IGR #3.

ENGL 277 Technical Writing in Engineering
Study and practice of technical writing in Engineering and related disciplines. Prerequisites: ENGL 101 and GE 101 or consent. Notes: * Course meets SGR #1.

ENGL 283 Creative Writing I
Study and practice of technical writing in Engineering and related disciplines. Prerequisites: ENGL 101 and GE 101 or consent. Notes: * Course meets SGR #1.

ENGL 300 Shakespeare
Representative comedies, tragedies, and histories of Shakespeare. Prerequisites: ENGL 101.

ENGL 330 Shakespeare
Representative comedies, tragedies, and histories of Shakespeare. Prerequisites: ENGL 101.

ENGL 334 American Poetry
A survey of poetry from early times to the present. Prerequisites: ENGL 101. Notes: * Course meets SGR #4 or ** IGR #3.

ENGL 356 American Poetry
Course content can be any period or type of American poetry; the period or type will be identified each semester as, for example, "American Poetry: Renaissance" or "American Poetry: Contemporary," etc. May be repeated with different name and content.

ENGL 365 English Drama
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.

ENGL 356 American Poetry
Course content can be any period or type of American poetry; the period or type will be identified each semester as, for example, "American Poetry:
ENGL 367 American Short Story
Course content can be any period or type of American short story; the period or type will be identified each semester as, for example, “American Short Story: Contemporary” or “American Short Story: Western,” etc. May be repeated with different name and content.

ENGL 368 American Novel
Course content can be any period or type of American novel; the period or type will be identified each semester as, for example, “American Novel: Contemporary” or “American Novel: Gothic,” etc. May be repeated with different name and content.

ENGL 379 Technical Communication (AW)
Study of and practice in writing of a technical nature. Prerequisites: ENGL 201.

ENGL 380 Futuristic Communications
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 201. Crosslisted: GLST 380.

ENGL 383 Creative Writing
Study and practice in the techniques of writing fiction, poetry, and/or drama. Prerequisites: ENGL 201 and 12 credits from the subject ENGL.

ENGL 410 Mythology and Literature (AW)
Origin and development of myths. Their importance in classical literature and their influence in literature, drama, music, psychology, and art.

ENGL 411 Bible As Literature
Analysis of Old and New Testament texts in their historical and philosophical contexts, which are literary in form (that is, lyric, dramatic, epic, and narrative) for their aesthetic and ethical meanings. Prerequisites: ENGL 101.

ENGL 422-522 Age of Chaucer
Literature of the later medieval period, especially the 14th century, with some attention to continental works. Major focus on Geoffrey Chaucer, with reading in Middle English.

ENGL 423-523 Old and Middle English Literature
Emphasizing pre-Norman heroic and Christian literature, the work of Chaucer and his contemporaries, and folk literature such as the ballads.

ENGL 424 7-12 Language Arts Methods (AW)
Techniques, materials, and resources for teaching English language and literature to middle and secondary school students. Required of students in the English Education Option.

ENGL 427-527 Advanced Shakespeare
Selected plays of Shakespeare and significant Shakespearean criticism.

ENGL 428-528 English Renaissance/16th Century Literature
Major writers of the 16th and early 17th centuries, excluding Shakespeare.

ENGL 434-534 18th Century English Literature
British poetry, prose, drama, fiction, and criticism, 1660-1800.

ENGL 437-537 English Romantic Literature
English literature of the Romantic movement (1789-1832).

ENGL 438-538 English Victorian Literature
English literature of the Victorian period (1830-1900).

ENGL 439-539 Modern English Literature
English literature from 1900 to 1945.

ENGL 440-540 Contemporary English Literature
English literature since WWII.

ENGL 445 American Indian Literature
Traditional oral literature and autobiographies of American Indians. Crosslisted: AIS 351.

ENGL 447 American Indian Literature of the Present
Twenty-first-century autobiography, fiction, and poetry by Native American authors. Crosslisted: AIS 352.

ENGL 453-553 American Renaissance
An analysis of the major American writers from 1820-1865.

ENGL 454-554 American Realism and Naturalism
American literature of the realist and naturalist movements of the late 19th and early 20th centuries.

ENGL 459-559 American Literature Between the Wars
American literature of the modernist movement from 1917 to 1945.

ENGL 460-560 Contemporary American Literature
American literature since WWII.

ENGL 463-563 Methods of Teaching English as a Second Language
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. Crosslisted: EDFN 463-563. EDFN 460 or LING 460.

ENGL 470 Capstone in Peace and Conflict Studies
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.

ENGL 479 Capstone Course and Writing in the Discipline: (AW)
An in-depth study of selected major author(s), works(s), or other aspects of literary history; incorporates a review of current methods of literary criticism and an intensive focus on research and writing within the discipline. To be taken in the student’s final on-campus Spring semester. Prerequisites: English major.

ENGL 481-581 Travel Studies
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.

ENGL 483-583 Advanced Creative Writing
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 484 Literary Criticism
The theory and practice of various critical approaches to literature. Prerequisites: ENGL 101.

ENGL 490 Seminar

ENGL 491-591 Independent Study

ENGL 492-592 Topics

ENGL 494 Internship

Course Descriptions 269
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/ For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

ENGL 704 Introduction to Graduate Studies ........................................... 3
ENGL 705 Seminar in Teaching Composition........................................ 3
ENGL 710 Seminar in Rhetoric ............................................................. 3
ENGL 724 Seminar in English Literature to 1660 .............................. 3
ENGL 725 Seminar in English Literature since 1660 ............................ 3
ENGL 728 Seminar in American Literature to 1900 ............................. 3
ENGL 729 Seminar in American Literature since 1900 ......................... 3
ENGL 742 Seminar in American Indian Literature ............................... 3
ENGL 755 Seminar in Minority Literature ........................................... 3
ENGL 791 Independent Study ..............................................................(1-3)
ENGL 792 Topics ...............................................................................(1-4)
ENGL 798 Thesis ...............................................................................(1-7)

ENTR (Entrepreneurship)

ENTR 202 Human Resource Operations in Entrepreneurship ............. 1
Study of human resource issues and regulations and how they impact
operations and work flow efficiencies.

ENTR 203 Intellectual Property in Entrepreneurship .......................... 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
services available to help grow a business including traditional financing, angel
investors, venture capital and government programs.

ENTR 204 Finance/Venture Capital in Entrepreneurship ..................... 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 ............ 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 .............................................. 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 ............................................................................. 1
How to use professionals and software packages to set up accounting
systems that can be used for regulatory requirements as well financial
analysis. Using financial analysis to assist in making business decisions.

ENTR 208 E-commerce in Entrepreneurship ....................................... 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 and Creativity .................................................... 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 301 Marketing/Promotion in Entrepreneurship .......................... 1
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 ........ 1
This module will examine opportunities, risk, and reward involved in
marketing products and services in the global market as compared to the
domestic 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 ................. 1
Students will learn concepts and theories in marketing strategies; the
themes used for pricing products based on development costs and market
demand, and the affects of location on sales, strategy and development.

ENTR 305 Selling in Entrepreneurship .............................................. 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 ....................................... 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 and Practices of Social Entrepreneurship .......... 3
Students will understand principles and practices of social entrepreneurship
and be introduced to perspectives and endeavors of thought leaders and
entrepreneurs who address social needs through various organizations.
Students will identify issues and assess needs for social improvement in a
local, national, and global perspective by defining the social good and
assessing the role of market forces, philanthropy, and government to create
sustained positive social value.

ENTR 336 Entrepreneurship I (COM) ............................................... 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
Crosslisted: BADM 336.

ENTR 406-506 Accounting for Entrepreneurs (COM) ....................... 3
Accounting concepts and practices for entrepreneurs/small business owners.
Emphasis given to the use of accounting tools to solve small business

ENTR 410 Financing Innovative Ideas .............................................. 3
Students will learn various financing options and techniques to acquire funds
to start and grow their ventures through traditional financing, angel
investors, venture capital, and government programs. Students will produce
a financial plan geared at obtaining funding for their concept and learn the
tools necessary for the strategic analysis and understanding of financial
information. Prerequisites: ACCT 211

ENTR 438-538 Entrepreneurship II (COM) ...................................... 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/ENTR 336.
Crosslisted: BADM 438-538.
ENTR 489 Business Plan Writing and Competition (COM) ..........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. Crosslisted: BADM 489.

ENVM (Environmental Management)

ENVM 225 Principles of Environmental Science and Engineering ......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,
an 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.

ENVM 275 Introduction to Environmental Science ** (G) ............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, BIOL 101 or 103, or BIOL 151 or 153. Notes: ** Course meets
IGR #1.

ENVM 390 Seminar ......................................................1

ENVM 425-525 Disturbance Ecology ................................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, BIOL 311 Corequisites: ENVM 425L-525L.

ENVM 425L-525L Disturbance Ecology Lab ................................0
Corequisites: ENVM 425-525.

ENVM 460 Senior Design I Environmental Science and Engineering ......1
Development of a comprehensive interdisciplinary environmental science
and engineering project design. Written and oral report for preliminary
design and plan for second semester final design project.

ENVM 461 Senior Design II Environmental Science and Engineering ...2
Completion of a comprehensive interdisciplinary environmental science and
engineering project design. Written and oral report, and plans for final
design project.

ENVM 498 Undergraduate Research/Scholarship .........................(1-4)
ENVM 592 Topics ....................................................(1-7)
ENVM 692 Topics ....................................................(1-7)

EPSY (Educational Psychology)

EPSY 302 Educational Psychology (COM) .........................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) .........................3
A study of the behavior and development of middle and secondary level
students.
course content is subject to approval by the SDSU European Studies Committee. Prerequisites: EURS 311.

**EURS 492 Topics** (1-3)

**FCS** (Family and Consumer Sciences)

**FCS 101 FCS-Professional Foundations** (1-3)
Introduction to the Family and Consumer Science profession: orientation to careers and college and university resources.

**FCS 292 Topics** (1-3)

**FCS 310 Leadership for Families and the Food System** (3-4)
Principles of leadership within the unique contexts of agriculture, biological sciences, family and consumer sciences. Topics covered include definitions of leadership and approaches to the study of leadership, leadership styles, gender and ethnic diversity, leadership in groups, ethical issues, mission statements, and emerging leadership issues. Crosslisted: ABS 310. Notes: **Course meets IGR #3.

**FCS 480-580 International Experience** (1-4)
This will be a team-mentored class. Students will participate in one-to-four week travel/study abroad experience to another nation(s) to experience and evaluate diverse systems related to the College of Family & Consumer Sciences. Students will work one-on-one or in small groups with professors who have knowledge of the region/culture visited and/or content focus. Notes: For the Bachelor's degree, a maximum of 9 credits is allowed.

**FCS 491-591 Independent Study** (1-3)

**FCS 495 Practicum** (1-3)

**FCSE** (Family and Consumer Sciences Education)

**FCSE 292 Topics** (1-3)

**FCSE 331 Work Force Preparation in Family and Consumer Sciences** (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 411 Philosophy and Methods Family and Consumer Sciences (AW)** (4)
The philosophical foundations and history of vocational family and consumer sciences programs in school systems. The learner and the constructivist learning processes, 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 Preparation for Student Teaching** (5)
Planning and developing instruction for various types of family and consumer sciences programs to meet the needs of selected age groups in structured situations. Professionalism, workplace environment/issues and job seeking skills will be addressed in preparation for a career in an educational setting. Prerequisites: Professional Semester II and 2.6 GPA in professional classes and 2.5 GPA overall; FCSE 411. Corequisites: FCSE 412L.

**FCSE 412L Preparation for Student Teaching and Extra Practice Lab**

**FCSE 421 Adult Education** (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 473 Supervised Student Teaching** (10)
A minimum of ten weeks of the second part of Spring Semester. Roles and responsibilities of the vocational family and consumer sciences teacher. Teaching under supervision at least two subject areas of family and consumer sciences in an approved school. 2.6 GPA in professional classes and 2.5 GPA overall, and senior standing in family and consumer sciences; Prerequisites: 2.6 GPA in professional classes and 2.5 GPA overall, and senior standing in family and consumer sciences; FCSE 412.

**FCSE 480 Travel Studies** (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.

**FCSE 491-591 Independent Study** (1-3)

**FCSE 492-592 Topics** (1-3)

**FCSE 495 Practicum** (1-3)

**FCSE 611 History and Philosophy of Family and Consumer Sciences** (3)

**FCSE 673 Supervised Student Teaching in Family and Consumer Sciences Education** (6-9)

**FCSE 721 Occupational Programs in Family and Consumer Sciences** (3)

**FCSE 741 Supervision of Family and Consumer Sciences Education** (2)

**FCSE 751 Curriculum of Family and Consumer Sciences Education** (2)

**FCSE 761 Advanced Methods and Assessment in Family and Consumer Sciences Education** (3)

**FCSE 788 Action Research Project** (1-3)

**FCSE 791 Independent Study** (1-3)

**FCSE 792 Independent Study** (1-3)

**FREN** (French)

**FREN 101 Introductory French I ** ** (COM) (G)** (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 or ** IGR #3.

**FREN 102 Introductory French II ** ** (COM) (G)** (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 or ** IGR #3.

FREN 201 Intermediate French I (COM) ........................................ 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.

FREN 202 Intermediate French II (COM) ......................................... 4
Continues FREN 201. Laboratory as required. Prerequisites: FREN 201.

FREN 211 Intermediate Oral Practice I ......................................... 2-3
Intensive conversational work to develop interpersonal, interpretive, and presentational modes of communication in French. With instructor’s permission, may be taken concurrently with FREN 201 or with another course above 201. Prerequisites: FREN 201.

FREN 212 Intermediate Oral Practice II ....................................... 2-3
Intensive conversational work to develop interpersonal, interpretive, and presentational modes of communication in French. With instructor’s permission, may be taken concurrently with FREN 202 or with another course above 202. Prerequisites: Take FREN 201(329).

FREN 310 French Language Skills (COM) (AW) ............................... 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) .............................. 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) ...................... 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) .............................. 3
Study of literary texts from throughout the French-speaking world. Prerequisites: FREN 202.

FREN 385 Travel Study Abroad Francophone (COM) (G) ............... 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 450 Business French II (COM) ............................................. 3
An advanced course in the language of business in French-speaking countries. Graded readings in commerce and marketing, finance and accounting, and economics. Prerequisites: FREN 202.

FREN 491 Independent Study (COM) ............................................ (1-3)

FREN 492 Topics (COM) ......................................................... (1-3)

FREN 493 Workshop (COM) ...................................................... (1-6)

FREN 498 Undergraduate Research/Scholarship (COM) ....................... 3

FREN 591 Independent Study ..................................................... (1-3)

GE (General Engineering)

GE 101 Introduction to Engineering and Technology .......................... 1
Students are introduced to the concept of being a professional and the ethics required of a professional person. A breadth of ideas are presented to the students which helps them in their career choice.

GE 120 Engineering Drawing/CAD ............................................... 3
This course will cover the fundamentals of technical drawing including design processes, geometric construction, multi-view projection, dimensioning, sectional views, auxiliary views, and assembly and working drawings. Integral to this course is the use of Computer-Aided Drawing (CAD) in both 2D and 3D modes emphasizing visualization concepts. Prerequisites: 1 course from subject MATH, except MATH 021, MATH 101, MATH 100T. Corequisites: GE 120L.

GE 120L Engineering Drawing/CAD Lab ........................................ 0
Corequisites: GE 120.

GE 121 Engineering Design Graphics I ......................................... 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: Corequisite: one MATH course except for 021, 101, 100T.

GE 122 Engineering Design Graphics II ....................................... 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 ................................................ 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 200 Engineering-Off Campus Orientation .................................. 0
Engineering College Enrollment Sustaining.

GE 225 Survey of Machine Tool Applications ................................ 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 and Society ................................................. 3
An examination of technological change by means of current problems and case studies. The creation and utilization of tools, machines, materials, techniques and technical systems will also be studied, as well as their environmental impacts.

GE 241 Applied Mechanics ....................................................... 3
Basic Statics, dynamics, and two-dimensional analysis of stress and strain. Laboratory verification of fundamental principles of structural and machine elements. Prerequisites: 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, MATH 102; 1 course from subject PHYS, except courses PHYS 101, PHYS 101L. Crosslisted: MNET 241.

GE 291 Independent Study ......................................................... (1-3)

GE 292 Topics ........................................................................... (1-3)

GE 293 Workshop ....................................................................... 0-3

GE 294 Internship ..................................................................... (1-3)

GE 296 Field Experience ............................................................ (1-6)
GE 410-510 Human Factors in Design .......................................................... 3
Prerequisites: MATH 102.

GE 425-525 Occupational Safety and Health Management ......................... 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. Crosslisted: MNET 365 and CM 400.

GE 469 Project Management ................................................................. 3
A Team-Oriented and Project-Based course providing the students the additional opportunities to conduct research, build and test products, and manage projects in a team environment. Record keeping, documentation, team evaluations, and presentations are parts of course activities. Corequisites: GE 469L. Crosslisted: MNET 469 and EET 469.

GE 469L Project Management Lab ....................................................... 0
Corequisites: GE 469. Crosslisted: EET 470L and MNET 470L.

GE 491-591 Independent Study ............................................................. (1-3)
GE 492-592 Topics .............................................................................. (1-3)
GE 493-593 Workshop ........................................................................ (0-3)
GE 494 Internship ............................................................................... (1-3)
GE 496 Field Experience ...................................................................... (1-6)
GE 569 Project Management ................................................................. (2-3)
GE 601 Technical Studies in Industrial Management .................................. 3
GE 603 Designing the Work Place for Production .................................... 3
GE 620 Industrial Safety ................................................................. 3
GE 650 Manufacturing Systems Management ......................................... 3
GE 660 Operations Management ......................................................... 3
GE 667 Decision Theory ........................................................................ 3
Examination and evaluation of modern techniques of decision making. Mathematical models and measurement theory. Certainty, risk, and uncertainty. Crosslisted: ME 667 Decision Theory

GE 670 Research Methods in Management ............................................ 3
GE 690 Seminar .................................................................................. (1-3)
GE 691 Independent Study ................................................................. (1-3)
GE 692 Topics .................................................................................... (1-3)
GE 693 Workshop ............................................................................... (0-3)
GE 696 Field Experience ...................................................................... (1-6)
GE 788 Research Problems/Projects .................................................... (1-2)
GE 791 Independent Study ................................................................. (1-9)
GE 792 Topics .................................................................................... (1-3)
GE 798 Thesis ...................................................................................... (1-7)

GEOG (Geography)

GEOG 101 Introduction to Geography * (COM) .................................... 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 Physical Geography: Weather & Climate * ......................... 4
An introduction to the physical patterns of the Earth. Location, Earth-sun relationships, portrayal of the Earth, cartographic analysis, weather and climate phenomena, along with the scientific method and consideration of cultural diversity factors from the Native American and other perspectives. Corequisites: GEOG 131L. Notes: * Course meets SGR #6.

GEOG 131L Physical Geography: Weather & Climate Lab ...................... 0
Corequisites: GEOG 131. Notes: * Course meets SGR #6.

GEOG 132 Physical Geography: Natural Landscapes * ......................... 4
An introduction to Earth's natural landscapes focusing on landforms as spatial features and their processes plus consideration of human-environmental interactions with attention to cultural diversity factors from the Native American and other perspectives. Corequisites: GEOG 132L. Notes: * Course meets SGR #6.

GEOG 132L Physical Geography II Lab * ............................................ 0
Corequisites: GEOG 132. Notes: * Course meets SGR #6.

GEOG 200 Introduction to Human Geography * ** (G) ......................... 3
Systematic study of world culture from perspective of five integrating themes: cultural region, cultural diffusion, cultural eclogy, 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 #3.

GEOG 210 World Regional Geography * ** (COM) (G) ......................... 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 #3.

GEOG 212 Geography of North America * ** (COM) ........................... 3
A regional and topical analysis of the geographic patterns of the United States and Canada. Focus is upon the interaction of groups of people with the natural environment to produce regional differentiation. Geographic aspects of the physical geography, population, culture groups, economy, settlement systems, land division, and use of natural resources. Notes: * Course meets SGR #3 or ** IGR #3.

GEOG 219 Geography of South Dakota * ** (G) ................................. 3
Provides an in-depth study of the physical, cultural, and economic characteristics of the state, including an analysis of past, present, and prospective cultures and economies, dating from early Native American settlement through the present time period. Notes: * Course meets SGR #3 or ** IGR #3.

GEOG 270 Middle East Survey ............................................................ 3
A country-by-country survey of the geography, history, government, economy, society, and religion of the Middle East, including a summary of U.S. relations with each of these countries. Crosslisted: REL 270.

GEOG 310 Soil Geography and Land Use Interpretation ** (G) .......... 2
Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Field trip. May count toward Geography major. Prerequisites: GEOG 132-132L, or PS 213-213L, or consent of instructor. Corequisites: GEOG 310L. Crosslisted: PS 310. Notes: ** Course meets IGR #1.

GEOG 310L Soil Geography and Land Use Interpretation Studio ** ........ 1
Corequisites: GEOG 310. Notes: ** Course meets IGR #1.
GEOG 320 Regional Geography
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
Systematic methodological investigation of the meteorological elements (weather, climate, altitude, etc.) and their effects on geographic features.

GEOG 339 Geomorphology
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
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
World wide distribution of economic activities and their physical bases. Agriculture, mining and manufacturing industries and their important commercial products and role in world trade.

GEOG 358 Political Geography
The geographic factors are studied which influence current international relations and the policies of nations and political units with consideration given to aspects of geopolitics, racial and ethnic groupings, religions, and languages, boundaries, and territorial changes.

GEOG 363 Rural Geography
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 Planning
Geographical patterns of human occupancy, land tenure, land division and land usage. Emphasis on North America and the Upper Midwest. Significance of these patterns in environmental, resource utilization and land use planning. Prerequisites: GEOG 200 and GEOG 212, or GEOG 219.

GEOG 382 Geographic Research Methods (AW)
This course will include a general review of methods most commonly employed in geographic research including varied library research, observation, map analysis, and the use of geographic theories and models. Experience will be gained in identifying geographic problems, collecting and analyzing geographic data, both organizing and presenting geographic information.

GEOG 383 Cartography
History and principles of cartography. Emphasis on field mapping; map projections; cartographic design; map interpretations; and exercises in map making. Corequisites: GEOG 383L.

GEOG 383L Cartography Studio
Corequisites: GEOG 383.

GEOG 384 Advanced Cartography
This course provides advanced cartographic training techniques as applied to practical applications in field mapping, the production of map projections, cartographic design, and map making. Prerequisites: GEOG 383. Corequisites: GEOG 384L.

GEOG 384L Advanced Cartography Studio
Corequisites: GEOG 384.

GEOG 400 Cultural Geography (COM)
A detailed analysis of the culture of a geographical context, including such applications as culture and nature, cultural growth and change, cultural universals, culture and economy, cultural relativity, cultural landscape, culture region, and cultural conflict.

GEOG 405 Historical Geography
Historical periods portrayed against geographical background.

GEOG 415-515 Environmental Geography
Geographical aspects of environmental issues including historical geography of environmental problems, global driving forces, land ethics and stewardship, environmental externalities, population, resources, climate change, and environmental restoration. Focus on connections between human and natural systems; consequence chains between cause and effect; impact of time and space on problem perception, analysis, and solution; and natural and human laws. Term paper required.

GEOG 425 Population Geography
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 well being. Problems and prospects are considered in the context of each topic.

GEOG 447 Geography of the Future
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
Analysis of geographic factors involved in selection of locations and sites for manufacturing, commercial and agricultural enterprises.

GEOG 461 Urban Geography
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
Regional planning with particular reference to the upper Mid-West.

GEOG 467 Geography of the American Indian
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 use issues. Crosslisted: AIS 467.

GEOG 481-581 Field Geography
All geographic data are field based. This field-oriented course typically will focus upon various aspects of the physical, historical, and cultural aspects of eastern South Dakota. Emphasis will be on the observation, collection, organization, analysis, and interpretation field derived data to answer geographic questions.

GEOG 482-582 Travel Studies
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 Air Photo Interpretation
Development of skills and techniques involved in the interpretation of aerial photographs showing physiography, land use, industrial, commercial and military functions. Prerequisites: consent. Corequisites: GEOG 483L.
GEOG 483L Air Photo Interpretation

Various computer softwares and other laboratory equipment will be applied to the methods and principles of air photo interpretation. Corequisites: GEOG 483.

GEOG 484 Remote Sensing

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. Prerequisites: consent. Corequisites: GEOG 484L.

GEOG 484L Remote Sensing

Hands-on experience using various software and the application of methods and principles of remote sensing. Corequisites: GEOG 484.

GEOG 485 Quantitative Remote Sensing

This course will concentrate on the digital processing and visualization of various types on remotely sensed imagery. Image sources, characteristics, formats and analysis techniques will be explored as well as the integration of remotely sensed imagery with GIS and GPS datasets. Prerequisites: GEOG 484 Corequisites: GEOG 485L.

GEOG 485L Quantitative Remote Sensing Lab

Corequisites: GEOG 485.

GEOG 487 Geographic Information Systems I

GIS as a data base management system for spatial data. Includes application, planning and management. GIS facilitates modeling of natural and cultural resources in a spatial context.

GEOG 488-588 Geographic Information Systems II

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 registration. It gives a conceptual base to many methods and techniques associated with vector and raster-based spatial analysis. It provides an in-depth examination of the functions and capabilities of Arc View Desktop GIS, its extensions and ARC/INFO GIS software. It introduces basic concepts and practical applications of global positioning systems (GPS) technology in GIS especially in creating GIS-compatible data sets. This course gives hands-on experience with PC and UNIX workstations, tablet digitizers, scanners, printers and plotters, GPS equipment, digital camera systems and all supporting software. Students work with real applications and are expected to complete an individual/small group project during the course.

GEOG 489-589 Geographic Information Systems III

This course introduces many of the basic concepts of raster modeling in geographic information systems (GIS) with special emphasis on construction and use of digital elevation models (DEMs) in GIS. It provides an in-depth examination of the functions and capabilities of Arc View Desktop GIS extensions (Spatial Analyst and 3D Analyst) and ARC/INFO GRID GIS software. Building on the skills and techniques learned in GIS I and GIS II courses, it gives a conceptual base to many of the quantitative methods associated with raster-based GIS spatial analysis. Topics include raster data formats and sources, data conversion, merging and projecting raster data sets, DEM displays including image drapes and other visualizations, overlay functions, hydrologic modeling tools and applications, visual analyses, friction and dispersion models and change detection studies. Students are expected to complete an individual/small group project in Arc View or ARC/INFO with a raster data component during the course.

GEOG 490-590 Seminar

GEOG 491L Independent Study Lab

GEOG 492 Topics (COM)

GEOG 494 Internship

GEOG 495 GISc-CE Practicum

GEOG 496 Field Experience

GEOG 497 Geographic Information Systems 1

GEOG 498-588 Geographic Information Systems II

GEOG 499 Topics

GEOG 600 Advanced Geospatial Modeling: Topical

GEOG 601 Evolution of Geographic Thought

GEOG 602 Research and Writing

GEOG 603 Geomorphology

GEOG 604 Geospatial Analysis

GEOG 605 Urban Geography

GEOG 606 Advanced Methods in Geospatial Modeling: Topical

GEOG 607 Advanced Studies in Land Utilization

GEOG 608 Advanced Remote Sensing Application

GEOG 609 Fire and Ecosystems

GEOG 610 Advanced Geographic Techniques

GEOG 611 Quantitative Methods in Geography

GEOG 612 Geographic Information Systems

GEOG 613 Research Paper in Geography

GEOG 614 Seminar

GEOG 615 Independent Study

GEOG 616 Topics

GEOG 617 Field Experience

GEOG 618 Thesis

GEOG 619 Internship

GEOG 620 Advanced Regional Studies in Geography

GER (German)

GER 101 Introductory German I ** (COM) (G)

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 or ** IGR #3.

GER 102 Introductory German II ** (COM) (G)

Continued emphasis on authentic listening, speaking, reading, writing, and culture skills at the elementary level. Prerequisites: GER 101. Notes: * Course meets SGR #4 or ** IGR #3.

GER 201 Intermediate German I (COM)

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.

GER 202 Intermediate German II (COM)

Note: GER 201 and GER 202.
GER 202 Intermediate German II (COM) ................................. 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, GER 201.

GER 310 Practical German Language Skills .................................. 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) .......................... 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) .......................... 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 380 Deutschland Heute (COM) ....................................... 3
An examination of contemporary German society, politics, culture, and people. Taught in German. Prerequisites: GER 311, GER 312.

GER 411 Advanced Composition and Conversation I (COM) .............. 3
Conversational work, oral reports, discussion, dictation. Maybe taken concurrently with GER 311. Prerequisites: GER 202.

GER 412 Advanced Composition and Conversation II (COM) ............ 3
Conversational work, oral reports, discussion, dictation. Maybe taken concurrently with GER 312. Prerequisites: GER 202.

GER 433 German Civilization I (COM) (AW) .................. 3
The culture of the German-speaking countries from the earliest times to the 18th century and then to modern times including literary and artistic trends, and customs. Reading and discussion in German. Prerequisites: GER 202.

GER 434 German Civilization II (COM) (AW) .................. 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) ........................... 3
Main currents of German literature from the earliest times to the age of Goethe.

GER 454 Survey of German Literature II (COM) .................. 3
The main currents of German literature from Romanticism to the present.

GER 491 Independent Study (COM) ........................................ 1-3
GER 492 Topics (COM) ................................................... 2-3
GER 591 Independent Study (COM) ........................................ 1-3

GERO (Gerontology)

GERO 201 Introduction to Gerontology ..................................... 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. Required course for gerontology minors.

GERO 491-591 Independent Study ........................................... 1-3
GERO 492-592 Topics ....................................................... 1-3

GLST (Global Studies)

GLST 201 Global Studies I * ** (G) ..................................... 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. No prerequisites or corequisites. Notes: * Course meets SGR #3 or ** IGR #3.

GLST 380 Futuristic Communications ....................................... 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 201. Crosslisted: ENGL 380.

GLST 401 Global Studies II (G) .............................................. 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. GLST 201, Global Studies 1. (Study abroad prior to enrolling in GLST 401 is recommended.)

GLST 480 Ethics of Globalization ......................................... 3
A writing intensive, critical, and rigorous examination of the ethical bases and moral philosophical foundations which underpin, support, and justify globalization theory and practice. Crosslisted: PHIL 480.

GLST 481 Travel Studies (Cross Cultural Experience) .................. 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 (please see SDSU Bulletin for specifics).

GLST 490 Seminar ............................................................. 3

GLST 491 Independent Study ............................................. 1-3

GLST 492 Topics ............................................................... 3

GLST 494 Internship .......................................................... 1-6

GS (General Studies)

GS 100 University Experience .............................................. 1
The primary purpose of this course is to help students transition successfully to the university. The focus of the course will be to familiarize students with campus resources and to facilitate their engagement in the university experience. Through group discussions with a faculty mentor, students will develop critical thinking and social interaction skills to prepare them for the academic environment. Students will become active participants in the university resources, college policies, role of the academic adviser, student support services, and university academic requirements.
GS 101 Academic and Career Exploration ...........................................1
The course applies developmental theory to assist students in exploring career and major options and help them prepare for academic, career and employment transitions. Includes 15 lecture hours and up to 8 out of class advising sessions.

GS 143 Mastering Lifetime Learning Skills ** ......................................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. Notes: ** Course meets IGR #2.

GS 200 Orientation General Studies Program ...................................0
GS 240 International Travel Study ......................................................0-16
Students who participate in international travel study are required to enroll in this course for zero to 16 credits.

GS 262 Foundations of Interdisciplinary Studies ..............................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 view 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.

GS 282 Tutoring the College Student ..............................................0-3
Instruction to train peer tutors on tutoring techniques, roles in the tutoring relationship, and peer leadership. Areas of emphasis include tutor and tutee responsibilities, confidentiality, leading tutoring sessions, communication skills, learning styles, tutoring diverse student populations, study skills, and tutoring skills.

GS 286 Service Learning (COM) ......................................................(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 479 Interdisciplinary Studies Capstone .......................................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.

GS 486-586 Service Learning (COM) .............................................(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 492 Capstone Course ...............................................................2
The Capstone course will be used to culminate experiences 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.

HDFS (Human Development and Family Studies)

HDFS 141 Individual and the Family ..............................................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 ...........................................................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: HDFS 150L.

HDFS 150L Early Experience Clinical Experience ................................0
Corequisites: HDFS 150.

HDFS 210 Lifespan Development .................................................3
Study of the changes that take place during an individual's life, from conception till death. Emphases on theory, psychosocial, biosocial, and cognitive development. Notes: * Course meets SGR #3
HDFS 227 Human Development and Personality I: Childhood ..........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. Notes: ECE 227.

HDFS 241 Family Relations .............................................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 ..........................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. Notes: WMST 250.

HDFS 292 Topics .................................................................(1-3)

HDFS 337 Human Development II: Adolescence .......................3
Knowledge and understanding of adolescence within the developmental framework. Dimensions of physical growth, biological changes, social, intellectual and emotional development will be considered, as well as the impact of interaction of these forces on the individual. Emphasis is upon normal developmental patterns.

HDFS 341 Family Theories ..................................................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 141, HDFS 241.

HDFS 347 Human Development III: Adulthood ........................3
Developmental approach to Human Development across adulthood. Emphasis on the physical, biological, intellectual and emotional changes. Impact of change upon the personality, self-concept of the individual and their effects upon social behavior, productivity and personal relationships.

HDFS 355 Program Design, Implementation and Evaluation .........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 364 Parent/Child Relationships in a Professional Context ....3
The focus of this course is effective communication with families through a parent education needs assessment, parent education programs, conferencing, parental involvement in schools, newsletter development, and interaction with other agencies for referral purposes. Prerequisites: ECE 364, ECE/HDFS 227.

HDFS 410-510 Parenting ......................................................3
The study of theories, models, research and skills regarding parenting effectiveness and parent-child relations in the context of Western, Native American, and other cultures living in the U.S. Included are comparisons of the relative strengths and weaknesses of various parenting approaches, historical perspective on parenthood and children, and the development perspectives of children and parenting. Best practices for individual and community parent education programs will be addressed.

HDFS 441 Professional Issues in Human Development and Family Studies .................................................................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. Notes: Registration restriction: Senior standing and HDFS majors only, or by permission.

HDFS 480 Travel Studies ......................................................(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 487 Preparation for Practicum ........................................1
Preparation for Practicum will complete the requirements needed to enroll in HDFS 495 Practicum. Students will independently investigate practicum sites using criteria for an approved site. Upon approval, students will meet with the agency supervisor to develop professional goals for the practicum experience and create the practicum contract. This course will be taken the semester prior to enrolling in HDFS 495 Practicum. Prerequisites: HDFS 495 Practicum

HDFS 491-591 Independent Study .........................................(1-3)

HDFS 492-592 Topics ..........................................................(1-3)

HDFS 495 Practicum ..........................................................(1-10)
Prerequisites: HDFS 487 Preparation for Practicum and completion of all 300 level HDFS courses, or by permission.

HDFS 601 Orientation in Graduate Study ................................1

HDFS 614 Adult Development .............................................3

HDFS 665 Parent Education: Theory and Issues .........................3

HDFS 700 Research Methods ..............................................4

HDFS 700L Research Methods Studio ..................................0

HDFS 711 Child Development Theory and Application ...............3

HDFS 742 Family Theory and Research ................................3

HDFS 753 Family Public Policy ..........................................3

HDFS 777 Child and Family Counseling ................................3

HDFS 788 Individual Research and Study ................................(1-7)

HDFS 790 Seminar ............................................................(1-3)

HDFS 791 Independent Study .............................................(1-3)

HDFS 792 Topics ..............................................................(1-3)

HDFS 794 Internship .........................................................(1-3)

HDFS 798 Thesis ..............................................................(1-7)

HIST (History)

HIST 111 World Civilizations I * (COM) ...............................3
A survey of the history, culture, religion and society of the principal civilizations of the world to 1500. Notes: * Course meets SGR #4

HIST 112 World Civilizations II * (COM) (G) .........................3
A survey of the history, culture, religion and society of the principal civilizations of the world since 1500. Notes: * Course meets SGR #4

HIST 121 Western Civilization I * ** (COM) ...........................3
Surveys the evolution of western civilization from its beginnings into the Reformation and religious wars. Notes: * Course meets SGR #4 or ** IGR #3.
HIST 122 Western Civilization II * **(COM) (G)............................................3
Surveys the development of western civilization from the Reformation era to the present. Notes: * Course meets SGR #4 or ** IGR #3.

HIST 151 United States History I * ** (COM).............................................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 #3.

HIST 152 United States History II * ** (COM).............................................3
Surveys development of the United States since the Civil War and Reconstruction. Notes: * Course meets SGR #3 or ** IGR #3.

HIST 280 Writing History.............................................................................3
Study and practice in the major types of historical writing, including research papers, critical book reviews, and essays.

HIST 292 Topics (COM)..............................................................................(1-3)

HIST 311 Chinese History...........................................................................3
A survey of Chinese history to 1840.

HIST 312 History of Modern Asia (COM)....................................................3
Focuses on the history of modern Chinese and Japanese civilizations.

HIST 313 History of the Middle East (COM).............................................3
Surveys the history of the Middle East from Muhammad to the present, emphasizing the political development of the last 200 years.

HIST 314 History of Modern Japan..............................................................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.........................................................................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)..............................................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).........................................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).................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)............................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..................................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)..................................................3
Presents English History from the earliest times through the Glorious Revolution of 1688.

HIST 345 History of Russia...........................................................................3
From the earliest times to present. Treats cultural and social as well as political aspects.

HIST 346 Canada: History and Geography (COM)......................................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......................................................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. Crosslisted: WMST 349.

HIST 350 Women in World History............................................................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. Crosslisted: WMST 350.

HIST 352 Revolution and Early National United States...............................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...............................................3
Jefferson's administrations, War of 1812, Jackson's administrations.

HIST 355 American Civil War: Military History........................................3
A critical appraisal of the ideas, significant encounters and creative processes which affected the manner in which Americans made war from 1861 to 1865. The technological and the operational aspects of the war will be the primary concern, although personalities will not be neglected.

HIST 356 U.S. Rise to Power 1877-1920.....................................................3
Examination of political, economic, social, and cultural developments in the U.S. from 1877-1920. Emphasis on urban and industrial growth, reform movements, imperialism, war.

HIST 357 America Between Wars 1918-41...............................................3
Major political, social, economic, and cultural developments in the U.S. during the crucial decades of the 1920s, 1930s.

HIST 358 The U.S. Since 1941 (COM).........................................................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)..............3
Presents history and culture of North American Indians from before white contact to the present, emphasizing regional Dakota cultures. Crosslisted: AIS 368. Fulfills Teacher Education requirement. Notes: ** Course meets IGR #1.

HIST 377 Economic History of U.S. (COM)................................................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 History of the U.S...............................................................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)...................................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.

Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/ For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.
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<tr>
<td>HIST 441</td>
<td>History of Modern Britain (COM)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 445</td>
<td>Cold War Europe</td>
<td>3</td>
</tr>
<tr>
<td>HIST 447</td>
<td>History of Modern Germany (COM)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 448</td>
<td>Nazi Germany (COM)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 450</td>
<td>American Colonial History (COM)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 451</td>
<td>History of Modern Britain (COM)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 455</td>
<td>American Civil War and Reconstruction (COM)</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 200</td>
<td>Complementary and Alternative Health Care</td>
<td>3</td>
</tr>
</tbody>
</table>

**HLTH (Health Education)**

**HLTH 120 Community Health**
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. Open to all students. Crosslisted: HSC 120.

**HLTH 200 Complementary and Alternative Health Care**
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 individuals 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
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. Crosslisted: HSC 212.

HLTH 230 Stress Management for Life
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. No required pre-requisites.

HLTH 250 Pre-Professional First Aid and CPR (COM)
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.

HLTH 250L Pre-Professional First Aid and CPR Lab (COM)
Accompanies HLTH 250.

HLTH 251 First Aid and CPR (COM)
First aid instruction meeting the requirements of the American Red Cross Responding 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 262 Instructor Course Home Nursing
Workshop of 36 hours in effective methods of teaching home care of the sick. Limited to 14 students. Prerequisites: consent.

HLTH 298 Allied Health Technical Training
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

HLTH 364 Emergency Medical Technician (COM)
This course develops skills in symptom recognition in all emergency care procedures and techniques currently considered to be within the responsibilities of an EMT providing emergency medical care with an ambulance service. The EMT course follows state EMS guidelines and ambulance services. The EMT course follows state EMS guidelines and consists of 25 lessons involving a minimum of 80 hours of classroom and field training, plus 10 hours of in-hospital observation and training. Corequisites: HLTH 364L.

HLTH 364L Emergency Medical Technician Lab (COM)
Accompanies HLTH 364.

HLTH 420/520 K-12 Methods of Health Instruction (COM)
Curriculum content at elementary and secondary levels. Methods of presentation including direct, correlated, and integrated health instruction. Organization of health and safety education.

HLTH 443 Public Health Science (G)
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. Crosslisted: HSC 443.

HLTH 445 Epidemiology
This course provides information on the epidemiological concepts, principles, and methods for understanding the distribution and determinants of selected diseases, conditions and indices of health in control and evaluation are analyzed. Prerequisites: junior or senior standing or consent of the instructor. Crosslisted: HSC 445.

HLTH 479 Health Promotion Programming and Evaluation
Practical skills of a worksite and community wellness professional will be investigated. Topics include a definition of worksite wellness, rationale for programs, types of programs, design, promotion, evaluation, marketing. Prerequisites: instructor consent. Corequisites: HLTH 479L.

HLTH 479L Health Promotion Programming and Evaluation Lab
Corequisites: HLTH 479.

HMGT (Hospitality Management)

HMGT 171 Introduction to Hospitality Industry
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.

HMGT 251 Foodservice Sanitation
Food sanitation and personal hygiene in a foodservice management setting. Students will receive national sanitation certification upon successful completion of ServeSafe® exam.

HMGT 261 Hospitality Technology
Explorative view of hospitality information systems and use of computers in the hospitality industry. Prerequisites: CSC 105.

HMGT 291 Independent Study
(1-3)

HMGT 292 Topics

HMGT 295 Practicum
(1-3)

HMGT 361 Hospitality Industry Law
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. Prerequisites: BADM 350.

HMGT 370 Lodging Operations and Purchasing Management
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: HFM 171.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMS 791</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>HMS 792</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>HMS 793</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>HMS 794</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>HMS 795</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>HO 100</td>
<td>Survey of Horticulture</td>
<td>1</td>
</tr>
<tr>
<td>HO 111</td>
<td>Biology of Horticulture</td>
<td>3</td>
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<tr>
<td>HO 111L</td>
<td>Biology of Horticulture Lab</td>
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<tr>
<td>HO 221</td>
<td>Turfgrasses</td>
<td>1</td>
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<tr>
<td>HO 221L</td>
<td>Turfgrasses Lab</td>
<td>0</td>
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<tr>
<td>HO 222</td>
<td>Fundamentals of Turf Management</td>
<td>2</td>
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<tr>
<td>HO 222L</td>
<td>Fundamentals of Turf Management Lab</td>
<td>0</td>
</tr>
<tr>
<td>HO 231</td>
<td>Greenhouse Crop Production</td>
<td>2</td>
</tr>
</tbody>
</table>

**Course Descriptions 283**

Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/

For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.
# Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>HO 250</td>
<td>Woody Plants: Trees</td>
<td>3</td>
<td>BIOL 101, HO 250L</td>
</tr>
<tr>
<td>HO 250L</td>
<td>Woody Plants: Trees Lab</td>
<td>0</td>
<td>BIOL 101, HO 250L</td>
</tr>
<tr>
<td>HO 260</td>
<td>Woody Plants: Shrubs and Vines</td>
<td>2</td>
<td>HO 250 or consent</td>
</tr>
<tr>
<td>HO 260L</td>
<td>Woody Plants: Shrubs and Vines Lab</td>
<td>0</td>
<td>HO 250L</td>
</tr>
<tr>
<td>HO 290</td>
<td>Professionalism in Horticulture Seminar</td>
<td>2</td>
<td></td>
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<tr>
<td>HO 311</td>
<td>Herbaceous Plants</td>
<td>3</td>
<td>HO 111, BOT 201, or consent</td>
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<tr>
<td>HO 311L</td>
<td>Herbaceous Plants Lab</td>
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<td>HO 311</td>
</tr>
<tr>
<td>HO 312</td>
<td>Plant Propagation</td>
<td>3</td>
<td>HO 111, BOT 201, or consent</td>
</tr>
<tr>
<td>HO 312L</td>
<td>Plant Propagation Lab</td>
<td>0</td>
<td>HO 312</td>
</tr>
<tr>
<td>HO 321</td>
<td>Golf Course Management</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>HO 321L</td>
<td>Golf Course Management Lab</td>
<td>0</td>
<td>HO 321</td>
</tr>
<tr>
<td>HO 322</td>
<td>Turfgrass Pests</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>HO 322L</td>
<td>Turfgrass Pests Lab</td>
<td>0</td>
<td>HO 322</td>
</tr>
<tr>
<td>HO 330</td>
<td>Arboriculture</td>
<td>2</td>
<td>BOT 201-201L or BIOL 153-153L</td>
</tr>
<tr>
<td>HO 331</td>
<td>Arboricultural Operations</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HO 350</td>
<td>Environmental Stewardship in Horticulture</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HO 383</td>
<td>Principles of Crop Improvement</td>
<td>3</td>
<td></td>
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<tr>
<td>HO 383L</td>
<td>Principles of Crop Improvement Lab</td>
<td>0</td>
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</tr>
<tr>
<td>HO 411-511</td>
<td>Fruit Crop Systems</td>
<td>1-3</td>
<td></td>
</tr>
<tr>
<td>HO 415</td>
<td>Nursery Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HO 422</td>
<td>Current Issues in Turfgrass Science</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HO 430</td>
<td>Urban Forest Management</td>
<td>3</td>
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<tr>
<td>HO 440-540</td>
<td>Vegetable Crop Systems</td>
<td>1-3</td>
<td></td>
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<tr>
<td>HO 464</td>
<td>Senior Project I (AW)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HO 465</td>
<td>Senior Project II (AW)</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Nomenclature, identification and classification of hardy coniferous and deciduous trees. Landscape use as affected by inherent ornamental qualities, hardiness, environmental factors, and pests. Prerequisites: HO 111, BIOL 101. Corequisites: HO 250L.**

**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.**

**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.**

**Management of golf courses, including design philosophy, principles, culture, equipment, problem diagnosis, and facility management. Corequisites: HO 311L.**

**Identification, diagnosis, and control of pathogenic and insect pests common to turfgrasses of the Northern Plains. An integrated pest management approach is emphasized along with an overview of pesticides available to professional turf managers. Prerequisites: or corequisite course PS 223-223L. Corequisites: 332L.**

**The establishment and care of woody plants: vines, shrubs and trees. Prerequisites: BOT 201-201L or BIOL 153-153L.**

**The techniques used in the safe and efficient pruning, cabling and removal of woody plants. Prerequisites: or corequisite course HO 330.**

**Concepts and principles of stewardship and sustainability relative to realized and potential impacts of horticultural practices on the environment.**

**Evaluation of crop species, reproduction of crop plants, use of genetic variability, traits of interest, breeding programs, designs and management. Heritability, plant introduction, vegetative propagation, hands-on lab demonstration. Prerequisites: Take PS 103/103L or HO 111/HO111L; and take BIOL 103/103L or BIOL 153/153L or BOT 201/201L. Corequisites: HO 383L. Crosslisted: PS 383.**

**Studies in perennial fruit crop production and management systems (1-6 credits). 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.**

**Greenhouse construction, environmental control, production and scheduling of major greenhouse crops. Trips to commercial greenhouse operations and laboratory work in greenhouse crop production. Prerequisites: HO 231, HO 311 and PS 213 or consent. Corequisites: HO 412L.**

**Turfgrass response to environmental stress and traffic.**

**Presentation of selected topics not covered in other turfgrass management courses.**

**The planning and management of public vegetation, especially as it related to street trees, park trees and forested greenbelts. Prerequisites: or corequisite courses PR 303 and HO 330.**

**Studies in vegetable crop production and management systems. Credit earned will depend on the modules taken. Course may be repeated as long as the module(s) are not repeated. Potential topic modules could include: root crop systems; cucurbit production systems; vegetable legumes; herbs; solanaceous crops; heirloom vegetable crops; integrated pest management; market gardening; organic production systems; extended season crop management; high tunnels; leaf and cool season crops; annual crop rotation systems; marketing specialty crops.**

**A capstone course that requires students to develop a comprehensive research project, service project, or case study. Written and oral presentation of project/case study plan and preliminary work, and plans for second semester completion of the project.**

**A capstone course that requires students to complete a comprehensive research project, service project, or case study. Written and oral presentation of completed project or case study. Prerequisites: HO 464.**
### Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HO 491</td>
<td>Independent Study</td>
<td>1-2</td>
<td></td>
</tr>
<tr>
<td>HO 492-592</td>
<td>Topics</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>HO 494</td>
<td>Internship</td>
<td>1-12</td>
<td></td>
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<tr>
<td>HO 496</td>
<td>Field Experience</td>
<td>1-12</td>
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<tr>
<td>HO 497</td>
<td>Cooperative Education</td>
<td>1-12</td>
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<tr>
<td>HO 498</td>
<td>Undergraduate Research/Scholarship</td>
<td>1-3</td>
<td></td>
</tr>
<tr>
<td>HO 511</td>
<td>Fruit Crop Systems</td>
<td>1-6</td>
<td></td>
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<tr>
<td>HO 540</td>
<td>Vegetable Crop Systems</td>
<td>1-6</td>
<td></td>
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<tr>
<td>HO 746</td>
<td>Plant Breeding</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HON 100</td>
<td>Honors College Orientation</td>
<td>1</td>
<td>Opportunities and requirements associated with continued participation in the SDSU Honors College will be emphasized along with general university orientation materials.</td>
</tr>
<tr>
<td>HON 301</td>
<td>Honors Colloquium</td>
<td>1-4</td>
<td>History of ideas. May be repeated once.</td>
</tr>
<tr>
<td>HON 302</td>
<td>Honors Colloquium</td>
<td>1-4</td>
<td>The Arts. May be repeated once.</td>
</tr>
<tr>
<td>HON 303</td>
<td>Honors Colloquium</td>
<td>1-4</td>
<td>The Social Sciences. May be repeated once.</td>
</tr>
<tr>
<td>HON 304</td>
<td>Honors Colloquium</td>
<td>1-4</td>
<td>History and/or Philosophy of Science. May be repeated once.</td>
</tr>
<tr>
<td>HON 491</td>
<td>Independent Study (COM)</td>
<td>1-3</td>
<td></td>
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<tr>
<td>HPER 690</td>
<td>Seminar</td>
<td>2</td>
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<tr>
<td>HPER 742</td>
<td>Psychological Aspects of Sport and Exercise</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HPER 745</td>
<td>Sports Medicine (may be taught on demand)</td>
<td>2</td>
<td></td>
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<tr>
<td>HPER 760</td>
<td>Motor Learning and Development</td>
<td>3</td>
<td></td>
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<tr>
<td>HPER 780</td>
<td>Introduction to Graduate Study and Research</td>
<td>1</td>
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<tr>
<td>HPER 783</td>
<td>Research Methods in HPER</td>
<td>3</td>
<td></td>
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<tr>
<td>HPER 788</td>
<td>Individual Research and Study in HPER</td>
<td>1-3</td>
<td></td>
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<tr>
<td>HPER 791</td>
<td>Independent Study</td>
<td>1-3</td>
<td></td>
</tr>
<tr>
<td>HPER 795</td>
<td>Practicum</td>
<td>1-9</td>
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<td>HPER 796</td>
<td>Field Experience</td>
<td>1-9</td>
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<tr>
<td>HPER 798</td>
<td>Thesis</td>
<td>1-5</td>
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<tr>
<td>HSC 100</td>
<td>First Year Seminar for Health Professionals in the Learning Community</td>
<td>1</td>
<td>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 health-care facilities and panel discussions.</td>
</tr>
<tr>
<td>HSC 210</td>
<td>Community Health</td>
<td>2</td>
<td>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. Open to all students. Crosslisted: HLTH 120.</td>
</tr>
<tr>
<td>HSC 230</td>
<td>Stress Management for Life</td>
<td>3</td>
<td>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. No required prerequisites.</td>
</tr>
<tr>
<td>HSC 250</td>
<td>Disaster Preparedness</td>
<td>2</td>
<td>Basic philosophy, fundamental principles of civil defense; citizen's role in emergency planning for non-military national defense. Open to all students.</td>
</tr>
<tr>
<td>HSC 260</td>
<td>Women's Health Issues</td>
<td>3</td>
<td>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. Crosslisted: WMST 260</td>
</tr>
<tr>
<td>HSC 262</td>
<td>Instructor Course Home Nursing</td>
<td>1</td>
<td>Workshop of 36 hours in effective methods of teaching home care of the sick. Limited to 14 students. Prerequisites: consent.</td>
</tr>
<tr>
<td>HSC 300</td>
<td>Wellness and the Family</td>
<td>2</td>
<td>Overview of health promotion as applied to the family throughout all stages of development. Planning for promotion of family health. Open to all students. Crosslisted: HLTH 302.</td>
</tr>
<tr>
<td>HSC 420/520</td>
<td>Methods of Health Instruction</td>
<td>2</td>
<td>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</td>
</tr>
</tbody>
</table>

Students are advised to check for most current course description information at: [https://wa-sdsu.state.sd.us/webadvisor/](https://wa-sdsu.state.sd.us/webadvisor/) For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.
will also be introduced to useful academic and community resources. Crosslisted: HLTH 420.

HSC 433-533 Occupational Health ............................................. 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) ............................................. 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 is the relationship of public law and policies to the delivery of health care. Crosslisted: HLTH 443.

HSC 445 Epidemiology ......................................................... 3
The course provides information on the epidemiological concepts and methods needed to understand the description of the occurrence of health outcomes, and the identification of risk factors for health outcomes in human populations. Prerequisites: junior or senior standing or consent of instructor. Crosslisted: HLTH 445.

HSC 490 Seminar (AW) .........................................................(1-4)
HSC 492 Topics ....................................................................... 1-4
HSC 493 Workshop .................................................................(1-4)
HSC 494 Internship (COM) .....................................................(1-12)
HSC 496 Field Experience .......................................................(1-12)
HSC 497 Cooperative Education .............................................(1-12)

HSC 631 Biostatistics I ............................................................ 3
Basic principles of statistics applied to health science. Emphasis is on the role of statistics in evaluation of human health data, and the use of a statistical computing package to input and manipulate datasets, explore, analyze, and interpret data, and present results. Topics include probability distributions, point and interval estimation, hypothesis tests, linear regression, correlation, tests of association for categorical data, and analysis of variance.

HSC 731 Biostatistics II ............................................................ 3
Continuation of Biostatistics I. Intermediate principles and methods of statistics applied to health science. Emphasis is on the role of statistics in evaluation of human health data, and the use of a statistical computing package to input and manipulate datasets, explore, analyze, and interpret data, and present results. Topics include introductions to multiple linear regression, logistic regression, survival analysis, selected ANOVA designs, and selected multivariate methods. Prerequisites: HSC 631 Biostatistics I.

HSC 782 Epidemiology ............................................................ 3

ID (Interior Design)

ID 150 Introduction to Interior Design I .................................... 4
Introduction to visual communication, design and color theory, design fundamentals, and human factors. Basic hand techniques will introduce design theories and how to represent them in a graphic format. Corequisites: ID 150L.

ID 150L Introduction to Interior Design I Studio ....................... 0
Corequisites: ID 150.

ID 151 Introduction to Interior Design II .................................... 4
Introduction to the design process and other theories in design such as functionalism, interior ecosystems, etc. with the application of visual communication skills to the design process. Prerequisites: ID 150. Corequisites: ID 151L.

ID 151L Introduction to Interior Design II Studio ....................... 0
Corequisites: ID 151.

ID 215 Materials ..................................................................... 3
Study of the characteristics of interior finishes and furnishings that includes textile history, resources, environmental issues, selection and installation. Design projects focused on material selection and application for interior design. Prerequisites: AM 242. Corequisites: Corequisite ID 215L.

ID 215L Materials Studio ........................................................ 0
Corequisites: Corequisite ID 215.

ID 222 Interior Design Studio I ............................................... 4
Introduction to small-scale interior design spaces, appropriate visual skills, and computer software. A direct connection between computer work and studio projects will be made through the design process. Prerequisites: ID 151-151L.

ID 223 Interior Design Studio II ............................................... 4
Exploring interior spaces using the design process. Visual communication and computer software skills will be expanded to be presentation-appropriate for clients and other professionals. Prerequisites: ID 222.

ID 224 History of Interiors .................................................... 4
Historical backgrounds in architecture and interiors: Antiquity to present.

ID 290 Seminar: Sustainable Issues in Design ......................... 1
ID 292 Topics .......................................................................(1-3)

ID 317 Professional Practices in Interior Design ...................... 2
Study of professional practices of interior design firms and review of practicum manual.

ID 319 Building Systems I .................................................... 2
Examination of the methodology of construction to understand how various building systems are organized. Understanding the levels and coordination required of the building trades: structural, mechanical, electrical, and architectural. Prerequisites: ID 215. Corequisites: ID 319L.

ID 319L Building Systems I Studio ......................................... 0
Corequisites: ID 319.

ID 320 Lighting and Acoustics ............................................... 2
Issues and factors about the effects of lighting and acoustics on interior spaces. Fundamentals of lighting and acoustics are investigated through use of models and study of theory. Preparation of lighting plans and specifications. Corequisites: ID 320L.

ID 320L Lighting and Acoustics Lab ....................................... 0
Corequisites: ID 320.
INFO (Informatics)

INFO 101 Introduction to Informatics ........................................... 3
An introduction to informatics and basic computer programming. Other topics include the basic operation of hardware, software, servers, the Internet, intranets, networks, web browsers, and information security.

INFO 102 Social and Ethical Aspects of Informatics ............................. 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.

LA (Landscape Architecture)

LA 120 Fundamentals of Landscape Graphics ...................................... 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 201 Introduction to Landscape Design ........................................ 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 231 Computer Applications in Landscape Architecture .................... 3
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 for the landscape industry. Prerequisites: GE 123, LA 314.

LA 241 History of Landscape Architecture ...................................... 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 284 Landscape Graphics and Theory of Design .................................. 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 314 Landscape Design Studio ...................................................... 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 284.

LA 321 Golf Course Design ............................................................... 1
Golf course design principles and practices. Site analysis, design process, construction specifications and techniques and aesthetic/design elements.

LA 322 Landscape Site Engineering .................................................. 3
Technical work in preparing grading plans, computing areas of cut and fill, site selection, topographic analysis, soil and exposure analysis, surface and subsurface drainage, and pedestrian and vehicular circulation. Prerequisites: LA 364 or CM 210.
### LA Courses

**LA 323 Landscape Construction**
- Design and construction of walks, terraces, fences, walls, pools, and other landscape structures and systems. Prerequisites: LA 314.

**LA 324 Planning Public Grounds**
- 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 314. Corequisites: LA 324L.

**LA 324L Planning Public Grounds Lab**
- Corequisites: LA 324.

**LA 332 Residential Landscape Design**
- Advanced theory and practice of residential design focusing on indoor-outdoor relationships, regional and functional design styles, and the works of famous designers. Prerequisites: LA 284 or consent.

**LA 364 Planting Design and Specifications**
- 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 314; HO 250.

**LA 421 City Planning**
- City planning in the United States, planning practice and theory, urban design, and land use planning. Local planning efforts observed. Prerequisites: LA 324. Corequisites: LA 421L.

**LA 421L City Planning Lab**
- Corequisites: LA 421.

**LA 424 Recreational Facilities Design**
- 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 424L. Corequisites: LA 424L.

**LA 424L Recreational Facilities Design Lab**
- Corequisites: LA 424.

**LA 440 Restoration Ecology**

**LA 440L Restoration Ecology Lab**
- Corequisites: LA 440.

**LA 442 Landscape Design III**
- Advanced design theory and practice focusing on large scale, complex projects which require the application of knowledge from a wide variety of sources. The seminal design theory course in the Landscape Design major. Prerequisites: LA 314 or consent.

**LA 464 Landscape Professional Practicum Studio**
- 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**
- (1-3)

**LA 492 Topics**
- (1-4)

**LA 494 Internship**
- (1-12)

**LA 497 Cooperative Education**
- (1-12)

**LA 498 Undergraduate Research/Scholarship**
- (1-3)

**LA 560 Landscape Ecology**
- (4)

**LA 560L Landscape Ecology Lab**
- (0)

### LAKL Courses

**LAKL 101 Introductory Lakota I * ** (COM)**
- An introduction to the Lakota language with emphasis on basic conversation, language structure, and vocabulary. Crosslisted: AIS 101. Notes: * Course meets SGR #3 or ** IGR #3.

**LAKL 102 Introductory Lakota II * ** (COM)**
- A continued introduction to the Lakota language with emphasis on basic conversation, language structure, and vocabulary. Crosslisted: AIS 102. AIS 101 OR LAKL 101 or consent of instructor. Notes: * Course meets SGR #3 or ** IGR #3.

**LAKL 201 Intermediate Lakota I (COM)**
- A continuation of the first-year course, with emphasis on reading, composition, and vocabulary building. Crosslisted: AIS 201. AIS 101 and AIS 102 or LAKL 101 and LAKL 102 or consent of instructor.

**LAKL 202 Intermediate Lakota II (COM)**
- A continuation of intermediate Lakota with emphasis on reading, composition, vocabulary building and the oral tradition. Prerequisites: LAKL 101 and LAKL 102, or AIS 101 and AIS 102, or consent of instructor. Crosslisted: AIS 202

### LAS Courses

**LAS 301 Latin American Cultures**
- A broad view of a country, region, epoch or theme concerning Latin America. A multidisciplinary and multimedia approach. General supervision by the coordinator of Latin American Area Studies program. sophomore standing or consent. May be repeated with consent of the coordinator of the LAS program. Enrollment limited to 20.

**LAS 302 Latin American Societies**
- A broad view of the society of a country, region, epoch or theme concerning Latin America. A multidisciplinary and multimedia approach. sophomore standing or consent. May be repeated for credit with consent of the LAS Coordinator.

**LAS 491 Independent Study**
- (1-3)

### LEAD Courses

**LEAD 210 Foundations of Leadership**
- 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.

**LEAD 310 Leadership for Families and the Food System**
- 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, moral and ethical issues, leadership renewal, mission statements, and contemporary leadership issues facing the
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/

For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

agricultural, biological, family, and consumer sciences. Crosslisted: ABS/FCS 310

LEAD 410 Leadership: Senior Seminar ........................................... 1
Senior seminar in leadership. Students will examine contemporary leadership issues through readings, speakers and class discussions, and will develop senior portfolio showcasing their development and capacities as a leader.

LEAD 433 Leadership and Organizations ......................................... 3
Emphasis is on the emergence of leadership patterns, group dynamics, small groups, and leadership in management. Prerequisites: SOC 100 or 150. Crosslisted: SOC 433.

LEAD 494 Internship ......................................................................... 3

LEAD 496 Field Experience: Leadership in Action ............................... 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 .............................................................. 3
Instruction in the theory and practice of traditional grammar including the study of parts of speech, parsing, and practical problems in usage.

LING 420-520 The New English ......................................................... 3
Diverse new theories and applications in English linguistics: lexicography, pragmatics, stylistics, socio-semantics, semiotics, and discourse theory.

LING 425-525 The Structure of English ............................................. 3
Use of traditional, structural, and transformational grammars for describing the English language. Practical application in teaching. Strongly recommended for majors planning to teach.

LING 443-543 Development of the English Language ......................... 3
Historical survey of phonology, grammar, syntax, and lexicon of English leading to an understanding of the present state of the language and future developments.

LING 452-552 General Semantics ....................................................... 3
Relations between symbols; human behavior in reaction to symbols including unconscious attitudes, linguistics assumptions; and the objective systematization of language. Crosslisted: SPCM 552.

LING 460-560 Applied Linguistics in Teaching English as a Second Language ............................................................................. 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 U.S. culture such as the rhetoric of public and school interactions. Prerequisites: instructor's permission. Crosslisted: EDFN 460-560.

LMNO (Leadership and Management of Nonprofit Organizations)

LMNO 201 Introduction to Leadership and Management of Nonprofit Organizations ................................................................. 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 291 Independent Study ..............................................................(1-3)
LMNO 292 Topics ..............................................................................(1-3)
LMNO 491 Independent Study ..............................................................(1-3)
LMNO 492 Topics ..............................................................................(1-3)
LMNO 495 Practicum .......................................................................(1-8)

MATH (Mathematics)

MATH 21 Basic Algebra (COM) .......................................................... 3
This course prepares students for college level mathematics. Topics generally include: basic properties of real numbers, exponents and radicals, rectangular coordinate geometry, solutions to linear and quadratic equations, inequalities, polynomials, and factoring. Students may also be introduced to functions and systems of equations. Note: This is a remedial level course and no credit for MATH 021 will be granted for graduation.

MATH 101 Intermediate Algebra (COM) ............................................ 3
Basic properties of real numbers, linear equations and inequalities, quadratic equations, systems of equations, polynomials and factoring, rational expressions and equations, and radical 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: MATH 021 or placement.

MATH 102 College Algebra * (COM) .................................................. 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. grade of “C” or better in MATH 101 or placement. Notes: * Course meets SGR #5.

MATH 103 Quantitative Literacy .......................................................... 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: Take MATH-ACT3 MATH-ALG3 MATH-CALGl MATH-SAT3 MATH-101, or MATH-E102;

MATH 103L Lab: Quantitative Literacy ................................................. 1
Laboratory experience for MATH 103. Corequisites: MATH 103

MATH 104 Finite Mathematics * (COM) ............................................. 4
This course includes: linear systems of equations, matrices, linear programming, mathematics of finance, probability, statistics, and other topics. This course cannot be used as the prerequisite for courses requiring MATH 102. Prerequisites: MATH 101 or placement. Notes: * Course meets SGR #5.

MATH 115 Precalculus * (COM) ......................................................... 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 Compass Exam Score: College Algebra 53 100, Trigonometry 0 - 39. Notes: * Course meets SGR #5.

MATH 120 Trigonometry * (COM) ......................................................... 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 Survey of Calculus * (COM) ............................................. 4
A survey of calculus including an intuitive approach to limits, continuity, differentiation, and integration with an emphasis on applications of the derivative and the integral as well as topics from multivariable calculus. Prerequisites: MATH 102 or MATH 115 or placement. Corequisites: MATH 121L. Notes: * Course meets SGR #5.

MATH 121L Survey of Calculus Applications Lab ................................ 1
A lab which supplements Math 121 and provides the opportunity to study applications in more detail. Corequisites: MATH 121.

MATH 123 Calculus I * (COM) .......................................................... 4
The study of limits, continuity, derivatives, applications of the derivative, antiderivatives, the definite and indefinite integral, and the fundamental theorem of calculus. Prerequisites: Placement in Math 123 with required corequisite Math 123L:
Trig Compass score 40-54 OR Math 115 with grade of C or D Placement in Math 123 without required co-requisite Math 123L:
Trig Compass score 55 or higher OR Math 115 with grade of A or B Notes: * Course meets SGR #5.

MATH 123L Calculus I Lab (COM) ................................................... 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) .......................................................... 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 .................................................... 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. Prerequisites: 1 unit of high school algebra. Instructor's consent required.

MATH 198 The Mathematics Profession ............................................. 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 215 Matrix Algebra ............................................................... 2
An introduction to systems of linear equations, matrices, and determinants with applications to linear mathematical problems. Prerequisites: MATH 115 or MATH 123 or consent.

MATH 225 Calculus III * (COM) ....................................................... 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 ...................................................... 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 .................................................... 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 ......................................................... 1-4

MATH 292 Topics (COM) ................................................................. (1-5)

MATH 315 Linear Algebra (COM) .................................................... 3
Course topics include: the theory and applications of systems of linear equations, matrices, determinants, vector spaces, linear transformations and applications. Prerequisites: MATH 215 and MATH 253.

MATH 316 Discrete Mathematics (COM) ........................................... 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) ......................................... 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 ................................ 3
Fourier series, vector analysis, matrices, determinants, and topics selected from: complex variables, partial differential equations, numerical methods. Prerequisites: MATH 321.

MATH 355 Methods of Teaching Mathematics .................................. 3
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, EDFN 338. Corequisites: MATH 355L.

MATH 355L Methods of Teaching Mathematics Lab .......................... 0
Corequisites: MATH 355.

MATH 361 Modern Geometry (COM) ................................................. 3
In this course topics will be chose 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 ........................... 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) ....................... 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 ................................................. 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

For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.
Two semester course: In the first semester, students will carry out activities MATH 401 Senior Capstone and Advanced Writing (AW) 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 Theory of Numbers (COM) Properties of integers, divisibility, primes, congruencies, Diophantine equations, quadratic residues, continued fractions and the distribution of primes. Prerequisites: MATH 125.

MATH 413 Abstract Algebra I (COM) Introduction to the theory and applications of algebraic structures including groups, rings, and fields. Prerequisites: MATH 315.

MATH 414 Abstract Algebra II (COM) This is a continuation of topics from MATH 413. Prerequisites: MATH 413.

MATH 425 Real Analysis I (COM) 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) This is continuation of MATH 425. Prerequisites: MATH 425.

MATH 430-530 Fractals and Chaos An introduction to the mathematics of fractals and chaos at two levels. Non-calculus based classroom activities suited for secondary students are introduced using inexpensive, easy-to-use software. Concepts are then investigated more deeply with calculus-based techniques. Prerequisites: MATH 123.


MATH 433 Capstone: Mathematics Education In this course, prospective teachers examine high school mathematics topics from an advanced point of view. The topics include, but are not limited to: 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 435-535 Complex Variables I Mathematical models from microbiology, cellular biology, and physiology will be developed and analyzed. Topics will include enzyme kinetics, cell membrane function, cell cycle regulation, intercellular communication, and molecular motors. Prerequisites: MATH 125.

MATH 439-539 Bioinformatics This course is an introduction to bioinformatics for students in mathematics and physical sciences. This course will include a brief introduction to cellular and molecular biology, and will cover topics such as sequence alignment, phylogenetic trees and gene recognition. Existing computational tools for nucleotide and protein sequence analysis, protein functional analysis and gene expression studies will be discussed and used. Prerequisites: STAT 281 or 381.

MATH 441-541 Applied Probability Theory 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: MATH 381 or consent or STAT 381.

MATH 450 History of Mathematics (COM) 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 457-557 Ecological Modeling 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 123.

MATH 458-558 Mathematical Models in Microbiology Mathematical models from microbiology, cellular biology, and physiology will be developed and analyzed. Topics will include enzyme kinetics, cell membrane function, cell cycle regulation, intercellular communication, and molecular motors. Prerequisites: MATH 125.

MATH 461-561 Introduction to Topology (COM) 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 474/574 Scientific Computation I A continuation of Scientific Computation I. Topics will include computational methods used for mathematical modeling, such as numerical methods for solving linear systems, and methods for solving initial value problems. Numerical methods will be applied to mathematical models. Simulation and validation of models will be discussed. 3 credits, spring semester only. Prerequisites: Differential Equations (COM) and MATH 374.

MATH 490-590 Seminar (COM) An introduction to topological and metric spaces with specific emphasis on topology of the real line. Prerequisites: MATH 225.

MATH 491-591 Independent Study (COM) 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 492-592 Topics (COM) A continuation of Scientific Computation I. Topics will include computational methods used for mathematical modeling, such as numerical methods for solving linear systems, and methods for solving initial value problems. Numerical methods will be applied to mathematical models. Simulation and validation of models will be discussed. 3 credits, spring semester only. Prerequisites: Differential Equations (COM) and MATH 374.

MATH 494 Internship (COM) An introduction to the fundamental concepts of financial mathematics. Topics include simple and compound interest, annuities, amortization, sinking funds, bonds, stocks, rates of return, term structure of interest rates, cashflow duration and immunization. Prerequisites: MATH 225. Notes: Dual listed with MATH 540.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

MATH 541 Applied Probability Theory .............................................3
MATH 623 Advanced Calculus I......................................................3
Prerequisites: MATH 425 or consent.
MATH 624 Advanced Calculus II ....................................................3
Prerequisites: MATH 623.
MATH 631 Ordinary Differential Equations .......................................3
MATH 635 Complex Variables II ....................................................3
MATH 671 Numerical Analysis II ...................................................3
MATH 672 Numerical Analysis ......................................................3
MATH 673 Numerical Differential Equations .....................................3
Prerequisites: MATH 321 and MATH 571.
MATH 674 Advanced Scientific Computation ...................................3
MATH 716 Theory of Algebraic Structures I .....................................3
MATH 717 Theory of Algebraic Structures II ....................................3
MATH 726 Real Variables I ..........................................................3
MATH 727 Real Variables II .........................................................3
MATH 788 Research Paper ...........................................................1
MATH 790 Seminar .................................................................(1-2)
MATH 791 Independent Study .......................................................(1-3)
MATH 792 Topics ........................................................................(1-3)
MATH 798 Thesis .........................................................................(1-7)

MCOM (Journalism and Mass Communication)

MCOM 130 Introduction to Electronic Media (COM) ......................3
Includes the history, process, structure, regulation, economics, programming, public responsibilities, and impact on society of electronic media.

MCOM 144 Media Production Environments I ................................1
Credit earned by active participation in media production activities. Prerequisites: consent. – Section I: Radio. – Section II: Television. – Section III: Film.

MCOM 145 Media Literacy and Ethics ..............................................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 how social responsibility lies in relationship to the mass media.

MCOM 151 Introduction to Mass Communication * (COM) ........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 .................................................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 ....................................................3
Film as art; themes and inventions; films and society; introduction to the camera.

MCOM 161 Fundamentals of Desktop Publishing (COM) ..............3
Fundamental design principles, techniques, and technology of electronic layout and production.

MCOM 161L Fundamentals of Desktop Publishing Studio (COM) ......0
Accompanies MCOM 161.

MCOM 210 Basic Newswriting (COM) .............................................3
Introduces students to gathering, evaluating and writing news. Prerequisites: ENGL 101.

MCOM 210L Basic Newswriting Studio (COM)................................0

MCOM 215 Sportswriting ..............................................................3
Interviewing, reporting, writing, and editing sports stories combined with an exploration of sportswriting as a career.

MCOM 220 Introduction to Digital Media .......................................2
An introduction to the basics of digital imagery and design for the news media. Corequisites: MCOM 220L.

MCOM 220L Introduction to Digital Media Studio ................................0
Hands-on application of the basics of news media digital communication. Corequisites: MCOM 220.

MCOM 225 Introduction to Digital Production ................................2
An introduction to the basics of digital audio and video for the news media. Corequisites: MCOM 225L.

MCOM 225L Introduction to Digital Production Studio ....................0

MCOM 243 Public Relations Principles .........................................3
An introduction to the theory and practice of public relations, emphasizing its publics, management function, writing skills, communication processes, tools and professional ethics.

MCOM 265 Basic Photography (COM) ...........................................2
(2-3)
Beginning camera and darkroom techniques, including processing, printing, and digitizing black and white photographs. Survey of the field of photography and its uses.

MCOM 265L Basic Photography Studio (COM) ..............................0
Accompanies MCOM 265.

MCOM 266 Photojournalism (COM) ..............................................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. Prerequisites: MCOM 265, or MCOM 161 and MCOM 210.

MCOM 266L Photojournalism Studio (COM) .................................0
Accompanies MCOM 266.

MCOM 311 News Editing (COM) ..................................................3
The evaluation and editing of news stories, with an examination of editing problems, copy reading techniques, page makeup and design, headlines, picture usage, legal and ethical issues. Prerequisites: MCOM 210.

MCOM 311L Editing Lab (COM) ...................................................0
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. Corequisites: MCOM 311.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>MCOM 313</td>
<td>Publicity Methods</td>
<td>Newswriting, organizing publicity campaigns, press relations. (Cannot be</td>
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<td></td>
<td></td>
<td>taken for credit by journalism majors.)</td>
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<tr>
<td>MCOM 314</td>
<td>Sales, Promotion and Marketing</td>
<td>Promotion, sales, advertising, circulation, practices and theories of</td>
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<tr>
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<td>marketing in advertising and graphic arts.</td>
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<tr>
<td>MCOM 316</td>
<td>Magazine Writing and Editing</td>
<td>Includes overview of the magazine industry, how to write and submit</td>
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<td>freelance articles. Students write and submit articles for publication and</td>
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<td>edit a departmental magazine.</td>
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<tr>
<td>MCOM 317</td>
<td>News Gathering</td>
<td>Builds on the skills and concepts introduced in Basic Newswriting by</td>
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<td>providing practical experience in beat coverage, initiating story ideas,</td>
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<td></td>
<td>news judgment, verifying and developing information, and writing news stories</td>
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<td>for publication. Prerequisites: MCOM 210.</td>
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<tr>
<td>MCOM 330</td>
<td>Writing for Electronic Media (COM)</td>
<td>Preparation of continuities such as commercials, public service</td>
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<td>announcements, talks, interviews, drama, documentaries, and educational</td>
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<td>programs.</td>
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<tr>
<td>MCOM 331</td>
<td>Video Production (COM)</td>
<td>Includes preparation and presentation of talks, interviews, discussion and</td>
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<td>extension and community services for broadcast.</td>
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<tr>
<td>MCOM 331L</td>
<td>Video Production Lab (COM)</td>
<td>Accompanies MCOM 331.</td>
</tr>
<tr>
<td>MCOM 332</td>
<td>Broadcast Writing and Reporting</td>
<td>Radio news reporting, writing, editing and producing. Lab practice in</td>
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<td>writing, audio tape, and delivery. Prerequisites: MCOM 210 for majors;</td>
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<tr>
<td>MCOM 332L</td>
<td>Broadcast Writing and Reporting Studio</td>
<td>Corequisites: MCOM 332.</td>
</tr>
<tr>
<td>MCOM 333</td>
<td>Television News Reporting</td>
<td>TV news videography, reporting, writing and video editing. Lab practice</td>
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<td>with videotape. Prerequisites: MCOM/MEPR 331, 332, or consent. Corequisites:</td>
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<td>MCOM 333L. Crosslisted: MEPR 333.</td>
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<tr>
<td>MCOM 333L</td>
<td>Television News Reporting Studio</td>
<td>Corequisites: MCOM 333.</td>
</tr>
<tr>
<td>MCOM 340</td>
<td>Broadcast Announcing and Performance</td>
<td>Junior-level required course that emphasizes presentations before cameras</td>
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<td></td>
<td></td>
<td>and microphones. This includes the fundamentals of voice and articulation</td>
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<td>for effective on-air performance on both radio and television. Other topics</td>
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<td>addressed are audience perception, delivery styles and on-camera</td>
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<td>appearance. Prerequisites: MCOM and MEPR Majors only. Corequisites:</td>
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<td></td>
<td>Corequisite: MCOM 340L.</td>
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<tr>
<td>MCOM 340L</td>
<td>Broadcast Announcing and Performance Lab</td>
<td>Junior-level required course where students practice delivery and</td>
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<td></td>
<td>announcing techniques in a lab setting. Prerequisites: MCOM and MEPR</td>
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<td>Majors only. Corequisites: Corequisite: MCOM 340.</td>
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<tr>
<td>MCOM 344</td>
<td>Media Production Environments II</td>
<td>Credit earned by active participation in media production activities.</td>
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<td>Prerequisites: consent. Section I: Radio – Section II: Television – Section</td>
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<td>III: Film.</td>
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<tr>
<td>MCOM 365</td>
<td>Advanced Photography (COM)</td>
<td>Exploration of photojournalism and electronic photojournalism. Emphasis</td>
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<td>on putting together a professional photojournalism portfolio including black</td>
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<td>and white color. Prerequisites: MCOM 265.</td>
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<tr>
<td>MCOM 366</td>
<td>Film Narrative</td>
<td>Myths, values and beliefs as expressed in selected films; forms, styles,</td>
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<td>and directors.</td>
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<tr>
<td>MCOM 370</td>
<td>Advertising Principles (COM)</td>
<td>Study of advertising as an institution. Discussion of historical foundations,</td>
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<td>economics, social consequences, structure, planning, execution and</td>
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<td>evaluation phases of the advertising process. Discussion of advertising as</td>
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<td>it relates to other types of marketing communication.</td>
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<td>MCOM 371</td>
<td>Advertising Copy and Layout (COM) (AW)</td>
<td>Discussion of principles and techniques for developing creative campaigns.</td>
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<td>Laboratory assignments apply thinking, design, and writing skills to creative</td>
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<td>problems for different media and different targets. Encompasses creative</td>
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<td>development for all advertising media. Prerequisites: MCOM 370.</td>
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<tr>
<td>MCOM 371L</td>
<td>Advertising Copy and Layout Studio (COM)</td>
<td>Accompanies MCOM 371.</td>
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<tr>
<td>MCOM 372</td>
<td>Advertising Media Strategies</td>
<td>Learn theory and fundamentals of evaluating advertising media. Analyze</td>
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<td>marketing variables, media characteristics, sources and strategies. Use</td>
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<td>computer planning models. Assigned range of planning problems and</td>
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<td>develop media plan within an integrated marketing framework. Prerequisites:</td>
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<td></td>
<td>MCOM 370.</td>
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<tr>
<td>MCOM 372L</td>
<td>Advertising Media Strategies Studio</td>
<td>Hands-on application of advertising media strategies. Corequisites:</td>
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<td>Corequisite: MCOM 372.</td>
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<tr>
<td>MCOM 375</td>
<td>Intermediate Media Production</td>
<td>Concepts, theories and technical skills of digital media production.</td>
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<td>Corequisites: MCOM 375L.</td>
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<tr>
<td>MCOM 375L</td>
<td>Intermediate Media Production</td>
<td>Corequisites: MCOM 375.</td>
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<tr>
<td>MCOM 405-505</td>
<td>Theories of Communications</td>
<td>Major theories of communication, including media and interpersonal</td>
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<td>communication.</td>
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<td>MCOM 410</td>
<td>Advanced Reporting (COM)</td>
<td>Political, scientific, and social issues in in-depth reporting for</td>
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<td>magazines and newspapers.</td>
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<tr>
<td>MCOM 412</td>
<td>Advanced Editing Lab</td>
<td>Advanced editing and production Elective for all majors.</td>
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<tr>
<td>MCOM 413-513</td>
<td>International Media (COM)</td>
<td>This course is a survey of international media systems, news and related</td>
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<td>issues, the role and characteristics of international journalists, and</td>
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<td>issues facing media around the world.</td>
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<td>MCOM 415-515</td>
<td>Opinion Writing</td>
<td>Opinion function of periodicals; great editorials and editorial writers;</td>
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<td>writing editorials; shaping policy.</td>
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<tr>
<td>MCOM 416-516</td>
<td>Mass Media in Society (G)</td>
<td>Rights and responsibilities of the press; relation of the media to</td>
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<td>individuals and society; role of media in a free society.</td>
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</tbody>
</table>
In-depth analysis of television news reporting, writing, videography and video editing techniques. Major emphasis on out of class assignments. Prerequisites: MCOM/MEPR 331 or 332 or 333, or consent. Corequisites: MCOM 433L.

MCOM 431 Advanced TV News Reporting (AW) ..........................3

Capstone of Media Production specialization. Integrates multiple aspects of media production and online delivery of media content. Prerequisites: MCOM 425. Corequisites: MCOM 431L.

MCOM 431L Advanced Media Production Lab ..........................0

Corequisites: MCOM 431.

MCOM 433 Advanced TV News Reporting (AW) ..........................3

In-depth analysis of television news reporting, writing, videography and video editing techniques. Major emphasis on out of class assignments. Prerequisites: MCOM/MEPR 331 or 332 or 333, or consent. Corequisites: MCOM 433L.

MCOM 433L Advanced TV News Reporting Studio ..........................0

Corequisites: MCOM 433.

MCOM 438 Public Affairs Reporting (COM) (AW) ..........................3

Covering and writing news on legislation, public policy, and social issues at the local, county, and state level. Includes discussion of freedom of information guidelines. Prerequisites: MCOM 210.

MCOM 438L Public Affairs Reporting Studio ..........................0


MCOM 442 Integrated Marketing Communication (COM) .................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.

MCOM 442L Integrated Marketing Communication Campaigns Studio ..................................................0

Hands-on application of integrated marketing communication campaigns. Corequisites: MCOM 442.

MCOM 453-553 Mass Communication Teaching Methods ...................(1-4)

Techniques, materials and resources for teaching mass communication in the classroom and supervising student media. For high school or college instructors and publication advisers. Mass Communication teacher education candidates are required to earn at least 3 credits.

MCOM 470 Advertising Design ................................................3

A studio course in advertising design with an emphasis on concept development, graphic design, research, organization and presentation. (For advertising majors-crosslisted as ARTD 465.)

MCOM 472 Media Research and Planning (COM) .........................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.

MCOM 474-574 Media Administration and Management (COM) ............3

Business practices, newspaper, magazine, and broadcast management.

MCOM 475-575 Public Relations (COM) ..................................3

Interpreting institutional and industrial policies and programs to the public.

MCOM 476-576 International and Ethnic Advertising .......................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.

MCOM 482-582 Travel Studies ....................................................(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 489 Portfolio Production and Design (COM) .......................(1-3)

Planning, creation, and production of portfolios for a variety of purposes.

MCOM 489L Portfolio Production and Design Studio .......................0

Hands-on application of portfolio production and design. Prerequisites: MCOM 371. Corequisites: Corequisite: MCOM 489.

MCOM 490 Seminar (COM) .........................................................1

MCOM 491 Independent Study (COM) ........................................(1-4)

MCOM 492-592 Topics (COM) ....................................................(1-5)

MCOM 494 Internship (COM) ..................................................(1-12)

MCOM 692 Topics .................................................................1-3

MCOM 693 Workshop ............................................................(1-4)

MCOM 787 Research Methods in Communications .........................3

MCOM 788 Master’s Research Problems/Projects .........................(2-3)

MCOM 791 Independent Study (COM) ........................................(1-3)

MCOM 798 Thesis (COM) .........................................................(1-7)

ME (Mechanical Engineering)

ME 240 Introduction of Mechanical Design ..................................3

Introduction to the design process, statement of problem, modeling, research, interaction of system components. Economic, social, environmental and manufacturing constraints. Factors of safety, reliability. Utilization of graphics and vector methods in mechanical design. Design project. Prerequisites: EM 214, GE 225, or consent.

ME 241 Engineering Materials ....................................................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, CHEM 112.
Thermodynamic power cycles using vapors and gases. One-dimensional
ME 314 Thermodynamics 3
ME 312 Thermodynamics II (COM) 3
ME 311 Thermodynamics 1 3
Prerequisites: PHYS 211, MATH 125.
psychrometry. Maxwell's relations. Combustion and thermochemistry.
compressible flow. Energy analysis. Refrigeration cycles. Moistures and
Terminal course for non-mechanical engineering students. Fundamental
Thermodynamic properties of gases, vapors and mixtures. Zeroth, First and
Prerequisites: PHYS 211, MATH 125.
Thermodynamic cycles. Introduction to heat transfer. Prerequisites: PHYS
211, MATH 125.
ME 321 Fundamentals of Machine Design 3
Analysis of motion and design of linkages, cams, gears, gear trains,
planetary gear trains. Analytic and graphical solution of positions, velocities,
accelerations, static and dynamic forces. Balancing of engine mechanism,
flywheels analysis. Synthesis of planar mechanisms and introduction to
mechanical systems. Computer applications. Prerequisites: EM 215, ME 240.
ME 323 Vibrations 3
Free and forced vibration of single-degree-of-freedom system. Vibration
measurement. Vibration transmission and isolation. Multi-degree-of-
freedom systems, matrix methods, vibration control and damping treatments.
Introduction to continuous systems. Prerequisites: EM 215, EM 321, MATH
302.
ME 341 Metallurgy 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 and consent. Corequisites: ME 341L.
ME 341L Metallurgy Lab 0
Accompanies ME 341. Corequisites: ME 341L.
ME 361 Methods of Engineering and Work Measurement 2
Work methods design and measurement of industrial enterprises. Rigorous
engineering approach to work methods design. Methods of setting time
standards including stop watch time study, work sampling, predetermined
motion times, and standard data. Prerequisites: ME 362 or consent.
ME 362 Industrial Engineering 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 PEKT. Applications and examples from realistic situations.
Prerequisites: MATH 381 or consent.
ME 376 Measurements and Instrumentation 2
Instruments for measuring pressure, temperature, flow, strain, vibration and
sound. Experimental data analysis for accuracy, error and uncertainty.
ME 376L Measurements and Instrumentation Lab 0
Accompanies ME 376. Corequisites: ME 376.
ME 381 Mechanical Equipment of Buildings 3
Heating, ventilation and air conditioning systems, control and servicing.
Refrigeration, plumbing systems and their maintenance. Fire and explosion
prevention in buildings. Prerequisites: ME 311 or consent.
ME 410 Principles of HVAC Engineering 3
Comfort and health requirements for space conditioning. Psychrometrics,
steady-flow processes involving air-vapor mixtures. Heating and cooling
load calculations. Basic air conditioning systems. Emphasis on systems
design approach. Prerequisites: ME 312 or ME 314, EM 331. Corequisites:
ME 415 or consent.
ME 412 Internal Combustion Engines 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: ME 312, EM 331.
ME 413 Turbomachinery 3
Theory, design, operation and energy transfer in Turbo-machines. Steam,
gas and hydraulic turbines. Pumps, fans and centrifugal and axial flow
compressors. Prerequisites: ME 312, EM 331.
ME 414-514 Air Pollution Control 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: EM 331, ME 312, or consent.
ME 415 Heat Transfer 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, MATH 321, or consent.
ME 417-517 Computer-Aided Engineering 3
Introduction to applied structural and thermal design and analysis using the
ANSYS finite element software package. One-, two- and three-dimensional
static structural problems modeled using the direct generation method as
well as solid modeling techniques. Steady-state and transient thermal
analysis are performed. Thermally-induced stresses and displacements that
occur in non-uniform temperature structures, solutions of two- or three-
dimensional fluid mechanics problems, and optimization techniques are
discussed. Prerequisites: Competence in Fortran programming or consent.
Corequisites: Corequisite ME 417L.
ME 417L-517L Computer-Aided Engineering Lab 0
ME 418 Design of Thermal Systems 3
Systems approach to design, mathematical modeling, simulation and
optimization of systems, with particular emphasis on thermal systems.
Prerequisites: ME 312, ME 415, EM 331.
ME 421 Design of Machine Elements 3
Fundamentals of mechanics. Energy methods. Working stresses and failure
in materials. Design considerations of basic machine elements - shafts,
springs, belts, clutches, brakes, chains, gear, bearings, fasteners and
Prerequisites: ME 321, EM 321.
ME 431 Aerodynamics 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 437 Gas Dynamics I 3
Objectives, applications, and scope of the subject. Methods of fluid
dynamics and thermodynamics. Compressible flow in ducts, nozzles and
diffusers. Propagation of plane waves; shock dynamics, characteristics,
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ME 438</td>
<td>Machine Design-Case Studies</td>
<td>3</td>
<td>Study of stress and strain as applied to mechanical engineering problems.</td>
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<td>Residual stresses and dynamic loading. Theories of failure. Design of</td>
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<td>components that form a complete working system. Design analysis of</td>
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<td>various current case studies. Corequisites: ME 438L.</td>
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<tr>
<td>ME 438L</td>
<td>Machine Design-Case Studies Lab</td>
<td>0</td>
<td>Accompanies ME 438. Corequisites: ME 438L.</td>
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<tr>
<td>ME 439</td>
<td>HVAC System Design</td>
<td>3</td>
<td>Analysis of heating, ventilating and air conditioning requirements. Design</td>
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<td></td>
<td>of heating, ventilating and air conditioning systems. Economic, energy and</td>
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<td>environmental considerations. Use of computers as design aids. Prerequisites:</td>
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<td>ME 410 or consent. Corequisites: ME 439L.</td>
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<tr>
<td>ME 440-540</td>
<td>Computer-Aided Design</td>
<td>3</td>
<td>The use of digital computer as a design tool. Techniques and algorithms</td>
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<td>which increase the rationality of the design process. Design principles and</td>
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<td>optimization theory. General approach to constrained optimization.</td>
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<td>Probabilistic approaches to design. Computer-aided design to reliability</td>
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<td>specification. Application of computer graphics to engineering design. The</td>
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<td>emphasis is on extending the designer's potential and not on automating</td>
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<td>those activities. Prerequisites: competence in FORTRAN programming and</td>
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<td>consent.</td>
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<td>ME 451</td>
<td>Automatic Controls</td>
<td>3</td>
<td>Modeling of mechanical, electrical, hydraulic and pneumatic systems. Laplace</td>
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<td>transform and system response. Transfer functions; control systems and</td>
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<td>frequency response. System analysis using polar, logaiithmic and Root locus</td>
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<td>plots. System compensation. Introduction to nonlinear controls. Prerequisites:</td>
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<td>EE 300, EE 300L, or consent. Corequisites: ME 323.</td>
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<tr>
<td>ME 452</td>
<td>Dynamic Systems Lab</td>
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<td>Experiments in mechanical vibration, control and robotics. Force and</td>
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<td>acceleration measurements, free and forced vibrations of systems, response</td>
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<td>of mechanical systems, stability of a feedback control system, performance</td>
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<tr>
<td>ME 461</td>
<td>Analysis and Design of Industrial Systems</td>
<td>3</td>
<td>Problems in product design and development, marketing, forecasting,</td>
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<td>capacity evaluation, plant layout, materials handling from standpoint of</td>
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<td>interrelated and integrated systems. Prerequisites: ME 362.</td>
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<tr>
<td>ME 476</td>
<td>Thermo-Fluids Lab</td>
<td>1</td>
<td>Experiments in fluid mechanics, thermodynamics and heat transfer. Single</td>
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<td>and multi-stage compressors. Heat pumps and air conditioning. Blowers and</td>
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<td>flow measurements in ducts. Prerequisites: ME 376, ME 312, EM 331, ME 415.</td>
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<tr>
<td>ME 478</td>
<td>Mechanical Systems Design I</td>
<td>1</td>
<td>A systems approach to design, covering need analysis, design phases, design</td>
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<td>processes, economics, optimization, and success criteria. Students will</td>
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<td>design, build, and test an independent project which must be different than</td>
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<td>any previous design they have attempted. Prerequisites: ME 421, MATH 331 or</td>
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<td>MATH 471.</td>
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<tr>
<td>ME 479</td>
<td>Mechanical Systems Design II (COM)</td>
<td>2</td>
<td>The second semester continuation of Mechanical Systems Design. Integrates</td>
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<td>concepts from all areas in Mechanical Engineering into a practical design</td>
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<td>project. Detailed design and analysis, manufacturing, and assembly will be</td>
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<td>the focus.</td>
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<tr>
<td>ME 479L</td>
<td>Mechanical Systems Design II Lab (COM)</td>
<td>0</td>
<td>Accompanies ME 479.</td>
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<tr>
<td>ME 480</td>
<td>Inspection Trip</td>
<td>0</td>
<td>Short inspection trips arranged to give students opportunity to observe and</td>
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<td>evaluate manufacturing and industrial processes, operations and facilities.</td>
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<td>Prerequisites: senior standing.</td>
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<tr>
<td>ME 490-590</td>
<td>Seminar</td>
<td>0-2</td>
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<tr>
<td>ME 491</td>
<td>Independent Study</td>
<td>(1-5)</td>
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<tr>
<td>ME 492-592</td>
<td>Topics</td>
<td>(1-5)</td>
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<tr>
<td>ME 493</td>
<td>Workshop</td>
<td>(1-3)</td>
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<td>ME 494</td>
<td>Internship</td>
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<td>ME 496</td>
<td>Field Experience</td>
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<td>ME 497</td>
<td>Cooperative Education</td>
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<td>ME 498</td>
<td>Undergraduate Scholarship/Research (COM)</td>
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<tr>
<td>ME 527</td>
<td>Gas Dynamics I</td>
<td>3</td>
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<td>ME 603</td>
<td>Thermo-Fluid Energy Systems</td>
<td>3</td>
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<td>ME 606</td>
<td>Statistical Thermodynamics</td>
<td>3</td>
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<tr>
<td>ME 611</td>
<td>Advanced Heat Transfer I</td>
<td>3</td>
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<td>ME 612</td>
<td>Convection Heat Transfer</td>
<td>3</td>
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<td>ME 621</td>
<td>Viscous Flow I</td>
<td>3</td>
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<td>ME 628</td>
<td>Gas Dynamics II</td>
<td>3</td>
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<td>ME 631</td>
<td>Advanced Analytical Methods</td>
<td>3</td>
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<td>ME 635</td>
<td>Modeling and Simulation</td>
<td>3</td>
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<tr>
<td>ME 635L</td>
<td>Modeling and Simulation Lab</td>
<td>0</td>
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<td>ME 639</td>
<td>Advanced Metallurgy</td>
<td>3</td>
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<td>ME 641</td>
<td>Advanced Stress Analysis in Mechanical Design</td>
<td>3</td>
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<tr>
<td>ME 645</td>
<td>Advanced Machine Design</td>
<td>3</td>
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<tr>
<td>ME 661</td>
<td>Operations Research</td>
<td>3</td>
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<td>ME 662</td>
<td>Quality Control</td>
<td>3</td>
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<td>ME 663</td>
<td>Topics in Reliability Engineering</td>
<td>3</td>
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<td>ME 665</td>
<td>Systems Analysis</td>
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<td>ME 667</td>
<td>Decision Theory</td>
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<td>ME 690</td>
<td>Seminar</td>
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<td>ME 691</td>
<td>Independent Study</td>
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<td>ME 692</td>
<td>Topics</td>
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<tr>
<td>ME 787</td>
<td>Research</td>
<td>(1-9)</td>
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<tr>
<td>ME 788</td>
<td>Research or Design Paper</td>
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<td>ME 790</td>
<td>Seminar</td>
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<td>ME 791</td>
<td>Independent Study</td>
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<td>ME 792</td>
<td>Topics</td>
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<tr>
<td>ME 798</td>
<td>Thesis</td>
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296 Course Descriptions
 MLS (Medical Laboratory Sciences)

MLS 431 Principles of Immunohematology
The study of red blood cell antigens and their antibodies, including blood grouping and typing, antibody detection and compatibility testing, blood donor screening and component preparation, immunologically related diseases, transplantation, and principles of antigen-antibody based tests.

MLS 301 Hematology
Normal maturation, morphology, and function of blood cells. Corequisites: MLS 301L.

MLS 301L Hematology Lab

MLS 311 Clinical Chemistry I
Principles and theory of clinical chemistry, including metabolism of biochemical molecules, metabolic disease/dysfunction, electrolyte balance, and acid-base balance. Corequisites: MLS 311L.

MLS 311L Clinical Chemistry I Lab

MLS 321 Hemostasis
Mechanisms of hemostasis and clotting; hereditary and acquired defects of the hemostatic mechanism.

MLS 341 Diagnostic Microbiology I
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. Prerequisites: MICR 231

MLS 341L Diagnostic Microbiology I Laboratory
Supervised laboratory instruction in the principles and methods for the analysis and identification of fungal, parasitic and viral agents from complex biological specimens utilizing various technical applications, instrumentation and applications in quality control and quality assurance. Corequisites: MLS 341.

MLS 341L Diagnostic Microbiology Laboratory I
Supervised laboratory instruction in the principles and methods for the analysis and identification of fungal, parasitic and viral agents from complex biological specimens utilizing various technical applications, instrumentation and applications in quality control and quality assurance. Corequisites: MLS 341.

MLS 401 Hematology II
Advanced study of the hematopoietic system and blood cells, including morphology an disease states, such as leukemias, lymphomas, and myeloproliferative disorders. Prerequisites: MLS 301/301L, MLS 321. Corequisites: MLS 402L.

MLS 402L Advanced Hematology and Hemostasis Lab

MLS 403 Diagnostic Immunology
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. Prerequisites: MICR 439

MLS 411 Clinical Chemistry II
The principle and theory of clinical chemistry including clinical endocrinology, clinical toxicology, therapeutic drug monitoring, and assessment of metabolic disease/dysfunction using clinical analysis. Prerequisites: MLS 311, MLS 311L.

MLS 411L Clinical Chemistry II Laboratory
Methods of analysis in the clinical laboratory; instrumentation, quality control and quality assurance. Corequisites: MLS 411.
MLS 486 Coagulation Clinical Practice .................................................1
Supervised clinical practice in the coagulation laboratory. Prerequisites:
MLS 321, 402L. Notes: CLS Majors only.

MLS 487 Elective Clinical Practice ..................................................1
Supervised clinical experience in an area outside a large clinical laboratory
(rural laboratory, research laboratory, or clinic laboratory). Notes: CLS
Majors only.

MLS 488 Urinalysis and Clinical Microscopy Clinical Practice .............2
Supervised clinical practice in the analysis of urine and biological fluids.
Prerequisites: MLS 411.

MLS 489 Phlebotomy Clinical Practice .............................................1
Supervised clinical practice in phlebotomy.

MFL 494 Internship ............................................................................(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 Microscopy/Urinalysis-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 Hematology/Coagulation-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 anti-microbial 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/Radiobiobssay/Body Fluids-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,
edocrinology and radiobiobssay. Clinical Immunohemotogy-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/Education/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 101 Introduction to Foreign Language and Culture I * **
(COM) (G) .....................................................................................4
Fundamentals of the language and introduction to the culture where the
language is spoken. Class work may be supplemented with required
aural/oral practice outside of class. Notes: * Course meets SGR #3 or ** IGR
#3.

MFL 102 Introduction to Foreign Language and Culture II * **
(COM) (G) .....................................................................................4
Fundamentals of the language and introduction to the culture where the
language is spoken. Class work may be supplemented with required
aural/oral practice outside of class. Notes: * Course meets SGR #3 or ** IGR
#3.

MFL 134 Foreign Cultures * ** ............................................................3
Provides a broad view of the language and civilization of the people studied,
including history, literature, social life and institutions, and culture. If
appropriate, the course will include the study of the subject people's heritage
in South Dakota. No prerequisites. Intended for students from all disciplines.
May be repeated for credit twice provided change of topic. Taught in English.
Credit for this course may not be applied to a foreign language major, minor,
or to the 14-hour B.A. language requirement. Notes: * Course meets SGR #3
or ** IGR #3.

MFL 196 Field Experience ..................................................................(1-3)
MFL 292 Topics ..................................................................................(1-5)
MFL 292L Topics Lab ..................................................................................0
MFL 396 Field Experience (G) .............................................................(1-12)
MFL 420 K-12 Foreign Language Methods (COM) .............................3
Methods and materials for teaching modern languages in high school.
MFL 460-560 Topics In French, German, or Spanish Literature ....(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 ...............................................................................(1-3)
MFL 491-591 Independent Study ...........................................................(1-3)
MFL 492-592 Topics (COM) .................................................................3
MFL 494 Internship (COM) .................................................................(1-12)
MFL 496-596 Field Experience (G) ....................................................(1-12)
MFL 595 Practicum .............................................................................(1-3)

MICR (Microbiology)

MICR 231 General Microbiology (COM) ............................................4
Principles of basic and applied microbiology. Prerequisites: CHEM 106 or
CHEM 112. Corequisites: MICR 231L.
MICR 231L General Microbiology Lab (COM) .....................................0
Laboratory experience that accompanies MICR 231. Corequisites: MICR
231.

MICR 310 Environmental Microbiology .............................................4
Microbiology of water, air and surfaces in the environment. Standard
methods for detecting and controlling pathogens and non pathogens.
Prerequisites: MICR 231. Corequisites: MICR 310L.

MICR 310L Environmental Microbiology Lab ......................................0
Laboratory experience that accompanies MICR 310. Corequisites: MICR
310.

MICR 311 Food Microbiology ............................................................4
Microbiology of fresh and processed meats, dairy products, vegetables and
modern convenience foods. Laboratory quality study of food preservation,
processing and spoilage. Prerequisites: MICR 231. Corequisites: Corequisite
MICR 311L.

298 Course Descriptions
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

MICR 311L Food Microbiology Lab ................................. 0
Laboratory experience that accompanies MICR 311. Corequisites: MICR 311.

MICR 332 Microbial Physiology ................................... 2
Cytology, nutrition, metabolism, and growth of microorganisms. Prerequisites: MICR 231.

MICR 332L Microbial Physiology Lab ............................. 2
Media preparation, sterilization, microscopy, assay of microbial enzymes, DNA purification.

MICR 390 Seminar .................................................. 1

MICR 414-514 Anaerobic Microbiology .......................... 1
Anaerobic metabolism and ecology of bacteria, culturing techniques for anaerobic microorganisms. Prerequisites: MICR 231. Corequisites: MICR 414L514L.

MICR 414L-514L Anaerobic Microbiology Studio ............... 0

MICR 421-521 Soil Microbiology .................................. 3
Microbial species of agricultural soils and biochemical changes brought about by these microorganisms. Prerequisites: BIOL 151-151L and BIOL 153-153L, or BOT 201-201L. Corequisites: MICR 421L-521L. Crosslisted: PS 421-521.

MICR 421L-521L Soil Microbiology Lab ......................... 0
Laboratory experience that accompanies MICR 421-521. Corequisites: MICR 421L-521L. Crosslisted: PS 421L-521L.

MICR 424-524 Medical and Veterinary Virology .............. 3
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Prerequisites: MICR 433 Crosslisted: VET 424-524.

MICR 433-533 Medical Microbiology (COM) .................... 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: MICR 231, CHEM 106 or 112.

MICR 436 Molecular and Microbial Genetics .................. 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 437-537 Systematic Bacteriology .......................... 4
Techniques for isolation, identification, classification, and preservation of bacterial cultures are presented. Current topics in taxonomy and nomenclature are discussed in detail. Prerequisites: MICR 231. Corequisites: MICR 437L-537L.

MICR 437L-537L Systematic Bacteriology Lab .................. 0
Laboratory experience that accompanies MICR 437-537. Corequisites: MICR 437-537.

MICR 438 Molecular Microbial Genetics Lab ................... 2
Isolation of plasmids; restriction analyses; DNA transfers and hybridization analyses; bacterial transformations of eucaryotic cells; amplification of DNA utilizing polymerase chain reactions (PCR); restriction fragment length poly-morphism (RFLP) analyses; mRNA isolation: generation and amplification of bacteriophage cDNA libraries. Prerequisites: MICR 436, CHEM 464, or consent of instructor.

MICR 439 Medical and Veterinary Immunology ................. 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 ............................... 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/VET 424 or MICR 433 or MICR 439

MICR 450 Applied Microbiology and Biotechnology ............ 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.

MICR 490 Seminar (AW) ......................................... 1

MICR 491 Independent Study ..................................... (1-3)

MICR 492-592 Topics ............................................ (1-4)

MICR 492L-592L Topics Lab (COM) .............................. 0

MICR 494 Internship ............................................. (1-12)

MICR 497 Cooperative Education (COM) ........................ (1-12)

MICR 498 Undergraduate Research/Scholarship ................ (1-4)

MICR 522 Introductory Immunology Lecture .................... 3

MICR 523 Introductory Immunology Lab ........................ 1

MICR 550 Applied Microbiology and Biotechnology .......... 3
Prerequisites: MICR 231.

MICR 592 Topics .................................................. 1-4

MICR 592L Topics Lab ........................................... 1-4

MICR 713 Industrial Microbiology ............................... 4

MICR 713L Industrial Microbiology Lab ......................... 0

MICR 722 Molecular and Cell Biology Immune Response .... 3

MICR 726 Cellular Physiology of Signal Transduction ........ 3

MICR 738 Microbial Metabolism ................................ 4

MICR 738L Microbial Metabolism Lab ........................ 0

MICR 788 Research Problems .................................... (1-3)

MICR 790 Seminar .................................................. 1

MICR 791 Independent Study ..................................... (1-4)

MICR 792 Topics .................................................. (1-4)

MICR 798 Thesis ................................................... (1-7)
MLED (Middle Level Education)

Undergraduate Courses

MLED 593 Workshop ......................................................... (1-3)

MNET (Manufacturing Engineering Technology)

MNET 131 Machining Technology ........................................... 3
An introduction to machine tools used in industry and their usage, principles of operations, and production methods. Hands-on laboratory activities provide the students with the opportunity to use various machining equipment, become familiar with various cutting tools, and perform measurement using precision measuring devices. Corequisites: MNET 131L.

MNET 131L Machining Technology Lab .................................... 0
Corequisites: MNET 131.

MNET 132 Welding Technology ............................................. 3
An introduction to welding processes used in industry and their usage, principles of operations, and production methods. Hands-on laboratory activities provide the students with the opportunity to use various welding processes for joining of ferrous and non-ferrous materials. Corequisites: MNET 132L.

MNET 132L Welding Technology Lab ....................................... 0
Corequisites: MNET 132.

MNET 200 MNET Off Campus Orientation ................................ 0
MNET enrollment sustaining. Prerequisites: instructor's consent required.

MNET 231 Manufacturing Processes I .................................... 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.

MNET 231L Manufacturing Processes I Lab ............................... 0
Corequisites: MNET 231.

MNET 232 Manufacturing Processes II ................................... 3
This course is designed to provide students with the opportunity to expand on the topics covered in MNET 231. The course extends the manufacturing processes topics to include effects on work materials properties, tool materials and geometry and analysis of factors effecting the output of various processes. The second course will include numerous local industry tours that include plastics, metal fabrication, electronics, wood, etc. Prerequisites: MNET 232L.

MNET 232L Manufacturing Processes II Lab ............................. 0
Corequisites: MNET 232.

MNET 241 Applied Mechanics ............................................. 3
Basic statics, dynamics, and two-dimensional analysis of stress and strain. Fundamental principles of structural and machine elements. Prerequisites: 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, MATH 102; physics course except 101-101L. Crosslisted: GE 241.

MNET 243 Introduction to Materials Science ................................ 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.

MNET 243L Introduction to Materials Science Lab ...................... 0
Corequisites: MNET 243.

MNET 251 Electricity and Electronics I ................................... 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. Prerequisites: 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, MATH 102. MNET 251L. Crosslisted: EET 251.

MNET 251L Electricity and Electronics I Lab ............................. 0
Corequisites: MNET 251. Crosslisted: EET 251L.

MNET 252 Electricity and Electronics II ................................ 3
This course is the continuation of MNET 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, semiconductor power supply and technology, and semiconductor amplifiers and their applications. Prerequisites: MNET 251. Corequisites: MNET 252L. Crosslisted: EET 252.

MNET 252L Electricity and Electronics II Lab ............................ 0
Corequisites: MNET 252. Crosslisted: EET 252L.

MNET 260 Principles of Production and Operations Management .......... 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 specialty 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: 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T. Crosslisted: BADM 260.

MNET 291 Independent Study .............................................(1-3)

MNET 292 Topics ..............................................................(1-3)

MNET 292L Topics Lab ...................................................... 0

MNET 293 Workshop ....................................................... 0-3

MNET 296 Field Experience ................................................(1-3)

MNET 320 Computer Aided Design/Drawing ................................ 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 120 or GE 123. Corequisites: MNET 320L.

MNET 320L Computer Aided Design/Drawing Lab ....................... 0
Corequisites: MNET 320.

MNET 334 CAM/CNC .............................................................. 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. Prerequisites: MNET 231 or GE 225, GE 120 or GE 123. Corequisites: MNET. Crosslisted: 334L.

MNET 334L CAM/CNC Lab ................................................... 0
Corequisites: MNET 334.

MNET 338 Industrial Plastics ............................................... 3
Study of plastic materials and processes including characteristics and properties and various manufacturing processes used for production of

300 Course Descriptions
plastic products. Prerequisites: MNET 231, MNET 243. Corequisites: MNET 338L.

MNET 338L Industrial Plastics Lab ..................................................0
Corequisites: MNET 338.

MNET 343 Properties of Materials ..................................................3
Material properties are studied and related to various phenomena that occur in metals, composites, plastics, and ceramics. Topics include bonding, strengthening mechanisms, fracture mechanics, casting processes, powder metallurgy, corrosion and surface engineering. Prerequisites: MNET 243. Corequisites: MNET 343L.

MNET 343L Properties of Materials Lab ..........................................0
Corequisites: MNET 343.

MNET 350 Fluid Power Technology ..................................................3
Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. Prerequisites: PHYS 113 or PHYS 213, MATH 123 or MATH 121. Corequisites: MNET 350L.

MNET 350L Fluid Power Technology Lab .........................................0
Corequisites: MNET 350.

MNET 362 Time and Motion Studies ...............................................3
Methods engineering in business and industry: improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques, and principles of motion economy. Prerequisites: MNET 231, MNET 260.

MNET 365 Occupational Safety and Health .....................................3
This course is designed to provide knowledge of the practice of providing safe environments. Study will involve developing safety concepts, recognition of OSHA and Worker's Compensation regulations, hazard recognition, identifying the cost of accidents, ergonomics, and emphasis on a proactive approach to accident prevention. Crosslisted: GE 425 and CM 400.

MNET 367 Plant Layout and Material Handling ...............................3
Analysis and design of facilities and material handling systems for efficient and economical production. Prerequisites: GE 120 or GE 123, MNET 260.

MNET 436 Production Tooling Methods and Measurement ...............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 334, MNET 320. Corequisites: MNET 436L.

MNET 436L Production Tooling Methods and Measurements Lab ......0
Corequisites: MNET 436.

MNET 451 Industrial Electronics and Control .................................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 EET 320, MATH 121 or MATH 123. Corequisites: MNET 451L. Crosslisted: EET 451.

MNET 451L Industrial Electronics and Control Lab ........................0
Corequisites: MNET 451.

MNET 453 Manufacturing Automation ..........................................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. Crosslisted: EET 453.

MNET 453L Manufacturing Automation Lab ..................................0
Corequisites: MNET 453. Crosslisted: EET 453L.

MNET 460 Manufacturing Cost Analysis .........................................3
The main focus of this course is on cost estimating related to various manufacturing processes and products and developing budget proposals for analysis and evaluation of manufacturing capital expenditure. Prerequisites: MNET 231, MNET 260.

MNET 462 Quality Management ....................................................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: MNET 260, STAT 281.

MNET 463 Production and Inventory Management .........................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, MNET 260.

MNET 468 Manufacturing Plant Management ..................................3
A case-oriented capstone course designed to integrate the technical, managerial, analytical, and communication skills which have been acquired. Prerequisites: MNET 367, MNET 463.

MNET 470 Project Management (AW) ..............................................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. Must take MNET 471-471L in spring semester. Prerequisites: instructor approval. Corequisites: MNET 470L. Crosslisted: EET 470.

MNET 470L Project Management Lab ...........................................0
Corequisites: MNET 470. Crosslisted: EET 470L.

MNET 471 Capstone Experience (AW) ..........................................1
Conclusion of technical projects started in MNET 470 Project Management. Teams document and present the results of the implemented projects. Prerequisites: MNET 470-470L.

MNET 471L Capstone Experience Lab ...........................................0

MNET 491 Independent Study .......................................................(1-3)

MNET 492 Topics .................................................................(1-3)

MNET 492L Topics Lab ..........................................................0

MNET 493 Workshop ...............................................................0-3

MNET 494 Internship (AW) .........................................................(1-3)

MNET 496 Field Experience .........................................................(1-3)

MNET 497 Cooperative Education .................................................(1-3)

MRCH (Merchandising)

MRCH 510 Consumer Behavior in Merchandising ............................3

MRCH 520 Professional Advancement in Merchandising .....................3

MRCH 530 Product Design, Development, and Evaluation ....................3

MRCH 540 Promotional Strategies in Merchandising ..........................3

MRCH 550 Retail Theory and Current Practice ................................3

Course Descriptions 301
MRCH 580 Travel Studies ........................................... (1-5)  
MRCH 592 Independent Study ........................................ (1-3)  
MRCH 610 Historical and Contemporary Issues in Trade ........ 3  
MRCH 620 International Merchandise Management .................. 3  
MRCH 630 Research Methods in Merchandising .................... 3  
MRCH 640 Financial Merchandising Implications .................... 3  
MRCH 650 Strategic Planning in Merchandising .................... 3  
MRCH 690 Seminar ..................................................(1-2)  
MRCH 695 Practicum ..................................................(1-3)  
MRCH 788 Master's Research Problems/Projects .................... (1-3)  
MRCH 798 Thesis .....................................................(1-3)  

MSL (Military Science Leadership)  
MSL 101 Leadership and Personal Development (COM) ............. 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) ............... 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) ....................... 2  
Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. Develop skills in oral presentations, writing concisely, planning events, coordination of group efforts, advanced first aid, land navigation, and basic military tactics. Learn fundamentals of ROTC's leadership assessment program.  
MSL 202 Foundation of Tactical Leadership (COM) ............... 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) ............ 4  
MSL 301 Adaptive Team Leadership (COM) ....................... 3  
Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead again in situations of increasing complexity. Uses small unit tactics and opportunities to plan and conduct training for lower division students both to develop such skills and as vehicles for practicing leadership. Prerequisites: MSL 301L.  
MSL 301L Adaptive Team Leadership Lab (COM) ................. 0  
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 301. Notes: Off campus.  

MSL 302 Leadership in Changing Environment (COM) ............ 3  
Continues methodology of MSL 301. Analyze tasks; prepare written or oral guidance for team members to accomplish tasks. Delegate tasks and supervise. Plan for and adapt to the unexpected in organizations under stress. Examine and apply lessons from leadership case studies. Examine importance of ethical decision making in setting a positive climate that enhances team performance. Corequisites: MSL 302L.  
MSL 302L Leadership in Changing Environment Lab (COM) .... 0  
MSL 401 Developing Adaptive Leaders (COM) .................. 3  
Introduces formal management skills including problem analysis, planning techniques, and the delegation and control of activities, providing an understanding of the command and staff organization used in the modern army and creating a forum for discussing professional and ethical decisions faced by commissioned officers. Corequisites: MSL 401L.  
MSL 401L Developing Adaptive Leaders Lab (COM) ............ 1  
Designed to accompany MSL 401. Corequisites: MSL 401.  
MSL 402 Leadership in a Complex World (COM) ............... 3  
Provides information for transition to active or reserve commissioned service, developing administrative skills essential in managing a military organization, introducing the management of financial and personal affairs, and allowing time for discussion and analysis of the ethical decision-making process. Corequisites: MSL 402L.  
MSL 402L Leadership in a Complex World Lab (COM) .......... 1  
Designed to accompany MSL 402. Corequisites: MSL 402.  
MSL 492 Topics .....................................................(1-3)  
MSL 494 Leader Development and Assessment Course (COM) .... 4  
MSL 495 ROTC Nurse Summer Training Program ................... 3  

MUAP (Applied Music)  
MUAP 100-101 Applied Music- Voice ** .......................... 1  
All levels of MUAP 100s, 200s, 300s, and 400s may be used to satisfy IGR Goal 3-option 2, Cultural and Aesthetic Awareness. Notes: ** Course meets IGR #3.  
MUAP 102 Class Instruction- Voice ................................ 1  
MUAP 110-111 Applied Music- Keyboard ......................... 1  
MUAP 115-116 Class Instruction- Keyboard ....................... 1  
MUAP 120-121 Applied Music- Woodwinds ....................... 1  
MUAP 125 Class Instruction in Woodwind ........................ 1  
MUAP 130-131 Applied Music- Brass ............................ 1  
MUAP 135 Class Instruction in Brass ............................ 1  
MUAP 140-141 Applied Music- Percussion ....................... 1  
MUAP 145 Class Instruction in Percussion ....................... 1  
MUAP 150-151 Applied Music- Strings .......................... 1  
MUAP 155 Class Instruction in Strings .......................... 1  
MUAP 181 Piano Accompanying (COM) .......................... 1  
MUAP 200-201 Applied Music- Voice ** .......................... 1  
All levels of MUAP 100s, 200s, 300s, and 400s may be used to satisfy IGR Goal 3-option 2, Cultural and Aesthetic Awareness. Notes: ** Course meets IGR #3.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MUAP 210-211</td>
<td>Applied Music- Keyboard</td>
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<tr>
<td>MUAP 220-221</td>
<td>Applied Music- Woodwinds</td>
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<td>MUAP 225</td>
<td>Class Instruction in Woodwinds</td>
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<td>MUAP 230-231</td>
<td>Applied Music- Brass</td>
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<td>MUAP 235</td>
<td>Class Instruction in Brass</td>
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<td>MUAP 240-241</td>
<td>Applied Music- Percussion</td>
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<td>MUAP 245</td>
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<td>MUAP 250-251</td>
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<td>MUAP 255</td>
<td>Class Instruction in Strings</td>
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<td>MUAP 300-301</td>
<td>Applied Music- Voice</td>
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<td>MUAP 310-311</td>
<td>Applied Music- Keyboard</td>
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<td>MUAP 320-321</td>
<td>Applied Music- Woodwinds</td>
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<td>MUAP 330-331</td>
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<td>MUAP 335</td>
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<td>MUAP 340-341</td>
<td>Applied Music- Percussion</td>
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<td>MUAP 350-351</td>
<td>Applied Music- Strings</td>
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<tr>
<td>MUAP 355</td>
<td>Class Instruction in Strings</td>
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<td>MUAP 400-401</td>
<td>Applied Music- Voice</td>
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<td>MUAP 410-411</td>
<td>Applied Music- Keyboard</td>
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<td>MUAP 430-431</td>
<td>Applied Music- Brass</td>
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<td>MUAP 440-441</td>
<td>Applied Music- Percussion</td>
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<tr>
<td>MUAP 450-451</td>
<td>Applied Music- Strings</td>
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<tr>
<td>MUAP 483</td>
<td>Public Recital (COM)</td>
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<tr>
<td>MUEN 100-300</td>
<td>Concert Choir ** (COM)</td>
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<td>MUEN 102-302</td>
<td>Men's Choir (COM)</td>
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<td>MUEN 103-303</td>
<td>Women's Choir (COM)</td>
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<td>MUEN 107-307</td>
<td>Opera Workshop (COM)</td>
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<td>MUEN 110-310</td>
<td>Orchestra (COM)</td>
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<td>MUEN 120-320</td>
<td>Marching Band (COM)</td>
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<td>MUEN 121-321</td>
<td>Symphonic Band (COM)</td>
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<td>MUEN 122-322</td>
<td>Concert Band (COM)</td>
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<tr>
<td>MUEN 140-340</td>
<td>String Ensemble</td>
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<tr>
<td>MUEN 150-350</td>
<td>Woodwind Ensemble</td>
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<tr>
<td>MUEN 160-360</td>
<td>Brass Ensemble</td>
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<tr>
<td>MUEN 170-370</td>
<td>Percussion Ensemble</td>
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<tr>
<td>MUEN 180-380</td>
<td>Jazz Ensemble</td>
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</tbody>
</table>

### MUS (Music)

**MUS 100 Music Appreciation * ** (COM) 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 or ** IGR #3.

**MUS 111 Basic Music Theory II (COM) 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 111L Basic Music Theory II Lab (COM) 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 131 Music Literature and History I * ** 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 or ** IGR #3.

**MUS 131L Music Literature and History II * ** 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 or ** IGR #3.

**MUS 185 Recital Attendance (COM) 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 * ** 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 or ** IGR #3.

**MUS 202 The Music Industry 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.

Course Descriptions 303
MUS 203 Blues, Jazz, and Rock * ** 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 or ** IGR #3.

MUS 210 Advanced Music Theory I (COM) 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 I Lab (COM) 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) 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) 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 (1-2)
Pedagogical considerations in teaching music. Methods and concepts in specialized areas: Section I: Voice; Section 2: Strings; Section 3: Keyboard; Section 4: Clarinet and Flute; Section 5: Double Reeds and Saxophone; Section 6: High Brass; Section 7: Low Brass; Section 8: Percussion; Section 9: General Instrument for Vocal Majors; Section 10: General Voice for Instrument Majors. Section 1 offered even years only; Section 3 offered odd years only; Section 9 and 10 offered on demand.

MUS 271 Pedagogy II (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 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 0
Corequisites: MUS 280.

MUS 292 Topics (COM) 1-5

MUS 302 Introduction to Recording Industry 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 311 Counterpoint (COM) 3
Analysis and composition in contrapuntal techniques, with a concentration on the music of J.S. Bach. Prerequisites: MUS 211.

MUS 313 Form and Analysis (COM) 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 211.

MUS 351 Elementary School Music Methods (COM) 2-3
This course provides methods and materials for guiding elementary students' musical growth.

MUS 355 Computer Based Technology and Learning for Music Educators 2
This course prepares music students to integrate computers into the curriculum by exploring the evolving uses and expectations of technology and learning tools. Course objectives are based on ISTE standards and the requirements of the discipline.

MUS 360 Conducting (COM) 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. Prerequisites: MUS 111.

MUS 360L Conducting (COM) 0
Accompanies MUS 360.

MUS 361 Music Education II: Conducting 2
Section 1: Instrumental music methods and materials. Emphasis on rehearsal Prerequisites: techniques, conducting and study of appropriate materials.

MUS 361L Music Education II: Conducting Lab 0
Corequisites: MUS 361.

MUS 362 Music Education III: Methods and Materials 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 361L.

MUS 362L Music Education III: Methods and Materials Lab 0
Corequisites: MUS 362.

MUS 365 Music Education IV: Supervision and Administration of School Music 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.

MUS 365L Music Education IV: Supervision and Administration of School Music 0
Corequisites: MUS 365.

MUS 370 Pedagogy III 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 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 1-3

MUS 420 Orchestration and Arranging (COM) 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.

304 Course Descriptions
MUS 433 Music Literature and History III
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
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 488 Supervised Teaching in Secondary Schools
Students may register for 5 hours under SEED 488 and 5 hours under MUS 488.

MUS 491-591 Independent Study
MUS 492-592 Topics (COM)
MUS 494 Internship

NACC (Nursing Accelerated)

NACC 113 Orientation Nursing Accelerated Option
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: Corequisite courses NACC 265-265L, 280-280L, 323.

NACC 265 Health Assessment and Interventions
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, BIOL 325, NFS 321, HDFS 210; 3 credits from SOC 100, 240, 250, or 440. Corequisites: NACC 265L, 215, 280-280L, 323.

NACC 265L Health Assessment and Interventions Lab
Corequisites: NACC 265.

NACC 280 Professional Communication
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: NACC 280L, 215, 265265L, 323.

NACC 280L Professional Communication Lab
Corequisites: NACC 280.

NACC 310 Introduction to Public Health and Population-Based Nursing

NACC 310L Introduction to Public Health and Population-Based Nursing Lab
Corequisites: NACC 310.

NACC 323 Introduction to Pathophysiology
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.

NACC 325 Beginning Care of the Client with Health Problems

NACC 325L Beginning Nursing Care of the Client with Health Problems Lab
Corequisites: NACC 325.

NACC 335 Research: Appraisal and Utilization
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, 325-325L. Corequisites: Corequisite courses NURS 365-365L, 380-380L.

NACC 365 Nursing Care of the Client with Health Problems
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: NACC 310-310L, 325-325L, PHA 321. Corequisites: Corequisite courses NACC 365L, 380-380L.

NACC 365L Nursing Care of the Client with Health Problems Lab
Corequisites: NACC 365.

NACC 380 Nursing Care of the Childbearing Family
Focuses on the application nursing knowledge and competencies to provide nursing care to the childbearing woman and family. Clinical application occurs with childbearing women and families. Prerequisites: NACC 310-310L, 3252325L, PHA 321. Corequisites: Corequisite courses NACC 355, 365-365L, 380L.

NACC 380L Nursing Care of the Childbearing Family Lab

NACC 410 Advanced Nursing Care of the Client with Health Problems
Expands on previous knowledge and skills to provide advanced nursing care to clients with complex health problems. Prerequisites: NACC 355, 365-365L, 380380L. Corequisites: NACC 410L, 420-420L, HSC 445 or STAT 281.

NACC 410L Advanced Nursing Care of the Client with Health Problems Lab
Corequisites: NACC 410.

Course Descriptions 305
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/ For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

**NACC 420 Nursing Care of the Client with Mental Health Problems**
Focuses on the application of nursing knowledge and competencies to provide nursing care to clients experiencing mental health problems.

**NACC 420L Nursing Care of the Client with Mental Health Problems Clinical Lab**
Corequisites: NACC 420.

**NACC 425 Nursing Leadership**
Emphasizes professional role synthesis through development of leadership and management skills. The professional value of social justice is integrated with leadership development.
Prerequisites: NACC 410-410L, 420-420L, STAT 281 or HSC 445. Corequisites: Corequisite courses NACC 425, 495, 480-480L.

**NACC 460 Preparation for RN Licensure**
This course is designed to assist nursing students with preparation for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) 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.

**NACC 480 Advanced Population-Based Nursing Practice**
Apply multi-faceted, evidenced based, interdisciplinary systems thinking to solve public health problems in a variety of arenas.
Prerequisites: NACC 410-410L, 420-420L, STAT 281 or HSC 445. Corequisites: NACC 425, 495, 480L.

**NACC 480L Advanced Population-Based Nursing Practice Lab**
Corequisites: NACC 480.

**NACC 495 Practicum**
Prerequisites: NACC 410-410L, 420-420L, STAT 281 or HSC 445. Corequisites: NACC 495L.

**NACC 495L Practicum Clinical Lab**
Corequisites: NACC 495.

**NFSH (Nutrition, Food Science & Hospitality)**

**NFS 111 Food, People and the Environment**
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 #1.

**NFS 141 Foods Principles**
Scientific investigation of basic foods used to maintain optimum nutrition.
Corequisites: NFS 141L.

**NFS 141L Foods Principles Lab**
Corequisites: NFS 141.

**NFS 151 Food Safety and Technology**
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 220 Health, Safety and Nutrition of Young Child**
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 safety, health and nutrition in early childhood.

**NFS 221 Survey of Nutrition**
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 291 Independent Study**
(1-3)

**NFS 292 Topics**
3

**NFS 295 Practicum**
(1-3)

**NFS 298 Undergraduate Research/Scholarship**
(1-3)

**NFS 312 Human Nutrition**
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 108, or CHEM 112 and 114.

**NFS 322 Assessment Skills in Nutrition**
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 321 or consent. Corequisites: NFS 322L.

**NFS 322L Assessment Skills in Nutrition Lab**
Corequisites: NFS 322.

**NFS 323 Nutrition Across the Life Cycle**
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 321 or instructor consent.

**NFS 341 Food Science**
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, CHEM 120. Corequisites: NFS 341L.

**NFS 341L Food Science Lab**
Corequisites: NFS 341.

**NFS 351 Principles of Food Processing**
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 151, CHEM 106 or 114, or consent. Corequisites: NFS 351L.

**NFS 351L Principles of Food Processing Lab**
Corequisites: NFS 351.

**NFS 360 Food Chemistry**
The study of chemical properties of basic food constituents and chemical changes occurring during storage and processing.
Prerequisites: CHEM 120 or consent. Corequisites: NFS 360L.

**NFS 360L Food Chemistry Lab**
Corequisites: NFS 360.

**NFS 371 Food Service Purchasing**
Purchasing food, equipment and supplies for restaurants and institutions. Functions of management as applied to supplier selection, procurement,
Application of foodservice management principles in quantity food production, purchasing, and service. Prerequisites: NFS 381L, HFM 251 (or concurrently), HFM 380. Corequisites: NFS 381L. Crosslisted: HFM 381.

**NFS 380 Foodservice Operations and Purchasing Management**

A managerial and systems approach to foodservice operations and purchasing. Crosslisted: HFM 380.

**NFS 381 Quantity Food Production and Service**

Application of foodservice management principles in quantity food production, purchasing, and service. Prerequisites: NFS 141141L, HFM 251 (or concurrently), HFM 380. Corequisites: NFS 381L. Crosslisted: HFM 381.

**NFS 381L Quantity Food Production and Service Lab**

Corequisites: NFS 381. Crosslisted: HFM 381L.

**NFS 422-522 Advanced Human Nutrition**

Principles of physiological chemistry and physiology applied to nutrition. Prerequisites: NFS 321, ZOOL 221 and BIOL 325, CHEM 108 or 464 or consent.

**NFS 423-523 Medical Nutrition Therapy I**

This course introduces the role of nutritional intervention in pathological conditions. Students will demonstrate the ability to screen for nutritional risk, collect data for nutritional assessment and calculate and/or define diets for common conditions. Prerequisites: NFS 422. Corequisites: NFS 423L-523L.

**NFS 423L-523L Medical Nutrition Therapy I Lab**

Corequisites: NFS 423-523.

**NFS 424-524 Community Nutrition**

Application of learning principles, teaching methods and knowledge of nutrition in community nutrition education programs and out-patient nutrition counseling. Prerequisites: NFS 321. Corequisites: NFS 424L.

**NFS 424L-524L Community Nutrition Lab**

Corequisites: NFS 424.

**NFS 425-525 Medical Nutrition Therapy II**

Continuation of NFS 423-523. Prerequisites: NFS 425/525 Corequisites: NFS 425L-525L.

**NFS 425L-525L Medical Nutrition Therapy II Lab**

Corequisites: NFS 425-525.

**NFS 450-550 Food Analysis**

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, CHEM 120, or consent. Corequisites: NFS 450L-550L.

**NFS 450L-550L Food Analysis Lab**


**NFS 451-551 New Food Product Development**

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 on the development of new food products. Prerequisites: NFS 351, MICR 311 or consent. Corequisites: NFS 451L-551L.

**NFS 451L-551L New Food Product Development Lab**

Corequisites: NFS 451-551.

**NFS 480-580 Travel Studies**

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, and Hospitality Human Resources Management**

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 NFSH. Professionalism and professional ethics, management and employment principles, diversity issues, leadership styles, networking and mentoring will be discussed. Crosslisted: HFM 481.

**NFS 487 Transition to Professional World**

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: senior standing or consent. Crosslisted: CA 487.

**NFS 490-590 Seminar (AW)**

**NFS 491-591 Independent Study**

**NFS 492-592 Topics**

**NFS 493-593 Workshop**

**NFS 494 Internship**

**NFS 495 Practicum**

**NFS 498 Undergraduate Research/Scholarship**

**NFS 601 Orientation in Graduate Study**

**NFS 634 Techniques in Food and Nutrition Research**

**NFS 634L Techniques in Food and Nutrition Research Lab**

**NFS 660 Maternal and Child Nutrition**

**NFS 662 Sociocultural Aspects of Nutrition**

**NFS 702 Macronutrients in Human Nutrition**

**NFS 704 Phytochemicals**

**NFS 725 Nutrition and Human Performance**

**NFS 760 Vitamins and Minerals in Human Nutrition**

**NFS 761 Nutrition of the Aged**

**NFS 788 Individual Research and Study**

**NFS 790 Seminar**

**NFS 791 Independent Study**

**NFS 792 Topics**

**NFS 794 Internship**

**NFS 798 Thesis**

**NFS 890 Seminar Ph.D**

**NFS 898D Dissertation- Ph.D (1-12)**

**NURS (Nursing)**

**NURS 110 Associate Degree Pre-Nursing Orientation**

Pre-Nursing Associate Degree orientation.
Students are advised to check for most current course description information at: https://wa-ssu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

NURS 111 Orientation Basic Nursing Student..............................0
Basic nursing student orientation.

NURS 112 Orientation to RN Upward Mobility Program...............0

NURS 201 Medical Terminology........................................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........................................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: Corequisite courses NURS 265-265L, 280-280L,
323.

NURS 222 Transition to BS in Nursing..................................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 265 Health Assessment and Interventions........................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, BIOL 325,
NFS 321, HDFS 210; 3 credits from SOC 100, 150, 240, 250 or 440.

NURS 265L Health Assessment and Interventions Lab..................0
Corequisites: NURS 265.

NURS 280 Professional Communication................................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: Corequisite courses
NURS 280L, 215, 265265L, 323.

NURS 280L Professional Communication Lab..........................0
Corequisites: Corequisite courses NURS 280.

NURS 293 Workshop......................................................(1-3)

NURS 310 Introduction to Public Health and Population-based
Nursing.................................................................4
Focuses on an introduction to public health and population-based nursing
care. Public health principles are applied to the health promotion, risk
reduction and disease prevention needs of clients. Clinical application occurs
with children and adults in community settings. Prerequisites: NURS 215,
265-265L, 280-280L, 323. Corequisites: Corequisite courses NURS 310L,
325-325L, PHA 321.

NURS 310L Introduction to Public Health and Population-based
Nursing Lab..........................................................0
Corequisites: NURS 310.

NURS 323 Introduction to Pathophysiology...............................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 Beginning Nursing Care of the Client with Health
Problems..............................................................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, 265265L, 280-280L, 323. Corequisites: Corequisite courses NURS
310-310L, 325L, PHA 321.

NURS 325L Beginning Nursing Care of the Client with Health
Problems Lab.........................................................0
Corequisites: NURS 325.

NURS 350 Nursing in the Community...................................(1-3)
Community aspects of planning for health needs. Designed for non-credit or
variable assignment of credits. May include some practice.

NURS 355 Research: Appraisal and Utilization..........................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,
325-325L. Corequisites: Corequisite courses NURS 365-365L, 380-380L.

NURS 365 Nursing Care of the Client with Health Problems...........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, 325-325L, PHA 321. Corequisites: Corequisite courses
NURS 365L, 380-380L.

NURS 365L Nursing Care of the Client with Health Problems Lab.......0
Corequisites: NURS 365.

NURS 380 Nursing Care of the Childbearing Family...................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 264, 265-265L, 280-280L,
282, 323. Corequisites: Corequisite courses NURS 320L, 304, 330, and PHA
321.

NURS 380L Nursing Care of the Childbearing Family....................0
Corequisites: NURS 320.

NURS 381 Family and Communication..................................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. Prerequisites: Prerequisite
or corequisite course NURS 222.

NURS 385 Health Assessment, Clinical Decision-Making and Nursing
Interventions.......................................................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, RN License.

NURS 410 Advanced Nursing Care of the Client with Health Problems
Expands on previous knowledge and skills to provide advanced nursing care to clients with complex health problems. Prerequisites: NURS 355, 365-365L, 380-380L. Corequisites: NURS 410L, 420-420L, HSC 445 or STAT 281.

NURS 410L Advanced Nursing Care of the Client with Health Problems Lab
Corequisites: NURS 410.

NURS 416 Community Health Nursing (AW)
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, RN License.

NURS 420 Nursing Care of the Client with Mental Health Problems

NURS 420L Nursing Care of the Client with Mental Health Problems Clinical Lab
Corequisites: NURS 420.

NURS 425 Nursing Leadership
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, 420-420L, HSC 445 or STAT 281.

NURS 454 Leadership and Management
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, NURS 381.

NURS 460 Preparation for RN Licensure
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 474 Nursing Research and Nursing Theory
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 OR HSc 445

NURS 480 Advanced Population based Nursing Practice
Apply multi-faceted, evidenced based, interdisciplinary systems thinking to solve public health problems in a variety of arenas. Prerequisites: NURS 410-410L, 420-420L, STAT 281 or HSC 445. Corequisites: NURS 425, 480L.

NURS 480L Advanced Population based Nursing Practice Lab
Corequisites: NURS 480.

NURS 483 Computer Applications in Health Care
Capabilities and limitations of computers; basic concepts and principles of system organization and operation; application of computer programs in health diagnosis, treatment and facilities operations; teaching, continuing education and research. Open to upper division undergraduate students.

NURS 491 Independent Study
Corequisites: NURS 495, 480-480L, 495L Practicum Clinical Lab.

NURS 492 Topics
Corequisites: NURS 495.

NURS 495 Practicum (AW)
Corequisites: NURS 495.

NURS 497 Cooperative Education
Corequisites: NURS 495, 491, 491L Independent Study Clinical.

NURS 615 Advanced Nursing Practice: Introduction to Roles and Issues
Corequisites: NURS 495, 495L Practicum Clinical Lab.

NURS 623 Pathophysiology Applied to Advanced Practice Nursing
Corequisites: NURS 480.

NURS 624 Neonatal Pathophysiology
Corequisites: NURS 495, 495L Practicum Clinical Lab.

NURS 626 Research Methods for Advanced Practice Nursing
Corequisites: NURS 495, 495L Practicum Clinical Lab.

NURS 630 Advanced Assessment of Neonates
Corequisites: NURS 480.

NURS 630L Advanced Assessment: Neonate Clinical Lab
Corequisites: NURS 480.

NURS 631 Advanced Assessment: Lifespan
Corequisites: NURS 480.

NURS 631L Advanced Assessment: Lifespan Clinical Lab
Corequisites: NURS 480.

NURS 635 Dying, Death and Bereavement
Corequisites: NURS 480.

NURS 640 Legal and Ethical Accountability in Health Care
Corequisites: NURS 480.

NURS 641 Application of Leadership Principles in Clinical Settings
Corequisites: NURS 480.

NURS 642 Application of Advanced Concepts of Nursing Care
Corequisites: NURS 480.

NURS 643 Clinical Nurse Leader I
Corequisites: NURS 480.

NURS 644 Clinical Nurse Leader II
Corequisites: NURS 480.

NURS 650 Management of Acute and Chronic Pain
Corequisites: NURS 480.

NURS 655 Health and the Older Adult
Corequisites: NURS 480.

NURS 660 Introduction to the Clinical Academic Partner Role
Corequisites: NURS 480.

NURS 670 Health Policy, Legislation, Economics and Ethics
Corequisites: NURS 480.

NURS 675 Cultural Competence in Health Care
Corequisites: NURS 480.

NURS 690 Seminar
Corequisites: NURS 480.

NURS 691 Independent Study
Corequisites: NURS 480.

NURS 691L Independent Study Clinical
Corequisites: NURS 480.

NURS 692 Topics
Corequisites: NURS 480.

NURS 710 Curriculum Development and Instruction in Nursing
Corequisites: NURS 480.

NURS 720 Technology-Based Instruction for Nurse Educators
Corequisites: NURS 480.

NURS 725 Patient Care Management
Corequisites: NURS 480.

NURS 750 Transformational Leadership
Corequisites: NURS 480.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>NURS 755</td>
<td>Rural Health Care</td>
<td>3</td>
</tr>
<tr>
<td>NURS 760</td>
<td>Advanced Concepts in Health Promotion and Disease</td>
<td>3</td>
</tr>
<tr>
<td>NURS 765</td>
<td>Family Nursing Practitioner: Practicum I</td>
<td>6</td>
</tr>
<tr>
<td>NURS 770</td>
<td>Clinical Nursing Specialist: Practicum</td>
<td>(4-6)</td>
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<tr>
<td>NURS 770L</td>
<td>Clinical Nursing Specialist: Practicum Clinical Lab</td>
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<tr>
<td>NURS 771</td>
<td>Family Nursing Practitioner: Practicum II</td>
<td>7</td>
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<tr>
<td>NURS 772</td>
<td>Neonatal Nursing Practitioner: Practicum I</td>
<td>6</td>
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<tr>
<td>NURS 772L</td>
<td>Neo Nursing Practitioner: Practicum I Clinical Lab</td>
<td>0</td>
</tr>
<tr>
<td>NURS 774</td>
<td>Nurse Administrator: Practicum</td>
<td>6</td>
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<tr>
<td>NURS 774L</td>
<td>Nursing Administrator: Practicum Clinical Lab</td>
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<tr>
<td>NURS 776</td>
<td>Family Nursing Practitioner III: Small Group Instruction</td>
<td>3</td>
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<tr>
<td>NURS 777</td>
<td>Family Nursing Practitioner III: Internship</td>
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<td>NURS 778</td>
<td>Nursing Education: Practicum</td>
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<tr>
<td>NURS 778L</td>
<td>Nursing Education: Practicum Clinical Lab</td>
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<tr>
<td>NURS 779</td>
<td>Neonatal Nursing Practitioner: Practicum II</td>
<td>12</td>
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<td>NURS 779L</td>
<td>Neo Nursing Practitioner: Practicum II Clinical Lab</td>
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<tr>
<td>NURS 785</td>
<td>Self Care: The Older Adult</td>
<td>3</td>
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<tr>
<td>NURS 788</td>
<td>Problems in Nursing Research</td>
<td>(1-2)</td>
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<tr>
<td>NURS 790</td>
<td>Seminar</td>
<td>(1-3)</td>
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<tr>
<td>NURS 798</td>
<td>Thesis</td>
<td>(1-7)</td>
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<tr>
<td>NURS 810</td>
<td>Doctoral Seminar</td>
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<tr>
<td>NURS 815</td>
<td>Philosophical Basis for Nursing</td>
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<td>NURS 820</td>
<td>Theory Development in Nursing</td>
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<tr>
<td>NURS 825</td>
<td>Qualitative Research Methods in Nursing</td>
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<td>NURS 830</td>
<td>Quantitative Methods in Nursing Research</td>
<td>3</td>
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<tr>
<td>NURS 835</td>
<td>Ethical Issues Influencing Practice and Research in Health Disciplines</td>
<td>3</td>
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<tr>
<td>NURS 840</td>
<td>Health Promotion Theory and Research in Underserved Populations</td>
<td>3</td>
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<tr>
<td>NURS 845</td>
<td>Instrument Construction and Evaluation with Underserved Populations</td>
<td>3</td>
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<tr>
<td>NURS 850</td>
<td>Philosophical and Theoretical Foundations for Evidence-Based Care</td>
<td>3</td>
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<tr>
<td>NURS 855</td>
<td>Translational Research</td>
<td>3</td>
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<tr>
<td>NURS 860</td>
<td>Health Operations and Financial Management for Nurse Managers</td>
<td>3</td>
</tr>
<tr>
<td>NURS 865</td>
<td>DNP Capstone</td>
<td>6</td>
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<tr>
<td>NURS 870</td>
<td>DNP Innovation Project</td>
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<tr>
<td>NURS 890</td>
<td>Research Problems</td>
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<tr>
<td>NURS 898</td>
<td>Dissertation Research</td>
<td>1-24</td>
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</table>

**PE (Physical Education)**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PE 100</td>
<td>Activity Courses (COM)</td>
<td>0-5-1</td>
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<tr>
<td></td>
<td>Activities stressing individual physical fitness and lifetime activities according to student needs and interest.</td>
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<tr>
<td>PE 170</td>
<td>Fundamental Movement (COM)</td>
<td>1</td>
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<tr>
<td></td>
<td>Defining, analyzing, and evaluating fundamental locomotor, non-locomotor (axial) and manipulative skills progressions in skill development.</td>
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<tr>
<td>PE 180</td>
<td>Foundations of HPER/A (COM)</td>
<td>2</td>
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<td></td>
<td>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.</td>
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<tr>
<td>PE 192</td>
<td>Topics</td>
<td>5-1.5</td>
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<tr>
<td>PE 200</td>
<td>Professional Preparation: Fitness (COM)</td>
<td>1</td>
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<tr>
<td></td>
<td>Knowledge and skills necessary to enable students to lead, analyze, and prescribe improvements for skills and activities which are part of lifetime fitness development.</td>
<td></td>
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<tr>
<td>PE 201</td>
<td>Professional Preparation: Gymnastics (COM)</td>
<td>1</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<td>PE 202</td>
<td>Professional Preparation: Individual and Dual Activities (COM)</td>
<td>(1-2)</td>
</tr>
<tr>
<td></td>
<td>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.</td>
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<tr>
<td>PE 203</td>
<td>Professional Preparation: Team Activities (COM)</td>
<td>1</td>
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<tr>
<td></td>
<td>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.</td>
<td></td>
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<tr>
<td>PE 204</td>
<td>Professional Preparation: Rhythm and Dance (COM)</td>
<td>1</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<td>PE 252</td>
<td>Fundamentals of Motor Learning and Development (COM)</td>
<td>2</td>
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<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>PE 252L</td>
<td>Fundamentals of Motor Learning and Development Lab (COM)</td>
<td>0</td>
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<tr>
<td>PE 320</td>
<td>Lifeguard Training (COM)</td>
<td>1-2</td>
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<tr>
<td></td>
<td>The course focuses on skills and knowledge to properly assume responsibilities of lifeguards at swimming pools and non-surf beaches. Corequisites: PE 322 Lifeguard Instructor</td>
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<tr>
<td>PE 320L</td>
<td>Lifeguard Training Lab</td>
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<td>Corequisites: PE 320.</td>
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</tbody>
</table>
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/ For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.
PE 469 Coaching Baseball/Softball (COM) ......................................................... 1
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.

PE 469L Coaching Baseball/Softball Lab: Officiating (COM) ......................... 1
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 469.

PE 470 Coaching Basketball (COM) ......................................................... 1
Fundamental techniques and strategies with emphasis on offensive and defensive skills, developing and using player personnel for basketball.

PE 470L Coaching Basketball Lab: Officiating (COM) .................................. 1
Focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate basketball competition. Corequisites: PE 470.

PE 471 Coaching Football (COM) ......................................................... 1
Fundamental techniques and strategies with emphasis on offensive and defensive skills, developing and using player personnel for football.

PE 471L Coaching Football Lab: Officiating (COM) .................................. 1
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 471.

PE 472 Coaching Golf (COM) .................................................................... 2
The teaching of fundamental skills and rules in competitive golf. Notes: (May be taught on demand.)

PE 472L Coaching Golf Lab (COM) ............................................................ 0
Accompanies PE 472. Corequisites: PE 472. Notes: (May be taught on demand.)

PE 473 Coaching Track and Field/Cross Country (COM) .............................. 1
Study of the techniques of teaching fundamentals of track and field/cross country skills, scientific training methods, rules, and event techniques.

PE 473L Coaching Track and Field/Cross Country: Officiating Country (COM) .............................................................................. 1
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 473.

PE 474 Coaching Wrestling (COM) ............................................................ 1
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 situations will be included.

PE 474L Coaching Wrestling: Officiating (COM) ........................................ 1
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 474.

PE 475 Coaching Volleyball (COM) ............................................................ 1
Fundamental techniques and strategy with emphasis on offensive and defensive skills, developing and using player personnel for volleyball.

PE 475L Coaching Volleyball: Officiating (COM) ........................................ 1
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. Corequisites: PE 475.

PE 476 Coaching Gymnastics (COM) ........................................................... 1
The teaching of fundamental skills in competitive gymnastics. Teaching and spotting of advanced skills needed for competition. Review of high school, national, and international rules. Notes: (May be taught on demand.)

PE 476L Coaching Gymnastics: Officiating (COM) ..................................... 1
This laboratory experience accompanies PE 476 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate gymnastics competition. Corequisites: PE 476. Notes: (May be taught on demand.)

PE 477-577 Travel Studies ............................................................................ (1-5)
This travel course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of SDSU or other institutions. Students will participate in hands-on activities and design educational activities for presentations at selected locations. Includes pre-travel orientation, post-travel exit interview, and a written report.

PE 479 Seminar (AW) .................................................................................. (1-3)
Prerequisites: consent.

PE 480-580 Travel Studies ............................................................................ (1-3)
(Continued....)

PE 490 Seminar (AW) .................................................................................. (1-3)
Prerequisites: consent.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

PHA 201 Medications and Wellness ** ............................................. 2
Principles of drug action, examination of medical and legal aspects of use and misuse of prescription, non-prescription and illicit drugs. Notes: ** Course meets IGR #2.

PHA 310 Introductory Practice Experience I ..................................... 3
Students apply the academic and theoretical knowledge they have acquired in didactic courses to practical situations within a pharmacy setting. Drug distribution activities of the pharmacist will be an emphasis of the course.

PHA 320 Introduction to Pathophysiology ......................................... 3
Pathophysiology of significant and more common diseases will be discussed at a systems level with limited discussion at the cellular level. Appropriate patient information will also be integrated for each disease. Prerequisites: PI year Pharmacy standing or Nursing major, and BIOL 325.

PHA 321 Pharmacology ................................................................. 3
Basics of pharmacology and therapeutics for nurses and others. Prerequisites: CHEM 108 or CHEM 114, BIOL 325, NURS 323.

PHA 322 Pharmaceutical Biochemistry ............................................. 4
Chemical structure, function, biosynthesis and catabolism of biomolecules in order to understand the biochemical basis of disease and the metabolism and mechanism of action of medicinal agents. Prerequisites: P1 year standing.

PHA 324 Biomedical Science I .......................................................... 3
Properties, activities, mechanism of action and therapeutic use of biologics (e.g., monoclonal antibodies, vaccines, therapeutic proteins) and technologies involved in their production. Prerequisites: P1 year standing. PHA 323.

PHA 331 Pharmaceutics I ............................................................... 3
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. Prerequisites: P1 year standing.

PHA 332 Pharmaceutics II ............................................................... 4
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. Corequisites: PHA 332L.

PHA 332L Pharmaceutics II Lab .......................................................... 0
Corequisites: PHA 332.

PHA 340 Medicinal Chemistry I ....................................................... 4
Principles of medicinal chemistry leading to the clear understanding of pharmacotherapy Prerequisites: P1 year standing. Corequisites: PHA 340L.

PHA 340L Medicinal Chemistry I Lab ................................................... 0
Corequisites: PHA 340.

PHA 341 Medicinal Chemistry II ....................................................... 4
Principles of medicinal chemistry leading to the clear understanding of pharmacotherapy. Corequisites: PHA 341L.

PHA 341L Medicinal Chemistry II Lab ................................................... 0
Corequisites: PHA 341.

PHA 367 Pharmacy Practice I ......................................................... 2
The fundamental concepts of pharmacy practice are introduced. Pharmaceutical calculations, principles of pharmaceutical care and professional communication skills are introduced. Prerequisites: P1 standing. Corequisites: PHA 367L.

PHA 367L Pharmacy Practice I Lab ..................................................... 0
The fundamental concepts of pharmacy practice are introduced in a practice laboratory environment. Pharmaceutical calculations, principles of pharmaceutical care and professional communication skills are introduced. Prerequisites: P1 standing. Corequisites: PHA 367.

PHA 368 Pharmacy Practice II ......................................................... 3
This is a continuation of Pharmacy Practice I. The fundamental concepts of pharmacy practice are further taught and developed. Pharmaceutical calculations, principles of pharmaceutical care and professional communication skills are expanded and reinforced. Drug information topics of effective retrieval, evaluation and dissemination of medication information are introduced. Prerequisites: PI standing. Corequisites: PHA 368L.

PHA 368L Pharmacy Practice II Lab ................................................... 0
This is a continuation of Pharmacy Practice I. The fundamental concepts of pharmacy practice are further taught and developed in a practice laboratory environment. Pharmaceutical calculations, principles of pharmaceutical care and professional communication skills are expanded and reinforced. Drug information topics of effective retrieval, evaluation and dissemination of medication information are introduced. Prerequisites: P1 standing. Corequisites: PHA 368.

PHA 415 Biopharmaceutics and Pharmacokinetics ................................ 4
The study of physicochemical properties of drug formulations in relation to the bioavailability of drugs. Principles and application of various approaches to estimate pharmacokinetic parameters for designing drug dosage regimens. Prerequisites: P2 year standing.

PHA 425 Biomedical Science II ........................................................... 3
Continuation of Biomedical Science I involving properties, activities, mechanism of action and therapeutic use of biologics (e.g., antibodies, vaccines, therapeutic proteins) and technologies involved in their production. Pathophysiology of microbial infections. Prerequisites: P2 year standing, PHA 324.

PHA 430 Pharmacy Practice Law ....................................................... 3
State and federal laws and regulations. Prerequisites: P2 year standing.

PHA 442 Pharmacology ................................................................. 5
Principles of pharmacology leading to the clear understanding of pharmacotherapy. Prerequisites: P2 year standing.

PHA 443 Pharmacology II ............................................................... 4
Principles of pharmacology leading to the clear understanding of pharmacotherapy. Prerequisites: PHA 442.

PHA 444 Toxicology .............................................................. 2
Basic principles of the understanding of poisoning and its prevention and treatment. Prerequisites: P2 year Standing, PHA 442. Corequisites: PHA 443.

PHA 445 Pharmacotherapeutics I ..................................................... 2
Discussion of pharmacotherapeutic principles for the development of patient specific drug regimens in patients with acute and chronic disease states and conditions.

PHA 446 Pharmacotherapeutics II .................................................... 3
This course is the continuation of PHA 445, Pharmacotherapeutics I, with an emphasis on the discussion of pharmacotherapeutic principles for the development of patient specific drug regimens in patients with acute and chronic disease states and conditions. Notes: (Begins Spring 09.).

PHA 467 Pharmacy Practice III (AW) ................................................ 3
This is a continuation of Pharmacy Practice II. The fundamental concepts of pharmacy practice are further taught and developed. Practice skills developed in Pharmacy Practice I and II are expanded and reinforced. Drug information topics of effective retrieval, evaluation and dissemination of medication information are expanded and concepts of formulary management, monitoring and prevention of adverse drug effects are introduced. Topics including critical assessment of the medical literature, and elements of clinical research design are introduced. The principles of
provision of pharmacy services in institutional and community settings are taught. Prerequisites: P2 standing. Corequisites: PHA 467L.

PHA 467L Pharmacy Practice III Lab (AW) 0
This is a continuation of Pharmacy Practice II. The fundamental concepts of pharmacy practice are further taught and developed in a practice laboratory setting. 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 standing. Corequisites: PHA 467.

PHA 468 Pharmacy Practice IV 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 standing. Corequisites: PHA 468L. (Begins Spring 09.)

PHA 468L Pharmacy Practice IV Lab 0
This is a continuation of Pharmacy Practice III. The concepts of pharmacy practice are further taught and developed in a practice laboratory environment. 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 standing. Corequisites: PHA 468. (Begins Spring 09.)

PHA 487 Research Problems 1-3
Students may elect research problems in one of the pharmaceutical sciences, biopharmaceutics, pharmacokinetics, pharmaceutical chemistry, or pharmacology; or in an appropriate area of pharmacy practice. Prerequisites: consent.

PHA 491 Independent Study 1-3
PHA 492 Topics 1-3
PHA 610 Introductory Practice Experience II 3
PHA 645 Pharmacotherapeutics: Application to Advanced Practice 2-4
PHA 646 Neonatal Pharmacotherapeutics 2
PHA 647 Pharmacological Issues in Mental Health Counseling 3
PHA 700 Directed Studies Practice Experience 4-5
PHA 701 Home Health/Hospice Practice Experience 5
PHA 702 Indian Health Services Practice Experience 5
PHA 703 Pharmacy Administration Practice Experience 5
PHA 704 Nutrition Support Practice Experience 5
PHA 705 Clinical Research Practice Experience 5
PHA 706 Critical Care Practice Experience 5
PHA 707 Infectious Disease Practice Experience 5
PHA 708 Surgery Practice Experience 5
PHA 709 Nephrology Practice Experience 5
PHA 710 Pharmacokinetics Practice Experience 5
PHA 711 Oncology Practice Experience 5
PHA 712 Nuclear Pharmacy Practice Experience 5
PHA 713 Managed Care Practice Experience 5
PHA 714 Community Pharmacy Practice Experience 5
PHA 715 First Steps in Pharmacy Care Practice Experience 4
PHA 716 Hospital/Institutional Pharmacy Practice Experience 5
PHA 717 Community Health and Patient Monitoring Practice Experience 5
PHA 718 Advanced Clinical Lab Monitoring 3
PHA 718L Advanced Clinical Lab Monitoring Lab 0
PHA 720 Advanced Medicinal Chemistry 3
PHA 723 Ethics in Healthcare Practice 2
PHA 724 Pharmacoeconomics 2
PHA 725 Topics in Medicinal Chemistry 3
PHA 727 Professional Resources Management 3
PHA 728 Current Issues in Pharmacy Practice 3
PHA 729 Advanced Pharmacy Marketing and Management 2
PHA 740 Advanced Pharmacology 3
PHA 741 Patient Assessment and Self Care I 2
PHA 741L Patient Assessment and Self Care I Lab 0
PHA 742 Patient Assessment and Self Care II 2
PHA 742L Patient Assessment and Self Care II Lab 0
PHA 744 End of Life Care 1
PHA 745 Topics in Pharmacology 3
PHA 746 Professional Pharmacy Leadership Skills 1
PHA 747 Advanced Clinical Nutrition 1
PHA 748 Topics in Neonatal and Pediatric Pharmacotherapy 1
PHA 749 Care of the Geriatric Patient 1
PHA 750 Critical Care Therapeutics 2
PHA 751 Immunotherapeutics 2
PHA 752 Drugs of Abuse and Addiction 2
PHA 753 Women and Children’s Health 2
PHA 754 Complementary and Alternative Medicine 1
PHA 755 Forensic Pharmacology 2
PHA 756 Pharmacotherapeutics III 4
PHA 757 Pharmacotherapeutics IV 4
PHA 759 Advanced Pharmaceutics 3
PHA 760 Clinical Pharmacokinetics 3
PHA 761 Pharmacotherapeutics V 5
PHA 762 Pharmacotherapeutics VI 5
PHA 765 Topics in Pharmaceutics 3
PHA 767 Pharmacy Practice V 3
PHA 767L Pharmacy Practice V Lab 0

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PHA 768 Pharmacy Practice VI ................................................. 3
PHA 768L Pharmacy Practice VI Lab ........................................... 0
PHA 770 Pediatrics Practice Experience .................................... 5
PHA 771 Geriatrics Practice Experience .................................... 5
PHA 772 Internal Medicine I Practice Experience ......................... 5
PHA 773 Internal Medicine II Practice Experience ......................... 5
PHA 774 Ambulatory Care Practice Experience .............................. 5
PHA 775 Psychiatry Practice Experience ..................................... 5
PHA 780 International Pharmacy Practice Experience .................. 5
PHA 784 Seminar I ................................................................. 1
PHA 785 Seminar II ................................................................. 1
PHA 790 Seminar ................................................................. (1-3)
PHA 791 Independent Study ..................................................... (1-3)
PHA 792 Topics ........................................................................ (1-3)
PHA 798 Thesis .......................................................................... (1-7)
PHA 820 Advanced Concepts in Medicinal Chemistry .................... 3
PHA 825 Topics in Advanced Medicinal Chemistry ....................... 3
PHA 840 Advanced Concepts in Pharmacology ............................. 3
PHA 845 Topics in Advanced Pharmacology ................................. 3
PHA 846 Techniques in Pharmaceutical Research ........................ 3
PHA 847 Grantsmanship and Academic Development .................... 3
PHA 859 Advanced Concepts in Pharmaceutics ............................ 3
PHA 865 Topics in Advanced Pharmaceutics ................................. 3
PHA 890 Seminar ...................................................................... 1
PHA 898 Dissertation ............................................................... 1-10

PHIL (Philosophy)

PHIL 100 Introduction to Philosophy * ** (COM) .......................... 3
Introduces competing philosophical views of reality, perception, learning, and values, emphasizing their relevance to the contemporary world. Notes: * Course meets SGR #3 or ** IGR #3.

PHIL 200 Introduction to Logic * (COM) ...................................... 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 * ** ............. 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 #3 or ** IGR #3.

PHIL 220 Introduction to Ethics * ** (COM) .................................. 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 #3 or ** IGR #3.

PHIL 313 Great Philosophers ** ................................................ (2-3)
Explores the thinking of a selected philosopher. Seeks to understand the ideas behind the philosopher’s thinking and their implication for the modern world. (May be repeated for a total of 9 hours). Notes: ** Course meets IGR #3.

PHIL 320 Professional Ethics .................................................. 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 ** ............................................. 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 limitations of scientific knowledge, and the implications of competing paradigms of scientific world view. Notes: ** Course meets IGR #3.

PHIL 383 Bioethics (G) ............................................................. 4
Crosslisted: BIOL 383. Notes: ** Course meets IGR #1.

PHIL 423 Political Philosophy .................................................. 3
Crosslisted: POLS 461.

PHIL 424 Modern Political Philosophy (AW) ............................. 3
Crosslisted: POLS 462.

PHIL 454-554 Environmental Ethics ** (COM) ......................... 3
Presents humanity's relationship to the environment, its responsibility to nature, and its obligations to future generations, attending to both theory and applications, including the debate over causes of environmental crisis, the value of endangered species, the wilderness, and natural objects; the seriousness of the growing global population and obligations to feed the poor, the feasibility of sustaining an ecological responsible society. Crosslisted: REL 332. Notes: ** Course meets IGR #1.

PHIL 470-570 Philosophy of Religion ** (COM) ......................... 3
Presents critical inquiry concerning the concept of faith and its relation to reason and belief, the nature of religious experience, concepts of the sacred and the divine, and problems of cross-cultural understanding. Notes: ** Course meets IGR #3.

PHIL 480 Ethics of Globalization ................................................ A writing intensive, critical, and rigorous examination of the ethical bases and moral philosophical foundations which underpin, support, and justify globalization theory and practice. Crosslisted: GLST 480.

PHIL 491-591 Independent Study (COM) .................................. (1-4)

PHIL 492 Topics (COM) ............................................................. (1-5)

PHIL 494 Internship ................................................................. (1-12)

PHIL 570 Philosophy of Religion ............................................... 3 Crosslisted: PHIL 470

PHIL 592 Topics ............................................................................ 3

PHST (Physics Topics)

Graduate Course

PHST 692 Topics for Physics Educators ..................................... (0-12)

PHSTH (Physical Therapy)

PHSTH 142 Introduction to Physical and Occupational Therapy .... 1
Introduces students to the professions of physical and occupational therapy.
PHYS (Physics)

PHYS 101 Survey of Physics * (COM) ........................................ 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. Notes: * Course meets SGR #6.

PHYS 101L Survey of Physics Lab * (COM) ................................. 0
This laboratory accompanies PHYS 101. Corequisites: PHYS 101. Notes: * Course meets SGR #6.

PHYS 111 Introduction to Physics I * (COM) .............................. 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: MATH 102, 115, 120, 121, 123, 125, 281, or consent. Corequisites: PHYS 111L. Notes: * Course meets SGR #6.

PHYS 111L Introduction Physics I Lab * (COM) .............................. 0
This laboratory accompanies PHYS 111. Corequisites: PHYS 111. Notes: * Course meets SGR #6.

PHYS 113 Introduction to Physics II * (COM) ............................. 4
This course is the second course in a two semester algebra-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 111. Corequisites: PHYS 211L. Notes: * Course meets SGR #6.

PHYS 211 University Physics I * (COM) ..................................... 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 211L. Notes: * Course meets SGR #6.

PHYS 211L University Physics I Lab * (COM) ............................... 0
This laboratory accompanies PHYS 211. Corequisites: PHYS 211. Notes: * Course meets SGR #6.

PHYS 213 University Physics II * (COM) .................................... 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. Corequisites: PHYS 213L. Notes: * Course meets SGR #6.

PHYS 213L University Physics II Lab * (COM) .............................. 0
This laboratory accompanies PHYS 213. Corequisites: PHYS 213. Notes: * Course meets SGR #6.

PHYS 291 Independent Study (COM) ........................................... (1-3)
PHYS 292 Topics (COM) ......................................................... (1-3)
PHYS 316 Measurement Theory and Experiment Design (AW) ............... 2
This course looks at accuracy, precision and uncertainty and how these quantities propagate as experimental laboratory measurements are converted to experimental results. Prerequisites: PHYS 213 or PHYS 113. Corequisites: PHYS 316L.

PHYS 316L Measurement Theory and Experiment Design Lab .................. 0
Laboratory portion of PHYS 316. Corequisites: PHYS 316.

PHYS 318 Advanced Laboratory I ............................................. 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) .......................... 3
This course concentrates on observations and theories of the 20th Century that carried the physicists' world-view beyond the classical. Prerequisites: PHYS 213 or PHYS 113 or consent.

PHYS 337 Foundations of Health Physics .................................... 3
Health Physics studies the risk to health from radiation and the measures to assess and reduce that risk. This course is an introduction to several aspects of health physics including radiation quantities, limits and risk assessment, external and internal dosimetry, biological effects of radiation, interactions of radiation with matter, radioactive decay, radiation detection, and various applications of radiation. Prerequisites: MATH 123 or MATH 121 and PHYS 113 or PHYS 213.

PHYS 341 Thermodynamics (COM) ............................................ 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) ........................................... 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) ............................................................. 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 213 or PHYS 113 and MATH 225.
PHYS 418 Advanced Lab II

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.

PHYS 421-521 Electromagnetism (COM)

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)

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 471.

PHYS 435 Introduction to Nuclear Engineering

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.

PHYS 439-539 Solid State Physics (COM)

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: PHYS 331 and MATH 321.

PHYS 449-549 Science of Solids

This course covers topics directed at satisfying student interests in areas such as magnetism, semi-conductors, superconductors, ferroelectrics, and devices based on these aspects of solids. The role of defects in solids and strength of materials may also be included. Prerequisites: PHYS 439 or consent.

PHYS 451-551 Classical Mechanics (COM)

This is a systematic introduction to classical mechanics emphasizing motion in three dimensions. Topics include central forces, harmonic oscillations, non-inertial reference frames, rigid body motion, and Lagrangian and Hamiltonian Mechanics. Prerequisites: PHYS 113 or PHYS 213 and concurrent registration in MATH 321.

PHYS 464 Senior Design I

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 Senior Design II

This course completes the departmental capstone senior design project. The student will construct, assemble, and test the project that they designed in PHYS 464. Prerequisites: PHYS 464. Corequisites: PHYS 465L.

PHYS 465L Senior Design II Research

This is the laboratory portion of PHYS 465 where the design developed in PHYS 464 is built, tested, and made to work. Corequisites: PHYS 465.

PHYS 469-569 Photonics

This is a systematic introduction to quantum mechanics, emphasizing the Schrödinger equation. Topics include simple solvable problems, the hydrogen atom, approximation methods and other aspects of quantum theory. Prerequisites: PHYS 331, MATH 321 or consent.

PHYS 473 Quantum Mechanics II

Prerequisites: PHYS 471.

PHYS 471-571 Quantum Mechanics (COM)

This course is a systematic introduction to quantum mechanics, emphasizing the Schrödinger equation. Topics include simple solvable problems, the hydrogen atom, approximation methods and other aspects of quantum theory. Prerequisites: PHYS 331, MATH 321 or consent.

PHYS 481 Mathematical Physics (COM)

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: PHYS 331, MATH 331, or consent.

PHYS 485 Introduction to Astrophysics

This course entails the study of stars, star clusters and galaxies. This will include the application of the principles of atomic structure and radiation laws to the interpretation of stellar and nebular spectra, energy generation by thermonuclear reactions and nucleosynthesis, theoretical and observational aspects of stellar evolution and the constituents and structure of stellar systems. Prerequisites: PHYS 185, PHYS 331, MATH 321.

PHYS 490-590 Seminar (COM)

PHYS 491-591 Independent Study (COM)

PHYS 492-592 Topics (COM)

PHYS 494 Internship (COM)

PHYS 496 Field Experience (COM)

PHYS 497 Cooperative Education (COM)

PHYS 498 Undergraduate Research/Scholarship (COM)

PHYS 683 MATHEMATICAL PHYSICS II

PHYS 691 Independent Study

PHYS 692 Topics

PHYS 721 Electrodynamics I

PHYS 723 Electrodynamics II

PHYS 739 CONDENSED MATTER PHYSICS I

PHYS 743 Statistical Mechanics

PHYS 749 CONDENSED MATTER PHYSICS II

PHYS 751 Theoretical Mechanics

PHYS 771 Quantum Physics I

PHYS 773 Quantum Physics II

PHYS 775 Tensors and General Relativity

PHYS 779 Group Theory in Quantum Mechanics

PHYS 780 Theoretical Physics

PHYS 781 NUCLEAR AND PARTICLE PHYSICS

PHYS 783 QUANTUM FIELD THEORY

PHYS 785 ASTROPHYSICS AND COSMOLOGY

PHYS 787 Research

PHYS 788 Research or Design Paper

PHYS 791 Independent Study

PHYS 792 Topics

PHYS 798 Thesis
PLAN (Planning)

PLAN 471-571 Principles of State, Regional and Community Planning ................................................... 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. Prerequisites: enrollment within a minor in planning at the Master's level or consent.

PLAN 472-572 Techniques of State, Regional and Community Planning ........................................................ 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) .............................................. 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 or ** IGR #3.

POLS 102 American Political Issues * ** (COM) ............................................. 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 or ** IGR #3

POLS 165 Political Ideologies * ** ................................................................. 3
Ideas defending communism, fascism, and democracy, including variations such as democratic socialism, Christian democracy, capitalism, liberalism, New Left, neo-conservatism, liberation theology. Practice of ideology. Concepts of comparative analysis. Notes: * Course meets SGR #3 or ** IGR #3

POLS 210 State and Local Government * ** (COM) ........................................ 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 #3

POLS 253 Current World Problems * ** (G) .................................................. 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 #3

POLS 305 Women and Politics ................................................................. 3
Study of the role women play in the American political process as activists as well as voters in the late 20th century. Particular emphasis is placed on barriers women face in gaining access to political power in public and private institutions, and the impact legislation and court decisions have had on the role of women in American society. Crosslisted: WMST 305.

POLS 316 South Dakota Legislative Issues (COM) ....................................... (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.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/  
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

supplied by other disciplines, such as geography, history, economics, anthropology, and literature.

POLS 454 International Law and Organization (COM) .................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) ..................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. Crosslisted: PHIL 423.

POLS 462 Modern Political Philosophy (COM) (AW) ..........3  
Focus on political theory since the Renaissance. Includes Locke Rousseau, and others. Crosslisted: PHIL 424.

POLS 482-582 Travel Studies .............................................(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.

POLS 490 Seminar (COM) ..................................................(1-3)  
POLS 491-591 Independent Study (COM) ..................(1-3)  
POLS 492-592 Topics (COM) .............................................(1-5)  
POLS 494 Internship ..................................................(1-12)

PR (Park Management)

PR 301 Park Interpretation .................................................3  
Principles and methods employed to promote resource awareness and communicate information about natural, cultural, and managerial features of parks and recreation areas to park visitors and resource users. The planning, development and use of interpretive techniques and media such as personal services, public relations, publications, audio-visual programs, exhibits, and environmental education activities. Prerequisites: PRM 101, PRM 202 or by consent. Corequisites: PRM 301L.

PR 301L Park Interpretation Lab ........................................0  
Corequisites: PRM 301.

PR 303 Forest Ecology and Management ..................3  
The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed. Corequisites: PR 303L. Crosslisted: BOT 303.

PR 303L Forest Ecology and Management Lab ...........0  
Corequisites: PR 303. Crosslisted: BOT 303L.

PR 350 Agritoursim ..................................................3  
Development and management of agritourism, including planning, marketing and management practices. Analysis of participation trends, opportunities and resources.

PR 401 Advanced Park Management ..................3  
Current philosophies, advanced techniques, and synthesis of park management principles. Prerequisites: PRM 101, PRM 202, PRM 300 and PR 301 or by consent. Corequisites: PR 401L.

PR 401L Advanced Park Management Lab ..................0  
Corequisites: PR 401.

PRM (Park and Recreation Management)

PRM 100 Introduction to Park and Recreation ..................1  
Introduction to the discipline and exploration of professional careers, historical development of the profession, expectations and opportunities in park and recreation services.

PRM 101 Parks and Society ...............................................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.

PRM 202 Outdoor Recreation Resource Management ..........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. Prerequisites: PRM 101 or consent. Corequisites: PRM 202L.

PRM 202L Outdoor Recreation Resource Management Lab ...0  
Corequisites: PRM 202.

PRM 300 Park and Recreation Facility Management ..........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: PRM 101, PRM 202 or consent. Corequisites: PRM 300L.

PRM 300L Park and Recreation Facility Management Lab ...0  
Corequisites: PRM 300.

PRM 302 Commercial Recreation and Tourism ..............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: PRM 101, PRM 202 or by consent.

PRM 360 Recreation and Outdoor Programming ..............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.

PRM 491 Independent Study .............................................(1-2)

PRM 492 Topics ..................................................(1-4)

PRM 494 Internship ..................................................1-12  
Select either (a) or (b): (a) Field Work Experience. Summer work experience with department approved park or recreation system, agency, or institution. One credit per semester or equivalent time unit. (b) Professional Internship. A supervised on-the-job practical experience program. Junior standing and must have completed 2 years of the Park and Recreation Management curriculum, or consent of adviser. 3-12 credits per semester.

PRM 496 Field Experience .............................................(1-12)

PRM 497 Cooperative Education .......................................(1-12)

PRM 498 Undergraduate Research/Scholarship .............(1-3)
PS (Plant Science)

PS 101 Opportunities in Plant Science .................................................................................. 1
An introduction to the diversity of disciplines within the Plant Science Department; an overview of career opportunities; resume development; and career goal setting for professions within the plant sciences.

PS 103 Crop Production ........................................................................................................ 2
Practices and principles; crop distribution; growth processes; response to environment. Grain and forage crops, including their distribution, use, improvement, growth, harvesting, and marketing. Corequisites: PS 103L.

PS 105L Crop Production Lab ................................................................................................. 1
Corequisites: PS 103.

PS 200 Introduction to Weed Management ............................................................................ 1
An introduction to common weeds of the upper Midwest in crop, lawn, range, and pasture settings. The use of cultural, biological, chemical, and physical methods of weed management will be discussed. Sprayer calibration and safe and effective use of herbicides in the environment. Corequisites: PS 200L.

PS 200L Introduction to Weed Management Lab .................................................................. 1
Weed identification, sprayer calibration, herbicide mixing techniques, and other lab related activities will be handled in the laboratory. Corequisites: PS 200.

PS 213 Soils * ** .................................................................................................................... 2
Development and classification of soils; physical, biological, and chemical properties; management aspects, including water, fertility, and erosion; soils in the environment. Prerequisites: CHEM 106-106L or CHEM 112-112L. Corequisites: PS 213L. Notes: * Course meets SGR #6 or ** IGR #1.

PS 213L Soils Lab* ** .............................................................................................................. 1
Corequisites: PS 213. Notes: * Course meets SGR #6 or ** IGR #1.

PS 223 Principles of Plant Pathology ...................................................................................... 2
Principles underlying cause, spread, symptomology, diagnosis, and control of plant diseases. Principles exemplified by detailed study of specific diseases. Laboratory stresses diagnosis and experimental elucidation of principles. Prerequisites: BIOL 103-103L or BIOL 153-153L or BOT 201-201L. Corequisites: Corequisite PS 223L.

PS 223L Principles of Plant Pathology Lab ............................................................................ 1
Corequisites: Corequisite PS 223.

PS 243 Principles of Geology* ** ............................................................................................ 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 or ** IGR #1.

PS 244 Geological Resources of South Dakota Lab ............................................................ 1
The geology laboratory consists of a field study across South Dakota and back observing how our land and natural resources are being economically and aesthetically utilized and discussing their future from a stewardship perspective. Most of South Dakota's mining and extractive industries together with groundwater utilization and possibilities for contamination will be studied. Prerequisites: PS 243.

PS 303 Seed Technology ......................................................................................................... 2
Seed testing; history, testing methods, and seed testing organizations. Seed development, maturation, anatomy, physiology, dormancy, and aging processes. Identification and classification of crop and weed seeds. Prerequisites: PS 103-103L or HO 111-111L. Corequisites: PS 303L.

PS 303L Seed Technology Lab ............................................................................................... 1
Corequisites: PS 303.

PS 305 Insect Biology (COM) ............................................................................................... 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 following: BIOL 103-103L, BOT 201-201L, or BIOL 153-153L. Corequisites: PS 305L or ZOOL 305L. Crosslisted: ZOOL 305.

PS 305L Insect Biology Lab (COM) ..................................................................................... 0
Laboratory experience that accompanies PS 305. Corequisites: PS 305 or ZOOL 305.

PS 307 Insect Pest Management ............................................................................................ 2
Covers the major insect pests of the Northern Great Plains with emphasis on field biology, recognition, field scouting, and economic thresholds. Pest management strategies of insects affecting row crops, small grains, hayland and rangeland will be included. Pesticide application methods and safety are included. Prerequisites: BIOL 101-101L, or BIOL 151-151L. Corequisites: PS 307L.

PS 307L Insect Pest Management Lab ................................................................................... 1
Corequisites: PS 307.

PS 308 Grain Grading ........................................................................................................... 1
Grain grading, crop and weed seed identification. Grain market grading and quality determinations. Plant identification of field crops and weeds of major importance in the United States. Prerequisites: PS 103-103L. Corequisites: PS 308L.

PS 308L Grain Grading Lab .................................................................................................... 1
Corequisites: PS 308.

PS 310 Soil Geography and Land Use Interpretation ** (G) .................................................. 2
Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Field trip. Prerequisites: PS 213-213L or GEOG 132-132L. Corequisites: PS 310L. Crosslisted: GEOG 310. Notes: ** Course meets IGR #1.

PS 310L Soil Geography and Land Use Interpretation Studio** ......................................... 1
Corequisites: PS 310. Notes: ** Course meets IGR #1.

PS 312 Grain and Seed Production and Processing .............................................................. 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 ................................................................... 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 ..............................................................................................................(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. PS 103-103L, PS 308-308L.
PS 321 Soil Judging
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. May be repeated for a maximum of 3 credits. Prerequisites: PS 213-213L.

PS 323 Soil Fertility and Plant Nutrient Management
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 333 Diseases of Field Crops
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.

PS 333L Diseases of Field Crops Lab
Corequisites: PS 333.

PS 334 Diseases of Horticultural Crops
Diagnosis and control of horticultural crop diseases. Emphasis is placed on diagnostic skills. Crops covered include shade trees, fruit crops, vegetables, bedding plants, tropicals, and turf. Prerequisites: PS 223-223L. Corequisites: PS 334L.

PS 334L Diseases of Horticultural Crops Lab
Corequisites: PS 334.

PS 334L Weed Science
Prerequisites: BIOL 103/103L or BIOL 153/153L or BOT 201/201L; and take CHEM 108/108L, or CHEM 120-120L. Corequisites: PS 323; PS 343-343L; and STAT 281. This course will cover the principles of precision farming for crop production. 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 planting and land use decisions will be covered. The use of spatial statistics to make site specific management recommendations will be discussed. Prerequisites: PS 223-223L; PS 305-305L, or PS 307-307L; PS 323; PS 343-343L; and STAT 281. Corequisites: PS 440L.

PS 340 Crop Management with Precision Farming
Alternate years. Prerequisites: consent. Corequisites: PS 440L.

PS 412-512 Environmental Soil Chemistry
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 415-515 Mycology
Comprehensive taxonomic survey of the Kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship of fungi to human affairs. Corequisites: PS 415L-515L. Crosslisted: BIOL 415-515.

PS 415L-515L Mycology Lab
Corequisites: PS 415-515.

PS 421-521 Soil Microbiology
Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms. Prerequisites: BIOL 151-151L and BIOL 153153L, or BOT 201-201L. Corequisites: PS 421L-521L. Crosslisted: MICR 421.

PS 421L-521L Soil Microbiology Lab
Corequisites: PS 421-521.

PS 431-531 Insect Ecology and Biological Control
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 440 Crop Management with Precision Farming
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 crop management will be discussed. The use of spatial statistics to make site specific management recommendations will be discussed. Prerequisites: PS 223-223L; PS 305-305L, or PS 307-307L; PS 323; PS 343-343L; and STAT 281. Corequisites: PS 440L.

PS 440 Crop Management with Precision Farming Lab
Corequisites: PS 440.

PS 446-546 Agroecology (G)
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 450-550 Field Study of Plant Disease Diagnosis
Course Descriptions 321

PS 450L-550L Field Study of Plant Disease Diagnosis Lab
Corequisites: PS 450L-550L.

PS 453-553 Advanced Genetics
Procedures in genetic studies as they relate to molecular and classical genetic applications. Prerequisites: BIOL 371. Crosslisted: BIOL 453-553.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

PSYC 289 Pseudoscience and Psychology

Pseudoscience and Psychology will identify the characteristics of conventional sciences versus what is called pseudoscience, and critically examine disputed areas in psychology and human behavior. Special emphasis is placed on how to critically evaluate anecdotes and published reports of anomalous human behavior, beliefs, and experiences. This course meets the Critical Thinking Requirement in Psychology. Prerequisites: PSYC 101 or 102.

PSYC 301 Sensation and Perception (COM)

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 102.

PSYC 305 Learning and Conditioning (COM)

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 102.

PSYC 324 Psychology of Aging **

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 102. Notes: ** Course meets IGR #3.

PSYC 327 Child Psychology ** (COM)

This course covers the physical, social, emotional and intellectual aspect of child development. Prerequisites: PSYC 101 or 102. Notes: ** Course meets IGR #3.

PSYC 331 Industrial and Organizational Psychology (COM)

This course covers the application of psychological principles to such problems as employee selection, supervision, job satisfaction, and work efficiency. Prerequisites: PSYC 101 or 102.

PSYC 357 Psychological Therapies

Traditional and contemporary methods of psychotherapy. Interviewing techniques and the professional assistant’s role. Prerequisites: PSYC 101 or 102 and PSYC 451 or 461.

PSYC 358 Behavior Modification

Principles of learning applied to human behavior modification. Prerequisites: PSYC 101 or 102.

PSYC 367 Psychological Gender Issues **

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 102. Crosslisted: WMST 367. Notes: ** Course meets IGR #3.

PSYC 373 Research Methods in Experimental Psychology (COM)

A detailed survey of methods for conducting psychological research, this course covers experimental design, reliability, validity, and the nature of controls. Prerequisites: PSYC 101 or PSYC 102; STAT 281.

PSYC 373L Research Methods in Experimental Psychology Lab (COM)

This course provides experience in laboratory techniques. These include: animal care and handling, data collection and analysis and experimental design. Corequisites: PSYC 373.

PSYC 374 Experiments in Psychology

Review of representative past research in experimental psychology and execution of class laboratory projects. Prerequisites: PSYC 373 or consent.

PSYC 374L Experiments in Psychology Lab

Corequisites: Corequisite PSYC 374.

PSYC 375 Research Methods in Psychology

Overview of research methodology and literature for Psychology majors in the Applied or Psychological Services curricula. Prerequisites: STAT 281 and PSYC 101 or 102.

PSYC 390 Seminar

PSYC 405 Cognitive Psychology ** (COM)

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 102. Notes: ** Course meets IGR #3.

PSYC 407 Cognition and the Visual Arts

This course provides an intensive study of cognition and art in which each student is expected to apply his or her critical analysis to the subject matter. It is designed to broaden the student's cultural perspective and to provide an opportunity for integration of psychology and art history. It is multidisciplinary, multicultural, focuses on themes that affect the world community, promotes critical thinking, and involves a rigorous writing component. ARTH 101 or ARTH 212 are recommended but not required. Prerequisites: PSYC 101 or 102.

PSYC 409 History and Systems of Psychology (COM) (AW) (G)

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 101 or 102.

PSYC 410 Physiological Psychology

Role of physiological mechanisms in behavior. Nervous, biochemical and muscular systems that control or modify human and animal adjustment. Prerequisites: PSYC 101 or 102.

PSYC 413 Advanced Physiological Psychology

This course will build upon the fundamental biological foundations of the physiology of behavior covered in PSYC 410 and cover additional areas of the biological bases of behavior. Additional coverage will be provided of the biological basis of higher brain-behavior relations such as states of consciousness, ingestive behaviors, learning, memory, cognitive and verbal behavior, sexual and emotional behavior and behavioral deficits in these and associated areas. Prerequisites: PSYC 101 or 102; PSYC 411 is recommended.

PSYC 414 Drugs and Behavior (COM)

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 102.

PSYC 417 Health Psychology (COM)

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 102.

PSYC 427 Child Psychopathology

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
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 102.

PSYC 451 Psychology of Abnormal Behavior
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 #3.

PSYC 461 Theories of Personality
This course will cover the basic principles of social psychology including concepts and methods utilized in analyzing individual and group interactions. Prerequisites: PSYC 101. Notes: ** Course meets IGR #3.

PSYC 477 Psychology Testing and Measurement
This course covers the principles of psychological testing and measurement 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. Notes: ** Course meets IGR #3.

RANG (Range Science)

RANG 100 Opportunities in Animal and Range Sciences
An overview of careers and opportunities in the Animal and Range Sciences. Crosslisted: AS ICQ.

RANG 105 Introduction to Range Management
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. Notes: ** Course meets IGR #1.

RANG 105L Introduction to Range Management Lab
Instruction and practice in the recognition of important native and introduced range plants of North America. Corequisites: RANG 105.

RANG 210 Range Plant Identification
An overview of careers and opportunities in the Animal and Range Sciences. Prerequisites: PSYC 101 or PSYC 102, PSYC 451; Crosslisted: AS ICQ.

RANG 210L Range Plant Identification Lab

RANG 215 Introduction to Integrated Ranch Management
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.

RANG 325 Measurement Topics
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 325 Measurement Topics
This course will be offered yearly. The two sections will be offered in alternate summers, scheduled independent of regular summer sessions. May be repeated for a total of 6 credits, but only if both sections are taken. This course is taken over a two week period in Western South Dakota near the end of the summer. Section 1 – Natural Resource Measurements: Two-week field course, with reports and assignments due within one month of formal course completion. Principles of sampling, field sampling methods, analysis of data and problem solving. Emphasis will be on measurement of important plant, animal, and climatic attributes, and on factors important in interpretation of that information. Course will provide substantial field experience, as well as experience using computers to analyze data and develop scientific reports. Prerequisites: STAT 281, or consent of instructor. Section 2 – Rangeland Analysis and Monitoring: Two-week field course, with reports and assignments due within one month of formal course completion. Emphasis
RANG 485 Advanced Integrated Ranch Management 3
RANG 485L Advanced Integrated Ranch Management Lab 0
Corequisites: RANG 485.

RANG 489 Current Issues in Animal and Range Sciences (AW) 1
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 421-521. Crosslisted: WL 421-521.

RANG 491 Independent Study (1-3)
RANG 492 Topics (1-3)
RANG 494 Internship (1-12)
RANG 497 Cooperative Education (1-12)

READ (Reading)
READ 41 Reading for College Success 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 140 Introduction to Recreation 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 of services and leisure. Also, because leisure is a major industry in the world, the course provides an overview of the management of valuable recreation, park, and tourism resources. Notes: (May be taught on demand.)

RECR 260 Fundamentals of Recreation Leadership 3
Philosophy and interpretations of leadership as it relates to recreational activities.

RECR 330 Therapeutic Recreation (COM) 3
Theoretical and philosophical foundations of therapeutic recreation, behavioral, therapeutic use of activity; recreational interaction-intervention techniques, survey of major services and agencies.

RECR 342 Recreational Sports Programs and Administration (COM) 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) 3
An introduction to the principles and practices of planning, financing, management and maintenance of recreation facilities.

RECR 362 Recreation Across the Lifespan 3
Exploration of relevant issues affecting the role of recreation and leisure on human development and its impact on healthy reproductive development from conception until death. Examination of the diverse, multicultural perspectives on recreation and leisure, its centrality throughout history and influence on how civilizations define themselves.

RECR 395 Practicum (COM) (1-3)
RECR 410 Current Issues in Recreation (AW) 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: RECR 260, consent. Crosslisted: PE 490.

RECR 415-515 Recreation and Sport Facility Management 3
Advanced study of recreation and sport facilities 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. Notes: PRM 300 (for undergraduate)

RECR 440 Administration of Leisure Services (COM) 3
Organization and administration of community recreation, program planning and recreational program areas.

RECR 491 Independent Study (COM) (1-9)
RECR 494 Internship (COM) (1-12)
RECR 496 Field Experience (COM) (1-12)
REL (Religion)

REL 213 Introduction to Religion ** ................................................. 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 or ** IGR #3

REL 224 Old Testament ** (COM) .................................................. 3
Surveys the sources and development of the peoples and literature of the Old Testament. Notes: * Course meets SGR #4 or ** IGR #3

REL 225 New Testament ** (COM) .................................................. 3
Presents the history, writings, and theological themes of the New Testament. Notes: * Course meets SGR #4 or ** IGR #3

REL 237 Religion in American Culture ** ....................................... 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 or ** IGR #3

REL 238 Native American Religions ** .......................................... 3
A survey of Native American religious traditions and their relation to both traditional and contemporary cultures. Focus on ritual, myth and practice in traditional settings, as well as forms of religious resurgence in the 20th century. Crosslisted: AIS 238. Notes: * Course meets SGR #4 or ** IGR #3

REL 250 World Religions ** (COM) (G) .......................................... 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 #3 or ** IGR #3

REL 270 Middle East Survey ** .................................................. 3
A country-by-country survey of the geography, history, government, economy, society, and religion of the Middle East, including a summary of U.S. relations with each of these countries. Crosslisted: GEOG 270. Notes: * Course meets SGR #4 or ** IGR #3

REL 331 Women and Religion ...................................................... 3
The course examines what women have to say about religion and what religions have had to say about women, including a critical examination of traditional theological areas from the perspective of feminist theologians. Areas covered include women in the Bible, Church history, and the contemporary Church. Crosslisted: WMST 331.

REL 332 Environmental Ethics ** .................................................. 3
Focus on contemporary and traditional efforts to think about the environment in moral terms, with attention to practical issues illustrating the role of moral reflection in the shaping of public policy. Crosslisted: PHIL 454. Notes: * Course meets IGR #1.

REL 360 Moral and Ethical Perspectives on Death and Dying ........... 3
Attitudes and issues that focus on death and dying in society, the religious and moral dimensions of these attitudes and issues.

REL 370 Philosophy of Religion ** (COM) ..................................... 3
Critically studies such issues as the nature and existence of God, the relations of reason to faith and man to the divine, plus non-western theologies. Notes: * Course meets IGR #3.

REL 401-501 History of Western Religious Thought I ** ..................... 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 emergence and growth of Christian doctrine and ecclesiology. Crosslisted: HIST 401. Notes: ** Course meets IGR #3.

REL 402-502 History of Western Religious Thought II .................... 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. Crosslisted: HIST 402. Notes: ** Course meets IGR #3.

RUSS (Russian)

RUSS 101 Introductory Russian I * (COM) ........................................ 4
Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage. Notes: * Course meets SGR #4

RUSS 102 Introductory Russian II * (COM) .................................... 4
Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage. Prerequisites: RUSS 101. Notes: * Course meets SGR #4

RUSS 201 Intermediate Russian I (COM) ....................................... 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) ..................................... 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.

RUSS 393 Workshop (COM) ......................................................(1-4)
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.

SCST (Science Concepts)

SCST 601 Science in Our World ....................................................(1-7)
SCST 602 Modeling and Mathematics ...........................................(2)

SE (Software Engineering)

SE 291 Independent Study .....................................................(1-5)
SE 292 Topics .................................................................(1-5)
SE 294 Internship .............................................................(1-8)
SE 298 Undergraduate Research/Scholarship ................................(1-3)
SE 305 Foundation of Software Engineering ................................ 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 320 Software Requirements and Formal Specifications (AW) ................................3
An in-depth coverage of software requirements analysis and formal specification Topics include requirements specification and definition; requirements prototyping; functional requirements specification; nonfunctional requirements specification; and legacy systems. The course also 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 (G) .........................................................3
This course covers the major frameworks, methods, and approaches to designing, engineering, implementing, and testing user interfaces. It also covers human-machine interaction, design requirements, task analysis, and implementation of the user interface. Prerequisites: SE 305.

SE 340 Software Architecture ..................................................................................3
The fundamental building blocks and patterns for construction of software systems are examined. The course covers the fundamental elements of software systems in the context of the design process. The conceptual, module interconnection and execution architecture of software are also discussed. The conceptual architecture describes the system in terms of its major design elements and the relationships among them. Prerequisites: SE 320.

SE 391 Independent Study .......................................................................................(1-5)
SE 392 Topics .........................................................................................................(1-5)
SE 398 Undergraduate Research/Scholarship ......................................................(1-3)
SE 410 Software Test and Quality Assurance .....................................................3
This course covers the importance of software quality assurance and configuration management. Software process improvement and software quality assurance are emphasized. Topics include software process metrics and their use in Quality Assurance, testing approaches, methods and techniques. Development of Quality Assurance plans, reviews, inspections and audits, and formal testing will be discussed. Prerequisites: SE 340.

SE 420 Software Project Management ....................................................................3
This course focuses on organizational and technical roles in software engineering management. Models of software engineering life cycle, unit development, maintenance, software reuse are discussed. Software maturity framework, strategies of implementing software, software process assessment, project planning principles and tools, software configuration management, managing software quality and usability, leadership principles, ethical and legal issues are also covered. Prerequisites: SE 340 and STAT 381.

SE 440 Embedded Systems ....................................................................................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: EE 347-347/3/47.

SE 464 Senior Design I ............................................................................................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 420.

SE 465 Senior Design II ...........................................................................................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 490 Seminar .......................................................................................................(1-3)
SE 491 Independent Study ......................................................................................(1-5)
SE 492 Topics .........................................................................................................(1-5)
SE 494 Internship ....................................................................................................(1-3)
SE 496 Field Experience ........................................................................................(1-3)
SE 497 Cooperative Education ..............................................................................(1-5)
SE 498 Undergraduate Research/Scholarship ......................................................(1-3)
SE 591 Independent Study .......................................................................................(1-3)
SE 592 Topics .........................................................................................................(1-5)
SE 791 Independent Study .......................................................................................(1-3)
SE 792 Topics .........................................................................................................(1-3)
SE 794 Internship ....................................................................................................(1-3)

SEED (Secondary Education)

SEED 314 Supervised Clinical/Field Experience ..................................................1
Supervised students will observe and practice various teaching strategies in lab setting, middle schools, and high schools. Prerequisites: EDEN 338 or SEED 287, EDFN 475. Corequisites: Corequisite courses EPSY 302, SEED 450.

SEED 371 Lab Organization and Management ....................................................(1-3)
SEED 400 Curriculum and Instruction in Middle and Secondary Schools .............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: EDEN 338 or SEED 287; EDFN 475, EPSY 302, SEED 450, SEED 314. Corequisites: Corequisite courses SEED 410 and 488.

SEED 405 Audio Visual Methods and Materials ....................................................1
Media used in instruction and communication. Emphasis on developing materials for use in the classroom. Small group laboratory sessions correlate with large group demonstrations/lectures. You will also become familiar with the operation of audio-visual equipment. Education elective. Corequisites: SEED 405L

SEED 405L Audio Visual Methods and Materials Lab ..........................................0
Corequisites: SEED 405.

SEED 410 Social Foundations, Management and Law ..........................................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; EDFN 475, EPSY 302, SEED 450, SEED 314. Corequisites: Corequisite courses SEED 400 and 488.

SEED 411 7-12 Speech Methods (COM) .................................................................(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 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 413 7-12 Science Methods (COM) ....................... 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) ............. 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) .................(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 .................. 0
Corequisites: SEED 418.

SEED 420 5-12 Teaching Methods ................................. 2
This course is designed to provide general teaching methods and strategies
for effective middle level and secondary education to prepare professionals
for the 21st century who are caring, competent, and confident. It prepares
prospective teachers to plan and develop instruction respecting learner
differences as well as preparing appropriate methods for assessing student
achievement. The nature of this course creates opportunities for prospective
teachers to individualize the course content and learning activities to be
responsive to the different education majors. The learning projects are built
around the integration of technology, media, other instructional aids, and
various resources relevant to the uniqueness of each content major.

SEED 420L 5-12 Teaching Methods Lab ....................... 0
This course is designed to provide general teaching methods and strategies
for effective middle level and secondary education to prepare professionals
for the 21st century who are caring, competent, and confident. It prepares
prospective teachers to plan and develop instruction respecting learner
differences as well as preparing appropriate methods for assessing student
achievement. The nature of this course creates opportunities for prospective
teachers to individualize the course content and learning activities to be
responsive to the different education majors. The learning projects are built
around the integration of technology, media, other instructional aids, and
various resources relevant to the uniqueness of each content major.
Corequisites: SEED 420

SEED 424 7-12 Language Arts Methods (COM) ............. 3
Students develop an understanding of the tools of inquiry of 7-12 language
arts, integrating reading, writing, speaking, and listening; the ability to
design, deliver, and evaluate a variety of instructional strategies and
processes that incorporate learning resources, materials, technologies, and
state and national curriculum standards appropriate to 7-12 language arts;
the ability to assess student learning in 7-12 language arts; and to apply
theses knowledge, skills, and attitudes to real life situations and experiences.

SEED 450 7-12 Teaching Reading in Content Area (COM) ....... 2
Introduction to the teaching of basic reading skills in all content areas of K12
and secondary education. Methods, materials, and research findings used in
teaching discipline-specific reading.

SEED 488 7-12 Student Teaching (COM) .......................(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 .......................................(1-9)
SEED 492-592 Topics (COM) ....................................(1-5)
SEED 493-593 Workshop .......................................... 1-3
SEED 494 Internship ...............................................(3-12)
SEED 496 Field Experience ......................................(3-12)
SEED 497 Cooperative Education ................................3
SEED 672 Motivation and Discipline .............................3
SEED 690 Seminar .................................................(1-3)
SEED 740 Secondary School Curriculum .......................3
SEED 748 Secondary Curriculum Practicum ....................1

SOC (Sociology)

SOC 100 Introduction to Sociology * (COM) (G) .......... 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) ................. 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 233 An Introduction to Leadership .........................1
Learn basic skills and theory necessary to be an effective leader. Areas such
as time and conflict management, communication skills, motivation, self-
analysis are stressed.

SOC 240 The Sociology of Rural America* ** (COM) (G) ... 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 or ** IGR #1 or ** IGR #3

SOC 250 Courtship and Marriage * ** (COM) ................. 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 or **
IGR #3

SOC 270 Introduction to Social Work (COM) ................. 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 150.

SOC 271 Social Work Skills and Methods ....................... 3
Basic concepts and methods common to all social service practice; focus on
developing interactional skills. Prerequisites: SOC 270.
SOC 286 Service Learning........................................(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. Graded S/U.

SOC 307 Research Methods I .......................................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 ......................................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 ................................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. Crosslisted: WMST 325.

SOC 330 Self and Society (COM)..................................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 150.

SOC 350 Race and Ethnic Relations ** (COM) (G)...............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. Prerequisites: SOC 100 or 150. Notes: ** Course meets IGR #3.

SOC 351 Criminology (COM)........................................3 Focuses on theories of crime, juvenile delinquency and justice, laws, systems of criminal behavior, victimization, and corrections. Prerequisites: SOC 100 or 150.

SOC 353 Sociology of Work (COM)................................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 150.

SOC 354 Victimology................................................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)..........................................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 150.

SOC 400 Social Policy (COM)........................................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 150 and SOC 270.

SOC 402-502 Social Deviance (COM).................................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 150.

SOC 403 Sociological Theory (COM).................................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 150.

SOC 433-533 Leadership and Organizations (COM)..................3 Emphasis is on the emergence of leadership patterns, group dynamics, small groups, and leadership in management. Prerequisites: SOC 100 or 150. Crosslisted: LEAD 433.

SOC 440 Urban Sociology ** (COM) (G)...........................3 A study of the urban community, focusing on its development, social structures and institutional patterns. Prerequisites: SOC 100 or 150. Notes: ** Course meets IGR #3.

SOC 453 Industrial Sociology......................................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)............................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 150.

SOC 460-560 Advanced Criminology (COM)........................3 An extensive examination of major criminological issues and theories including sociological definitions of crime. Prerequisites: SOC 351.

SOC 462-562 Population Studies (COM)..............................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 150.

SOC 482-582 Sociology of Law......................................3 This course focuses on the relationship between law and society. Topics include the organization of law in society, law and social control, law as a method of conflict resolution, law as a mechanism of social change, law as a profession, and methods of inquiry in research. The course will also look at alternative dispute resolution techniques, for example mediation. Comparative, and cross-cultural materials will be used throughout the class to emphasize diversity in law.

SOC 483 Sociology of Gender Roles (COM) (G)....................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 150. Crosslisted: WMST 383.

SOC 485-585 Applied Sociology....................................3 This course articulates the use of sociological concepts in practical settings. Applied and clinical approaches will be explored. A theoretical model for applied sociology will be developed and applied to businesses, organizations, medicine, aging, youth, law, communities, criminal justice, recreation, social services, educational facilities, and additional areas of student interest.
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**SPAN (Spanish)**

SPAN 101 Introductory Spanish I ** (COM) (G) ... 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 or ** IGR #3

SPAN 102 Introductory Spanish II ** (COM) (G) ... 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 or ** IGR #3

SPAN 201 Intermediate Spanish I (COM) ... 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.

SPAN 202 Intermediate Spanish II (COM) ... 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

SPAN 211 Intermediate Oral Practice I (COM) ... 2  
Conversational work, oral reports. May be taken concurrently with SPAN 201 or 202. Prerequisites: SPAN 102.

SPAN 212 Intermediate Oral Practice II (COM) ... 2  
Conversational work, oral reports. May be taken concurrently with SPAN 202 Prerequisites: SPAN 102.

SPAN 283 Applied Spanish ... (1-3)  
Practical Spanish useful in diverse situations, such as conversation, foreign travel, commerce, the theatre, etc. Topics will vary. May be repeated for a maximum of nine (9) credits. Prerequisites: SPAN 102 or consent. Classwork may be supplemented by work in the language laboratory.

SPAN 308 Spanish for the Health Professions ... (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 ... 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.

SPAN 330 Reading and Writing for Communication ... 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 ... 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) ... 3  

SPAN 353 Introduction to Spanish Literature I (COM) ... 3  
Introduction to Spanish literature through reading and discussion. Prerequisites: SPAN 202.

SPAN 355 Introduction to Latin-American Literature I (COM) ... 3  
Introduction to Spanish American literature through readings with discussion in Spanish. Prerequisites: SPAN 202.

SPAN 433 Spanish Civilization and Culture (COM) (AW) ... 3  
Geography, history, politics, and arts of Spain.

SPAN 435 Latin American Civilization and Culture (AW) ... 3  
Geography, history, politics, and arts of Latin America. Prerequisites: SPAN 310.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/  
For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

SPCM 443 Linguistics ..........................................................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: SPCM 310.

SPCM 444 Introduction to Translation ......................................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:  
at least one 300-level class.

SPCM 476 19th and 20th Century Spanish Literature ....................3  
Major movements and works. Reading, writing and discussions in Spanish.  
Topics vary. Prerequisites: SPCM 310, or consent.

SPCM 484 20th Century Spanish American Literature ....................3  
Major movements and works. Reading, writing and discussions in Spanish.  
Topics vary. Prerequisites: SPCM 310, or consent.

SPCM 491 Independent Study (COM) ........................................(1-3)  
SPCM 492 Topics (COM) ....................................................(1-3)  
SPCM 591 Independent Study (COM) ........................................(1-3)  
SPCM 592 Topics ...............................................................(1-4)

SPCM (Speech Communication)

SPCM 101* Fundamentals of Speech (COM) .................................3  
Introduces the study of speech fundamentals and critical thinking through  
frequent public speaking practice, including setting, purpose, audience, and  
subject. Notes: SGR #2

SPCM 201 Interpersonal Communication (COM) ............................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 ...........................................3  
An overview of the communication discipline, theory, and practice.  
Prerequisites: Advanced Placement in Speech or consent.

SPCM 215 Public Speaking (COM) * ........................................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) * ..........................3  
Explores argument as a communication activity, construction sound  
arguments in a variety of venues and analyzing the contribution of argument  
to public dialogue on contemporary issues. Notes: Course meets SGR #2

SPCM 281 Speech and Debate Activities (COM) .........................(1-4)  
Initiates active participation in competitive public speaking, including  
debate, oral interpretation, and non-competitive public performances.

SPCM 305 Communication Research (COM) (AW) .......................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) ........................3  
Provides an in-depth study of the interviewing process, including  
information gathering, persuasion, appraisal, and employment interviews,  
emphasizes theoretical knowledge from the perspectives of both the  
interviewer and interviewee, as well as skill development in interviewing  
techniques.

SPCM 340 Oral Interpretation of Literature (COM) .......................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) ..............................3  
Examines communication theories and philosophies, emphasizing  
clarification through theory of daily communication processes, and relating  
to traditional and developing research methods.

SPCM 410-510 Organizational Communication (COM) (AW) ............2-3  
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) .............................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. Crosslisted: WMST 415

SPCM 416-516 Rhetorical Criticism (COM) .................................3  
Evaluates American speakers from colonial to contemporary times.

SPCM 417 Political Communication (COM) .................................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) ............................3  
A study of small group communication in a variety of farnily contexts,  
including unconscious attitudes, linguistic assumptions; and the objective  
and subjective meanings of small group interactions. Emphasis is placed on  
thinking in terms of the household and the role of communication in the  
transmission of culture. Crosslisted: LING 434.

SPCM 442 Group Performance of Literature .................................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 444 Group Performance of Literature .................................3  
Various styles of Reader's Theatre are studied. Includes solo and group  
performance of multiple literary selections. Prerequisites: SPCM 340 or  
consent.

SPCM 452-552 General Semantics ...........................................3  
Relations between symbols; human behavior in reaction to symbols  
including unconscious attitudes, linguistic assumptions; and the objective  
and subjective meanings of small group interactions. Emphasis is placed on  
thinking in terms of the household and the role of communication in the  
transmission of culture. Crosslisted: LING 452-552.

SPCM 460 Family Communication (COM) ..................................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.

SPCM 470 Intercultural Communication (COM) (G) .....................3  
A study of theoretical dimensions of intercultural communication as well as  
their specific characteristics of intercultural study. Emphasis is placed on  
complex, mindful, creative and invitiational communication, which welcomes  
diversity and its richness.

SPCM 476 7-12 Speech Methods .............................................3  
Problems of the speech teacher. Curriculum, instructional materials, and  
methods.

SPCM 482-582 Travel Studies ...............................................(1-5)  
This travel study course is designed to provide extra-mural educational  
opportunities, approved and directed by a faculty member in Communication  
Studies Theatre. It may be in cooperation with faculty and administrators of  
other institutions. Students will be involved in hands-on activities and design  
educational activities for presentation at selected locations as well as SDSU.
Includes pre-travel orientation, post travel self-evaluation, and a written report.

**SPCM 491 Independent Study (COM)**
- (1-3)

**SPCM 492-592 Topics (COM)**
- (1-5)

**SPCM 494 Internship (COM)**
- (1-12)

**SPCM 605 Current Approaches to Communication**
- 3

**SPCM 700 Instructional Methods in Communications (COM)**
- 3

**SPCM 707 Speech/English/Drama for Teachers**
- (1-3)

**SPCM 766 Rhetorical Theory**
- 3

**SPCM 791 Independent Study (COM)**
- (1-2)

**SPCM 792 Topics (COM)**
- (1-3)

**SPCM 798 Thesis (COM)**
- (1-7)

**SPED (Special Education)**

**SPED 300 Students With Exceptionalities (COM)**
- 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 401 Introduction to Educating Secondary Students with Disabilities (COM)**
- 1

An introduction to the characteristics and needs of exceptional individuals including review of special education legislation and focusing on middle and secondary level students.

**SPED 405 Educating Secondary Students with Disabilities**
- 2

An introduction to the entire field of education for children with exceptional needs and is required by all middle school and secondary school majors. Students will identify etiology, classification, and educational programming practices for individuals with any identified disabilities. Students will also determine which local, state, and national administrative and legislative provisions support children with these conditions. Computerized IEP forms and other productivity tools will be reviewed.

**SPED 450 Gifted and Talented (COM)**
- 3

This course focuses on the nature and needs of the gifted child.

**SPED 451 Curriculum and Instruction in Gifted (COM)**
- 3

This course focuses on curriculum, development and teaching strategies for the gifted.

**SPED 452 Nature of Creativity and Assessment (COM)**
- (2-3)

This course focuses on the nature of creativity and assessment of creativity.

**STAT (Statistics)**

**STAT 281 Introduction to Statistics (COM)**
- 3

A study of descriptive statistics including graphs, measures of central tendency and variability and an introduction to probability theory, sampling techniques and statistical inference with an emphasis on statistical applications. Prerequisites: MATH 102 or 115 or 120 or 121 or 123 or 125.

**STAT 381 Introduction to Probability and Statistics (COM)**
- 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 Programming Using SAS**
- 2

Base SAS language and procedures for reading and manipulating data, and producing graphs, reports, and basic statistical analyses. An introduction to ODS, SAS/STAT, SAS/GRAPH, SAS certification, and menu-driven interfaces.

**STAT 412-512 Programming Using SAS II**
- 2

A continuation of STAT 410-510, including SAS/STAT, SAS Macro, IML, and projects in data stimulation. Prerequisites: STAT 410 or STAT 510.

**STAT 441-541 Statistical Methods II**
- 3

Analysis of variance, various types of regression, and other statistical techniques and distributions. Prerequisites: STAT 281, or MATH/STAT 381.

**STAT 445-545 Nonparametric Statistics**
- 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, MATH 381 or STAT 381.

**STAT 460-560 Time Series Analysis**
- 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 Statistics for Physical Science**
- 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 486-586 Design of Surveys (COM)**
- 3

Constructing and analyzing designs for survey investigations; simple random, stratified, cluster, multistage, and multiphase designs; and methods of estimation. Techniques and methods of obtaining and reporting survey information. Prerequisites: STAT 381 or permission of the instructor.

**STAT 490-590 Seminar**
- (1-2)

**STAT 491-591 Independent Study**
- (1-3)

**STAT 492-592 Topics (COM)**
- (1-3)

**STAT 498 Undergraduate Research/Scholarship**
- (1-3)

**STAT 615 Multivariate Analysis I**
- 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, MATH 381 or STAT 381.

**STAT 492-592 Topics (COM)**
- (1-3)

**STAT 661 Design of Experiments**
- 3

**STAT 662 Quality Control**
- 3

**STAT 685 Statistical Inference I**
- 3

**STAT 687 Regression Analysis I**
- 3

**STAT 720 Bayesian Statistics**
- 3

**STAT 720 Bayesian Statistics**
- 3

**STAT 730 Bioassay**
- 3

**STAT 735 Introduction to Clinical Trials**
- 3

**STAT 740 Survival Analysis and Reliability**
- 3

**STAT 746 Linear Models I**
- 3

**STAT 752 Topics in Statistics**
- 3

**STAT 754 Spatial Statistics**
- 3

**STAT 761 Design of Experiments II**
- 3

**STAT 785 Statistical Inference II**
- 3

**STAT 787 Regression Analysis II**
- 3
THEA (Theatre)

THEA 100 Introduction to Theatre * (COM)..................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 101 Introduction to Theatre..................3
Background of theatrical arts: production, plays, history, and theory. Credit will not be allowed for THEA 101 in addition to credit in THEA 100.

THEA 131 Introduction to Acting * (COM)..................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..................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..................1
Credit earned by backstage and crew work. May be repeated for a total of 8 credits. Prerequisites: consent.

THEA 191 Independent Study..................1
Consent of instructor and department chair.

THEA 240 Stage Costuming (COM)..................3
Introduction to the equipment, materials, and techniques of theatrical costuming. Includes practical projects in the use of stitching techniques, pattern making, fabric modification, and costume crafts.

THEA 241 Stagecraft (COM)..................3
Theory and practical experience in theatre production. Lab work on two major theatre productions. Corequisites: THEA 241L.

THEA 241L Stagecraft Lab (COM)..................0

THEA 243 Make-Up (COM)..................3
Principles of theatrical makeup techniques, including character analysis and practical application.

THEA 250 Play Analysis..................3
Study and application of principles of playscript analysis and production conceptualization.

THEA 351 Directing (COM)..................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)..................3
Children’s theatre is an art form. Students become proficient in organization, design, and presentation of a children’s theatre program.

THEA 375 Theatre Arts Management..................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 410-510 Dramatic Literature (AW)..................3
Analysis of important drama through present day.

THEA 435 History of American Musical Theater (COM)..................3
History and development of American musical theatre from 1866 to the present.

THEA 441 Scene Design (COM)..................3
Principles and practices of scenic design, including the scenic image, movement patterns, color, form, and rendering techniques.

THEA 445 Lighting (COM)..................3
Basic principles and practices of lighting design, including basic electricity, script analysis, color, and directionality. Corequisites: THEA 445L.

THEA 445L Lighting Lab (COM)..................0

THEA 455 Advanced Acting (COM)..................3
Textual analysis, movement and acting styles for the theatre.

THEA 460-560 History of Theatre..................3
Periods, theatres, and representative dramatic literature from the classical to the present day.

THEA 470 Portfolio and Resume Building..................3
Principles and practices of portfolio and resume building for acting and technical theatre.

THEA 480 Summer Theatre..................(1-5)
Credit earned by participation with Prairie Repertory Theatre Company. May be repeated to a total of 10 credits, but only 5 may be applied to a minor. Prerequisites: consent.

THEA 491 Independent Study (COM)..................(1-3)
Consent of instructor and department chair.

THEA 492-592 Topics (COM)..................1-5
THEA 494-594 Internship (COM)..................0-12

THEA 791 Independent Study ..................(1-2)
THEA 792 Topics ..................(1-3)
THEA 798 Thesis ..................1-7

VET (Veterinary Science)

VET 101 Animal Care and Welfare..................1
Training course in the care and handling of animals.

VET 103 Introduction to Veterinary Medicine..................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. Pass/fail.

VET 183 Veterinary Medical Terminology..................1
This course is a study of the technical language used in Veterinary Medicine and Animal Agriculture with a focus on learning the major components (prefixes, suffixes and combining root terms) of veterinary medical terms and how to put the components together to form useful medical terms. Species-specific terminology, along with organ system-specific terminology,
is also presented. Students will be expected to learn and understand the definitions of the veterinary medical terms, and to write and interpret paragraphs containing veterinary medical terms.

VET 223 Anatomy and Physiology of Domestic Animals ...........................................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 120 or 326. Corequisites: VET 223L.

VET 223L Anatomy and Physiology of Domestic Animals Lab ....................................0
Corequisites: VET 223.

VET 403-503 Animal Diseases and Their Control .......................................................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 423-523 Advanced Mammalian Physiology ......................................................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. Crosslisted: ZOOL 423/523.

VET 424-524 Medical and Veterinary Virology .........................................................3
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Prerequisites: MICR 433 Crosslisted: MICR 424-524.

WEL 100 Wellness for Life **(COM) ..............................................................................1
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. Notes: ** Course meets IGR #2.

WEL 192 Topics ............................................................................................................1

WL (Wildlife and Fisheries Sciences)

WL 110 Environmental Conservation **(G) ............................................................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 #1.

WL 220 Introduction to Wildlife and Fisheries Management ....................................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 .................................................................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 .........................................................................................(1-3)

WL 363 Ornithology (COM) .......................................................................................4
Identification of bird species; life histories, ecology, habits, and special structural and physiological adaptations of various groups. Corequisites: WL 363L.

WL 363L Ornithology Lab (COM) ..............................................................................0
Laboratory experience that accompanies WL 363. Corequisites: WL 363.

WL 367 Ichthyology ....................................................................................................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.

WL 367L Ichthyology Lab ...........................................................................................0
Corequisites: WL 367.

WL 400L Applied Habitat Management ....................................................................3
An introduction to major land-use practices, how these practices influence wildlife production, and alterations or manipulations of habitat to achieve specific wildlife conservation and management 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.

WL 400L Applied Habitat Management Lab ...............................................................0

WL 411 Principles of Wildlife Management .............................................................4
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, ZOOL 355, or department written consent. Corequisites: WL 411L.

WL 411L Principles of Wildlife Management Lab ....................................................0
Corequisites: WL 411.
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/
For x9 common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

WL 412 Principles of Fisheries Management .................. 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.
WL 412L Principles of Fisheries Management Lab ............ 0
Corequisites: WL 412.
WL 413-513 Fisheries Ecology and Management ............... 3
Principles and techniques of selected practices for lentic and lotic fisheries sampling, assessment, and management. (Prerequisites: department written consent for WL 413 only). Corequisites: WL 413L-513L.
WL 413L-513L Fisheries Ecology and Management Lab ....... 0
Corequisites: WL 413-513.
WL 415-515 Upland Game Ecology and Management .......... 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: department written consent for WL 415 only). Corequisites: WL 415L-515L.
WL 415L-515L Upland Game Ecology and Management Lab .... 0
Corequisites: WL 415-515.
WL 417-517 Large Mammal Ecology and Management .......... 3
Large mammal life histories and distributions. Relationships of nutrition, reproduction, interspecific competition, and predation to management of large mammal habitat and harvest. Techniques for research and management of large mammals. (Prerequisites: department written consent for WL 417 only). Corequisites: WL 417L-517L.
WL 417L-517L Large Mammal Ecology and Management Lab .... 0
Corequisites: WL 417-517.
WL 419-519 Waterfowl Ecology and Management ............... 3
Analysis of ecological and socio-economic factors affecting waterfowl habitat and populations. State and federal programs affecting wetland drainage and preservation. Field inspection of waterfowl habitat in the north-central states. (Prerequisites: department written consent for WL 419 only). Corequisites: WL 419L-519L.
WL 419L-519L Waterfowl Ecology and Management Lab ....... 0
Corequisites: WL 419-519.
WL 421-521 Grassland Fire Ecology ............................ 3
The course describes the ecological effects of fire on grassland ecosystem components, from soil and vegetation to wildlife and beef 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 conducting and safety of prescribed burns. (Prerequisites: department written consent for WL 421 only). Corequisites: WL 421L-521L.
WL 421L-521L Grassland Fire Ecology Lab .................... 0
WL 425-525 Wildlife Nutrition and Disease .................. 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-525L.
WL 425L-525L Wildlife Nutrition and Disease Lab .......... 0
Corequisites: WL 425-525.
WL 427/527 Limnology of Lakes & Streams .................... 4
Physical, chemical, and biological characteristics of lentic and lotic freshwater ecosystems. Analysis of and methods for quantifying processes that function in freshwater systems. Prerequisites: Department Written Consent. Corequisites: WL 427L/527L.
WL 427L/527L Limnology of Lakes & Streams Laboratory .... 0
WL 429/529 Fish Ecology ....................................... 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/529L.
WL 429L/529L Fish Ecology Laboratory ......................... 0
To accompany WL 429/529. Prerequisites: WL 429/529.
WL 430 Human Dimensions in Wildlife and Fisheries ** (G) ... 4
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.
Notes: ** Course meets IGR #3.
WL 430L Human Dimensions in Wildlife and Fisheries Lab ** 0
Corequisites: WL 430. Notes: ** Course meets IGR #3.
WL 431/531 Fisheries Management in Small Waters .......... 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: Department Written Consent. Corequisites: WL 431L/531L.
WL 431L/531L Fisheries Management in Small Waters Laboratory 0
WL 440 Fisheries and Wildlife Biometrics ....................... 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.
WL 440L Fisheries and Wildlife Biometrics Lab ............... 0
Corequisites: WL 440.
WL 490 Seminar ............................................... 1
WL 491 Independent Study .................................... 1-3
Crosslisted: RANG 421-521.
WL 492L-592L Topics Lab (COM) ........................... 0
WL 494 Internship ........................................... 1-12
WL 496 Field Experience (COM) ............................. 1-12
WL 497 Cooperative Education (COM) ....................... 1-12
WL 712 Wetland Ecology and Management ............... 3
WL 712L Wetland Ecology and Management Lab .......... 0
WL 713 Animal Population Dynamics ....................... 3
WL 713L Animal Population Dynamics Lab ................ 0
WL 714 Fish Structure and Function .......................... 3
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WMST 101 Introduction to Women's Studies ..................................................3
Exploration of women's issues in both historical and contemporary contexts, including introduction to feminist theory.

WMST 248 Women in Literature .................................................................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. ENGL 248.

WMST 250 Development of Human Sexuality ...........................................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. Crosslisted: HDFS 250.

WMST 260 Women's Health Issues ............................................................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.

WMST 305 Women and Politics .................................................................3
Study of the role women play in the American political process as activists as well as voters in the late 20th century. Particular emphasis is placed on barriers women face in gaining access to political power in public and private institutions, and the impact legislation and court decisions have had on the role of women in American society. No prerequisites. Crosslisted: POLS 305.

WMST 325 Domestic and Intimate Violence .................................................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. Crosslisted: SOC 325.

WMST 331 Women and Religion ...............................................................3
The course examines what women have to say about religion and what religions have had to say about women, including a critical examination of traditional theological areas from the perspective of feminist theologians. Areas covered include women in the Bible, Church history, and the contemporary Church. Crosslisted: REL 331.

WMST 349 Women in American History ...................................................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. Crosslisted: HIST 349.

WMST 350 Women in World History .........................................................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.

WMST 367 Psychological Gender Issues ** .................................................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 102. Crosslisted: PSYC 367. Notes: ** Course meets IGR #3.

WMST 383 Sociology of Gender Roles .......................................................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. Crosslisted: SOC 483.

WMST 392 Topics ..................................................................................3

WMST 415 Communication and Gender ....................................................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.

WMST 419-519 Women in Media ...............................................................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 supporting areas of advertising and public relations. Crosslisted: MCOM 419.

WMST 420 International Women's Issues ..................................................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 453 Socio-Psychological Aspects of Dress ......................................3
Examination of clothing behavior from sociological, psychological and cultural perspectives. Prerequisites: SOC 100, PSYC 101. Crosslisted: AM 453.

WMST 491 Independent Study .................................................................1-4
Prerequisites: WMST 101.

WMST 492-592 Topics .................................................................................3
Students are advised to check for most current course description information at: https://wa-sdsu.state.sd.us/webadvisor/ For x9x common course descriptions (for example, 390, 490, 491, 492), see pp. 268-269.

**ZOO (Zoology)**

ZOO 302 Animal Behavior (COM) ................................................................. 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.

ZOO 305 Insect Biology (COM) ................................................................. 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 of 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/livestock health importance. Field trips and a collection are required. Prerequisites: MATH 102 or higher, and one of following: BIOL 103-103L, BOT 201-201L, or BIOL 153-153L. Corequisites: Corequisite: PS 305L or ZOOL 305L. Crosslisted: PS 305.

ZOO 305L Insect Biology Lab (COM) ....................................................... 0
Laboratory experience that accompanies ZOOL 305. Corequisites: PS 305 or ZOOL 305.

ZOO 355 Mammalogy (COM) ................................................................. 3
Identification of game, fur bearing, and small mammals; taxonomy of these groups, life histories and habits, preparation of study skins and skeletons; special reference to those occurring in Northern Great Plains area. Prerequisites: BIOL 101 or BIOL 151. Corequisites: ZOOL 355L.

ZOO 355L Mammalogy Lab (COM) ....................................................... 0
Laboratory experience that accompanies ZOOL 355. Corequisites: ZOOL 355.

ZOO 365 Vertebrate Zoology (COM) ....................................................... 4
Structure and ways of life of the vertebrate classes. General anatomy, organ systems, and special characteristics of each class of vertebrates as well as detailed classification of the major taxa down to the family level. Prerequisites: BIOL 151. Corequisites: Corequisite ZOOL 365L.

ZOO 365L Vertebrate Zoology Lab (COM) ....................................................... 0
Laboratory experience that accompanies ZOOL 365. Corequisites: ZOOL 365.

ZOO 423-523 Advanced Mammalian Physiology ........................................ 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. Crosslisted: VET423-523. Notes: Dual Listed: ZOOL 523

ZOO 441 Histology (COM) ................................................................. 4
Microscopic study of cells and fundamental tissues. Structures of organs and systems are stressed to integrate structure and function. Prerequisites: BIOL 151. Corequisites: ZOOL 441L.

ZOO 441L Histology Lab (COM) ............................................................... 0
Laboratory experience that accompanies ZOOL 441. Corequisites: ZOOL 441.

ZOO 467-567 Parasitology (COM) ................................................................. 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. Prerequisites: BIOL 101 or BIOL 151. Corequisites: Corequisite courses: ZOOL 467L-567L. Crosslisted: BIOL 467-567.

ZOO 476L-576L Parasitology Lab (COM) ....................................................... 0
Laboratory experience that accompanies ZOOL 467. Corequisites: ZOOL 467-567. Crosslisted: BIOL 467L-567L.

ZOO 483 Developmental Biology (COM) ................................................... 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. Prerequisites: BIOL 151. Corequisites: ZOOL 483L.

ZOO 483L Developmental Biology Lab (COM) ........................................ 0
Laboratory experience that accompanies ZOOL 483. Corequisites: ZOOL 483.

ZOO 491 Independent Study ................................................................. (1-4)

ZOO 492-592 Topics ............................................................................. (1-5)

ZOO 494 Internship ............................................................................. (1-12)

ZOO 496 Field Experience ................................................................. (1-12)

ZOO 498 Undergraduate Research/Scholarship ........................................ 4

ZOO 761 Taxonomy of Insects ................................................................ 3

ZOO 761L Taxonomy of Insects Lab .................................................... 1

ZOO 788 Research Problem ................................................................. (1-3)

ZOO 791 Independent Study ................................................................. (1-4)

ZOO 792 Topics ............................................................................. (1-5)

Course Descriptions 337
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<td>Wellness Center</td>
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<tr>
<td>Water Resources Institute (WRI)</td>
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<td>Research Center (WEERO)</td>
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<td>University Relations</td>
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<td>The Union</td>
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<td>Service Learning</td>
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<td>Residential Life-Housing and Food Service</td>
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<td>Print Lab</td>
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<td>Microry Gardens</td>
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<td>(Official University Symbol)</td>
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<td>Library, Hilton M. Bridges</td>
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<td>Sports Clubs</td>
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<td>Food Labs</td>
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<td>Crime Reports</td>
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<td>Cooperative Extension Service (CES)</td>
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<td>Center Planning Services</td>
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<td>Laboratories (ADRD)</td>
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<td>Alumni Association</td>
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<tr>
<td>Agricultural Experiment Station (AES)</td>
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</tbody>
</table>
Agricultural Experiment Station (AES)

The Agricultural Experiment Station is one of three key activities at SDSU that define the land-grant university — research, extension, and academic programs. 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 South Dakota Cooperative Extension Service (SDCES). The SDAES extends the reach of the University through multistate 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 our 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, biobased energy, nutrition, economics and community well-being.

SDAES provides a base of new knowledge and service to South Dakotans. This new knowledge is effectively used by farmers, ranchers, consumers, 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.

Alumni Association

The purpose of the SDSU Alumni Association, a separate entity from the University, is to foster a spirit of loyalty and fellowship among graduates, faculty, students, former students, and friends of the University, and 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 alumni.

The Alumni Association can be reached at 605-697-5198, e-mail: alumni@statealum.com or Box 515, Brookings, SD, or visit the Web site at www.statealum.com.

Animal Disease Research and Diagnostic Laboratory (ADRDL)

The South Dakota Animal Disease Research and Diagnostic Laboratory (ADRDL) is a public service laboratory that is totally integrated with the Veterinary Science 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 South Dakota livestock industry, other animal owners, and society at large. The ADRDL is one of thirty-nine labs in the United States that is accredited by the American Association of Veterinary Laboratory Diagnosticians and is part of the National Animal Health Laboratory Network (NAHLN), as well as the Food Emergency Response Network (FERN).

The director, David H. Zeman, can be contacted at 605-688-5172 or by e-mail: david.zeman@sdstate.edu.
Career Planning Services

(www.sdstate.edu/campus/services/career/index.cfm)

Career Planning Services, located in Medary Commons, offers a variety of services designed to assist with students' academic and career goals. The Career Planning staff are here to help with all positions, and all the stages in between. We also offer a host of resources that can help you explore career options, locate potential employers, prepare your resume, and even find an internship. Current students and SDSU graduates have access to Campanile Connections, an online career service management system. Specific services students are able to take advantage of include:

Individual Career Planning
(careercenter.sdstate.edu/CareerDev/CareerPlanMain.htm)

Students trying to figure out what to do with their major can work through our career planning triangle online or meet with one of our staff to determine how their unique qualities fit into the work world and explore the academic programs that can get them here.

Full Time Job Search
(careercenter.sdstate.edu/FTSearch.htm)

Students looking for some help finding a job can visit our online Campanile Connections (careercenter.sdstate.edu/Login.htm) system to look for openings and check out the "how to" guides for specific job seeking activities. Students may also want to meet with one of our staff for an individual resume review or practice interview session.

Part-Time Jobs
(careercenter.sdstate.edu/PTSearch.htm)

Students needing to locate campus, local and state-wide opportunities can visit the campus branch of the Department of Labor located in the lower level of Medary Commons. Through the unique partnership between the SD Department of Labor and Career Planning Services, students can access student employment opportunities and other career assistance in one stop.

Internships
(careercenter.sdstate.edu/Internships.htm)

Students wishing to gain important experience in their field before they graduate can check out national internship information online and visit with the internship coordinator to learn more about making their experience count.

Graduate/Professional School
(careercenter.sdstate.edu/GradProSchool.htm)

Students planning to attend graduate or professional schools can visit with staff to view the many resources used to prepare for graduate school applications and professional school interviews. Check out the "how to" guides or meet with a professional to discuss the process for your specific professional area.

Programs and Events
(careercenter.sdstate.edu/Events.htm)

Students can participate in a number of programs and events geared to entering their career. Want to know what job fairs, workshops, and other career events are happening on campus and across the region? Detailed information, and registration if required, is available in Campanile Connections.

Individual assistance and a variety of other services are offered to help you with your job search and career questions. Contact us at 688-4153 if you have questions or would like to schedule an appointment.
The South Dakota Cooperative Extension Service (CES) provides an off-campus informal educational function of SDSU and encompasses the following broad areas of educational programming: Agriculture, Family, and Youth Development/4-H. The mission of the CES 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.

The Cooperative Extension Service brings the SDSU campus to every community across the state. Through the Extension educators and specialists, CES 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 nonformal, out-of-classroom learning opportunity provided to them for more than ninety years by SDSU in cooperation with the U.S. Department of Agriculture and county governments.

Approximately 50 percent of the funds supporting Cooperative Extension educational programs is appropriated to SDSU by the South Dakota Legislature with 41 percent from federal appropriations. Additionally, approximately $3 million is provided by South Dakota counties in the form of in-kind support. Extension program emphasis is constantly changing to meet the needs and opportunities (circumstances) of people who help determine instructional needs.

Cooperative Extension Service staff and South Dakota stakeholders have identified the following core values:

- **Responsive** – Extension will exceed client expectations in the timeliness and quality of programs and information presented.

**Crime Reports**

South Dakota State University publishes an annual 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 accessing the Web at www.sdstate.edu/campus/services/safety/crime/index.cfm. The crime report is also available upon request from the Office of Student Affairs.

**Diversity Enhancement, Office of**

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 recruiting 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. The Office of Diversity Enhancement can be reached at 605-688-6361 or in the Old Foundation building (823 Medary Ave).

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**Cooperative Extension Service (CES)**

Excellence – The motivating factor for Extension’s continued growth and improvement will be continued commitment to excellence.

Accountable – Relevant and useful data will be gathered and applied to decision-making about organizational changes, allocation of resources, program priorities, staffing patterns, and professional development for Extension personnel.

Credibility – Extension will address problems and issues with unbiased analysis and research-based answers.

Respectful – Rather than make decisions for the citizens of South Dakota, Extension will present alternatives and provide assistance in the decision-making process.

Catalytic – Through cooperative and collaborative partnerships, Extension will help cause changes across South Dakota.

The CES 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 CES 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.

For information contact Latif Lighari, associate dean of College of Agriculture and Biological Sciences and director of South Dakota Cooperative Extension Service, SDSU, Box 2207D, Brookings, SD 57007, or phone 605-688-4792 or e-mail: latif.lighari@sdstate.edu or check out the Web site at: http://sdces.sdstate.edu.
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 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 Plankinton, South Dakota, 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 the 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.
The ERC, established in 1986, exists to serve the University, citizens, and industry in South Dakota. Five complementary outreach and/or technology transfer programs make up the ERC. Thus, the knowledge gained from one program often supports or strengthens another program. The five programs are: Engineering Extension; Office of Remote Sensing; South Dakota Space Grant Consortium; Local Transportation Assistance Program; and the University/Industry Technology Service.

The ERC may undertake projects directly or use project teams composed of students, University faculty, and non-university experts. These teams may be discipline-specific or interdisciplinary.

The mission of Engineering Extension is to assist the private and public sectors of the state with their technical needs for the purpose of economic development. The primary activities of the program are:

1. Occupational safety and health surveys of the workplace for South Dakota employers.
2. Training and workshops and seminars to update skills regarding technical needs and to certify individuals who are required to work under specific government regulations.
3. Technical assistance that provides hands-on expertise that will solve safety and health technical problems for small industries, government agencies, and others through industrial/mechanical engineering technologies.

The Office of Remote Sensing (ORS) works with multispectral, remotely sensed imagery, Global Positioning Systems (GPS), and geographic information systems (GIS) for natural resource studies and mapping, and K-16 outreach in South Dakota and elsewhere. The ORS coordinates a statewide activity called SDView, which endeavors to distribute selected satellite data to users across the state.

The South Dakota Space Grant Consortium is a program funded in part by the National Aeronautics and Space Administration. Consortium members are SDSU, SDSM&T, Augustana College, and the EROS Data Center. Goals of the consortium are to create an enthusiasm for aerospace sciences among students and faculty and to encourage them to pursue careers in related fields.

The South Dakota Local Transportation Assistance Program (LTAP) assists local governments with technology and information needed to operate their transportation-related agencies. Staff members are located in Brookings, Sioux Falls, Pierre, and Rapid City.

The University/Industry Technology Service (UITS) links University resources to industry, business, and government to solve technological problems and enhance economic development in South Dakota.

For information, contact Kevin Dalsted, director, Engineering Resource Center, SDSU, Box 2220, Brookings, SD 57007-0199; phone 605-688-4184; e-mail: kevin.dalsted@sdstate.edu

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, or to download SDSU’s safety policies from the EHS Web site, go to:
http://www3.sdstate.edu/Administration/EnvironmentalHealthandSafety/
Or contact EHS at:
Environmental Health & Safety
Shepard Hall 059; Box 2202, Brookings, SD 57007
Phone: 605-688-4264
E-mail: EHS@sdstate.edu

The Facilities and Services Department is a service department established for the purpose of providing the 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 is able to perform most building maintenance functions with in-house talents. South Dakota State University electricians, painters, welders, carpenters, plumbers, HVAC technicians, and locksmiths provide service everyday to the campus. The Engineering Section provides project management, master planning support, and maintenance support. The Central Mail processes all incoming and outgoing mail for SDSU departments. The US Post Office, located in Yeager Hall, provides personal mail services for campus personnel, including rental mail boxes and UPS/FedEx drop off.

Faculty and staff are encouraged to note problems or deficiencies in the areas of campus that you use. Please contact Facilities and Services with questions, comments, or concerns.

Phone: 605-688-4136
E-mail: “SDSU Facilities and Services Front Desk” from global address list
Office: Administration Bldg 304
Visit at: http://facilitiesandservices.sdstate.edu/
Find: online service guide, customer forms, facilities information, maps, and contact information for Facilities and Services personnel.
**Fees**

**Application Fee**
Nonrefundable charge assessed to all applicants for initial admission unless you have previously attended South Dakota State University or another South Dakota public university.

**Activity Fee**
A fee charged per semester to support student health, student union, and student activity programs such as admission to plays, athletic events, athletic facilities, and partially funded judging, music, and forensic programs.

**University Support Fee**
A fee assessed per credit to replace expendable 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.

**Late Charges Assessed beginning Fourth Day of Classes**
If you do not pay tuition and fees at the regular established due dates, you will be assessed a late charge. 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.

**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.

**Special Expenses for Education Students**
Education students enrolled in selected Education courses are assessed a fee of $154.35 per semester for Junior Field Experience, $308.90 per semester for Senior Student Teaching, and a one-time fee of $154.35 for Master’s Level Internships.

**Special Expenses for Pharmacy Students**
Education students enrolled in selected Pharmacy courses are assessed a salary enhancement fee of $20.40 per credit hour.

**Special Expenses for Engineering Courses**
A fee of $20.40 per credit hour is charged for courses in the College of Engineering. This fee applies to mathematics, statistics, and computer science courses as well.

**Engineering/Science Lab Fee**
$53.20 per designated course is charged to all lab classes in engineering, mathematics, and selected sciences. These funds are used for supplies and materials to purchase equipment.

**Special Expenses for Nursing Students**
Uniforms must be purchased by second-year nursing students. Transportation must be provided by the student in Community Health Nursing and selected independent experiences. Nursing majors enrolled in more than two credits of nursing courses are assessed a major fee of $459.60 for the undergraduate program, $185.40 for the RN Upward Mobility program, and $185.40 for the graduate program. Students enrolled in the Family Nurse Practitioner program are assessed a fee of $659.45 per semester; students in the Accelerated Track, $761.55 per semester. Students enrolled in NURS, NACC, and HSC courses are assessed a salary enhancement fee of $20.40 per credit hour.

**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, and board, financial aid, but not to student organizations.

**Tuition, Living, and Other Expenses**
Using Academic Year September 2009-May 2010

For current information see the Web site: www.sdstate.edu/admissions/financing/undergrad/cost/index.cfm

All charges and procedures listed are subject to change pending Board of Regents action.

<table>
<thead>
<tr>
<th>TUITION AND FEES</th>
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<th>Nonresident</th>
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<tr>
<td><strong>Tuition</strong></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>
<td>University Support Fee - per credit</td>
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<td>Activity Fee - per credit</td>
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See accompanying text for the descriptions of fees for Engineering courses (including Mathematics courses), lab fees, and special expenses for Nursing, Pharmacy, and Education students. There is also an additional network connectivity fee per semester for students whose majors require participation in a laptop program.

<table>
<thead>
<tr>
<th>CAMPUS ROOM AND BOARD COSTS</th>
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<tr>
<td>Residence Halls – per semester</td>
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<td>Wecota Annex</td>
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<td>$1,610.35</td>
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<tr>
<td>Caldwell</td>
<td>$1,900.00</td>
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<tr>
<td>Berg/Bailey Apartments</td>
<td>$1,900.00</td>
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For more detailed information, contact the Food Service Office or Residential Life.
TYPICAL EDUCATION EXPENSES FOR FULL TIME UNDERGRADUATE FOR ONE SEMESTER

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<tr>
<td>General Activity Fee</td>
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<tr>
<td>Books and supplies</td>
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</tr>
<tr>
<td>Meal Plan (midpoint of range)</td>
<td>1,332.25</td>
<td>1,332.25</td>
</tr>
<tr>
<td>Residence hall rent</td>
<td>1,270.10</td>
<td>1,270.10</td>
</tr>
<tr>
<td>**</td>
<td>$6,534.75**</td>
<td>$7,266.75**</td>
</tr>
</tbody>
</table>

** Expenses will be higher if a student takes coursework requiring lab fees or special discipline fees. See accompanying text.

ELECTRONIC BILLING & ELECTRONIC PAYMENT OF TUITION & 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 Web site 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. For additional information, see eBilling and ePayment Web site at http://studentbill.sdstate.edu.

E-MAIL 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 third day of classes, each student makes a full payment of charges based on the number of credits early registered for, residency status, and campus housing. Late fees will be assessed starting on the fourth day of classes. We encourage students to mail payment before registration day.

Payment of tuition and fees can be made directly to the University by cash, check, or electronic bank transfer.

Payment of tuition and fees using a debit or credit card can only be made through SDePay, electronic billing and payment system. American Express, MasterCard, and Discover cards are accepted by SDePay. Visa Card is not accepted. A 2.75 percent service fee is assessed by and payable to infiNET, host provider of SDePay.

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

A petition process does exist for students or parents who feel that individual circumstances warrant exception from the published refund policy. Contact the Registrar, SAD 100, 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 period. The balance of flex plan dollars will be refunded at 100 percent.

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 Loan, Unsubsidized Stafford Loans, Parent Loans for Undergraduate Students (PLUS), Federal Perkins Loans, Federal Pell Grants, Academic Competitiveness Grants, SMART 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 is based on "earned" and "unearned" financial aid as related to the period of time the student is enrolled. Institutional charges comprise the amounts that had been assessed (paid or unpaid) and are not used in determining the Return of Title IV funds for a withdrawing student. During the first 60 percent of the period (academic term) a student "earns" Title IV funds and other applicable aid on a per diem prorated manner based on a percentage of the enrolled period by dividing the number of days a student attended by the number of days in the period. Calendar dates are used, except breaks of at least five days are excluded from the calculation. A student who remains enrolled beyond the 60 percent point earns all aid (100 percent) for the period.

The "unearned" Title IV funds must be returned to the 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. Uncoverable charges are derived from the unearned percentage calculation for the period multiplied by the institutional charges.

Repayment of unearned aid is first paid by any unearned (refunded) institutional charges. The student owes the difference between the total unearned amount and the refunded institutional charges.

Return of Title IV funds, by programs disbursed, are allocated in the following order: Unsubsidized Federal Stafford Loan, Federal Stafford Loan, Federal Perkins Loan, PLUS Loans, Federal Pell Grant, Academic Competitiveness Grant, SMART Grant, Federal Supplemental Grant, other Title IV assistance, other federal sources of aid, other state, institutional, and private aid, and last to the student.

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 and to return any Title IV funds to the respective Title IV funds account. The student is responsible to repay any Title IV funds that the student was determined to be ineligible for via the Return to Title IV funds calculation.
Financial Assistance

General Information
Approximately 86 percent 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 calculated from information on the FAFSA.

The SDSU award policy gives priority for some federal financial aid programs to students completing the FAFSA before March 10. However, the largest financial aid programs, the Federal Pell Grant and the Federal Stafford Loan, do not have priority processing dates. Students must reapply for financial aid every academic year. Please refer to the SDSU Web page for more information: www.sdstate.edu (Keyword: financial aid).

Need-Based Financial Aid Programs

I. General eligibility requirements
A. Admission in an SDSU degree program.
B. Enrolled as a full-time student to receive full award.
C. United States citizen or eligible noncitizen.
D. Cannot be in default on a federal student loan or owe a refund to a federal student grant program.
E. Selective Service laws require male students born after December 31, 1959, to be registered with Selective Service.
F. 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.

II. Financial aid programs
SDSU participates in all of the federal financial aid programs. Specific information is available on the SDSU Web page at www.sdstate.edu. An SDSU Financial Aid award letter identifies the specific awards and other information is enclosed for the financial aid recipient.

A. 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's degree.
2. Federal Supplemental Educational Opportunity Grant awards are based on Pell Grant eligibility and available funds.
3. Academic Competitiveness Grant awards based on Federal Pell Grant eligibility for a full-time student who graduated from high school after January 1, 2006, for a first-year grant and completed a state designated “rigorous high school program of study.” Second-year students must have graduated after January 1, 2005, and have a minimum 3.0 cumulative GPA.
4. SMART Grant awards based on Federal Pell Grant eligibility, full-time student enrolled in a federal approved major and have a minimum 3.0 cumulative GPA.
5. 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.

B. 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.
1. The Federal Stafford Loan Program is the largest financial need-based loan program. The Federal Stafford Loan is processed with financial institutions. 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 interest rate is 6.8 percent, subject to change.
2. The Unsubsidized Federal Stafford Loan can be used by students who are not eligible for full need-based financial aid as determined by the Free Application for Federal Student Aid. Independent students may apply for extended unsubsidized Federal Stafford Loans if eligible. The student pays the interest on unsubsidized loans.
3. The Federal PLUS (Parent Loan for Undergraduate Students): The parent processes a loan application for the student and makes a monthly payment beginning 60 days after the PLUS check is disbursed. Interest rate is 8.5 percent.
4. The Federal Perkins Loan is an SDSU award based on financial need and SDSU award policy. Interest (5 percent) and repayment begin nine months after half-time enrollment ends.
5. The Nursing Student Loan is for nursing majors based on financial need and SDSU award policy. Interest (5 percent) and repayment begin nine months after half-time enrollment ends or ending the nursing degree program.
6. The Health Professions Student Loan is for pharmacy majors based on financial need and SDSU award policy. Interest (5 percent) and repayment begin twelve months after full-time enrollment ends or ending the pharmacy degree program.

C. Work opportunities may provide part-time employment for students.
1. The Federal Work Study financial aid awards are based on financial need 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.

D. State of South Dakota no-need aid program information available at www.sdstate.edu (Keyword: Scholarships).
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.

III. Scholarships
The SDSU scholarship programs have increased yearly with additional scholarships for new, continuing, and transfer students. SDSU awards more than 4,500 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 Financial Aid 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 eligibility for new, first-time freshman students who score a 24 or higher ACT composite score. Scholarship is renewable if 30 SDSU credits are completed each academic year and a 2.5 or higher GPA is maintained. 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

D. Local and national scholarship information and applications may be available through various agencies including Vocational Rehabilitation and other special services agencies.

IV. Financial assistance may also be available through various agencies

V. SDSU is fully accredited for Veterans Assistance benefits for qualified students.

VI. Please contact the SDSU Financial Aid Office, Box 2201, S.A.D. 106, 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.

Foundation, SDSU

The SDSU Foundation is a private, nonprofit corporation which seeks, accepts, and administers private gifts for the support of programs at South Dakota State University.

The SDSU Foundation manages total net assets valued at more than $100 million, including an endowment of more than $60 million. The work of the SDSU Foundation provides support that translates to more than $200,000 each week to assist the University in its missions of education, research, and outreach.

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 (toll-free) 1-888-747-SDSU (7378), send an e-mail to: steve.erpenbach@sdsufoundation.org; or check out the Web site at: www.sdsufoundation.org.

Information Technology, Office of

The Office of Information Technology coordinates all areas of information technology (IT) at SDSU. Under the direction of Dr. Mike Adelaine, the vice president for Information Technology, programs, services, and support are provided to the University community.

Administrative and Research Computing (ARC)
ARC provides computational resources for large-scale research on campus. Analysis and computer programming for management information and student information support are also ARC priorities. For more information, call 688-6134.

Classroom Technology Services (CTS)
This group 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 688-6312.

Information Security
This team ensures University data security and establishes protocols to protect information, users, and the University. Questions or concerns should be reported to the Support Desk (688-6776) immediately. For more information, call 688-4988.

Information Technology Operations
This group is responsible for the daily management of the OIT and coordinating IT units and services, as well as managing the eSDSU Laptop Center, the Faculty Upgrade & Redistributed System programs, and the Student Technology Fellows. For more information, call 688-4988.

Information Technology Services (ITS)
ITS serves as the primary point of contact for all 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 688-6776.

Instructional Design Services (IDS)
This team offers faculty services in instructional design, distributed learning, and the use of integrated media in the classrooms. They also provide students and staff with training in a wide variety of software programs and applications, as well as instruction in the use of equipment. For more information, call 688-6312.

University Networking Systems and Services (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 688-4988.
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 or 1-800-JACKS-TX (South Dakota only) or e-mail: tamara.loban@sdstate.edu

The Office of International Affairs (OIA) serves as the administrative unit at SDSU where programs and activities designed to assist the entire University and its constituents in gaining an international perspective are initiated, coordinated, and managed. These activities include semester or year-long student and faculty international exchanges, short-term study abroad programs for students, international seminars for faculty, as well as on-campus programs designed to help internationalize the University.

The Office of International Programs (now Affairs) was established in 1988 and initiated its first international agreements for exchanges with Yunnan Normal University, in Kunming, China; with Chungnam National University, in Daejeon, South Korea; and with Manchester Metropolitan University, Manchester, England, among others.

Today, through the efforts of the OIA, SDSU has agreements with two dozen international universities, on six continents, and holds memberships in several prominent national and international organizations, including the Association for International Education Administrators (AIEA), the American Council on Education’s Internationalization Collaborative, the International Student Exchange Program (ISEP), the Council on International Educational Exchange (CIEE), Cooperative Center for Study Abroad (CCSA), and the College Consortium for International Studies (CCIS).

For more information about the Office of International Affairs, please contact the director at 605-688-4706, Karl.Schmidt@sdstate.edu or SAD 315, Box 2201, SDSU, Brookings, SD 57007-2098.
Intramurals and Recreational Sports and Sports Clubs

The purpose of the Intramural Program is to provide 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. From informal settings such as open swim and gyms, to league play in traditional sports such as football, basketball, softball, and volleyball, it is hoped that the individual will develop a life-long positive attitude toward physical activity. Activities are organized on an individual, team, and club basis. Leagues are established for women, men, and mixed competition activities. Teams can be formed from residence hall, independent, and organizational groups.

Opportunities for students include managing and participating with employment opportunities supervising and officiating. 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. All program offerings are governed by an elected intramural council, and activities are scheduled and supervised by the intramural staff. Since there is inherent risk of injury involved with all physical activities, it is recommended that participants have their own medical insurance.

For further information, contact the Intramural Office at 605-688-4724 or Web site: www.sdstate.edu/campus/wellness/club-and-intramural-sports.cfm

Library, Hilton M. Briggs

Library services and collections are housed in the spacious Briggs Library, which is named for President Hilton M. Briggs, who served the University from 1958 to 1975. Library collections consist of more than 650,000 bound volumes, 573,000 government documents, and 40,000 online journals and other electronic resources.

A wide variety of other resources and equipment is available in the library including wireless networking and more than sixty public computer workstations providing access to the Internet and library databases, and to software such as MS Word, Excel, and PowerPoint. In addition, Briggs Library contains group study/conference rooms for student use, individual study rooms for faculty and graduate students, two computer labs, several informal lounge areas, and photocopiers on each floor. Special collections of archival, state and local history, and curriculum materials are available for students, faculty, and researchers. Briggs Library is also the home of the Honors College and the Teaching Learning 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, and other locations throughout South Dakota and the U.S. They respond to tens of thousands of information requests annually through personal contacts and via telephone, e-mail, and instant messaging. Each year they teach more than 300 classes on information literacy and use of library resources.

Hilton M. Briggs Library is a founding member of the South Dakota Library Network, which provides electronic access to the holdings of seventy academic, public, school and special libraries of South Dakota. Using this system, students and faculty at any one of the cooperating libraries can initiate computer searches of the entire database of more than 5 million items that are available through interlibrary loan to students at any member institution. In addition, each year the library's interlibrary loan staff acquires more than 4,000 copies (mostly electronic) of journal articles and more than 1,000 books from other libraries worldwide to supplement the resources the library normally provides for SDSU students and faculty.
Logos, Seals, Caricatures, Wordmarks
Official University Symbols

University Relations 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.

NOTE: 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) and Yellow (PMS 109)

Athletic Teams Nickname:
Jackrabbits or Jacks

Federally Registered Word Marks
The following word and stylized marks are federally registered with the U.S. Patent & Trademark Office and require a ® symbol:

- Beef Bowl®
- Cereal Bowl®
- Go Jacks®
- Hobo Day®
- Jacks®
- Running Rabbit (retired)
- Jackrabbit Guarantee®
- Jackrabbitts®
- On Call®
- Pride of the Dakotas®
- The Campanile Line®
- Today's Ag®
- You can go anywhere from here.®
- SDSU®
- South Dakota State University®

State Registered Marks
The following marks are protected by registration within South Dakota and require a “TM” symbol:

- Dirty Lil TM
- Garden Line TM
- Oak Lake Field Station TM
- Weary Willie TM
- Cereal Bowl TM stylized logo
- Beef Bowl TM stylized logo
- SDSU Rodeo TM
- SD State TM
- The Innovation Campus TM
- McCrory Gardens TM
- Hobo Dough word mark TM

For information on usage, please contact:
Office of University Relations
Box 2230
South Dakota State University
Brookings, SD 57007-1498

Telephone: 605-688-6161
Fax: 605-688-6357

The Coughlin Campanile occupies a central focus on campus.

Official Oak Lake Field Station Logo

Services and Facilities 351
The Athletic Department's official sports logo

"Dirty Lil" and "Weary Willie" represent the spirit of Hobo Days (SDSU's Homecoming).

SDSU Athletic teams are nicknamed the "Jackrabbits."

Official Beef Bowl Logo

Official Cereal Bowl Logo

Official Garden Line Logo (Television Production)

Official Today's Ag Logo (Television Production)
McCrory Gardens

McCrory Gardens is recognized as one of the top small ornamental display gardens in the United States. It is operated by the Department of Horticulture, Forestry, Landscape and Parks. McCrory Gardens has grown to its present stature primarily through donations by Friends of McCrory Gardens, professional associations, and corporate donations. Primary goals are teaching, public education, and ornamental plant research. It is composed of a twenty-acre public display area and a forty-five-acre arboretum.

The South Dakota Art Museum's collection of more than 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 Medary Avenue at Harvey Dunn Street. The museum is open free to the public Monday through Friday from 10:00 a.m. to 5:00 p.m., Saturdays from 10:00 to 4:00 and Sunday's from noon to 4 p.m. The museum is closed on state holidays.

Print Lab

The Print Lab is an on-campus printing department located in Yeager Hall, SYE 102. There is a charge for all Print Lab work, and the Print Lab only prints university-related materials.

With the advent of desktop publishing programs, writing and designing publications such as newsletters, brochures, posters, flyers, etc., has become much easier. Although nearly every office on campus has this capability, generally a publication designed “in house” does not necessarily mean it is “print ready.”

To ensure projects are ready for printing, electronic prepress procedures require University Relations or AgBio Communications to prepare the computer files for the Print Lab. These procedures apply to the simplest business form or letterhead to the most complicated full-color brochure. Additionally, the offices of University Relations and AgBio Communications are charged with the responsibility of overseeing the consistent quality of publications, for both internal and external audiences.

Other than reprint orders and business cards, work done at the Print Lab must first be routed through University Relations (605-688-6161) or AgBio Communications (605-688-4650).

Print Lab also has three manned copy centers on campus:
- Ag Hall Copy Center (SAG 125), 605-688-4921
- Biostress Copy Center (SNP 105), 605-688-4417
- Print Lab Copy Center (SYE 102), 605-688-5111

For more information about the Print Lab's services, call 605-688-5111, or e-mail brenda.quam@sdstate.edu.

Museums/Collections

The University's Agricultural Heritage Museum collection of 100,000 objects interprets South Dakota's 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 Eleventh Street in the old Stock Judging Pavilion. The museum is open free to the public Monday through Saturday from 10:00 a.m. to 5:00 p.m. and Sundays from 1:00 to 5:00 p.m. The museum is closed on 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 our Web site at http://www.agmuseum.com.
The Department of Residential Life administers programs and facilities for all on-campus housing. Complete information and policies are printed in the Department of Residential Life Handbook and Planner and Family Student Housing Information booklet. The Residential Life Office 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 study, meet other students, and are challenged to develop as individuals. Generally students who are not two or more years beyond graduation from high school are required by the Board of Regents to enter into residence hall and food service contracts with the University. Details on the Board of Regents' requirements can be reviewed by contacting the Department of Residential Life and/or are listed on the department's Web pages. Requests for release from the residence hall obligation must be in writing using the form available on the department's Web page and postmarked on or before June 30 for fall semester and December 1 for new spring semester to avoid a monetary penalty. Currently, residence hall double rooms rent is from $2,350 to $3,260 depending on the assigned hall per academic year. Students who are not required to live in on-campus facilities but wish to, should contact the office for availability or may contact the Off-Campus Housing Assistance Office; the phone number is 605-688-5916.

**Residence Hall Confirmation Fee** — The Residence Hall Application Information is available to students after they are admitted to the University. The housing application is online available at www.sdstate.edu/campus/housingdining/reslife/index.cfm under forms. If individuals do not have access to a computer they may contact the housing office to have hard copy materials sent to them. A $50 confirmation fee must accompany all applications for residence hall space. The $50 will be credited toward the student's Hobo Dough account. Any person whose written request is granted for release from the residency requirement that is postmarked on or before June 30 for fall semester or December 1 for new spring semester will have the $50 refunded. Any person who is canceled at their request after these dates will forfeit the confirmation fee.

**Service Learning**

The SDSU Service-Learning Program assists students and faculty in arranging service-learning courses utilizing any of a variety of service sites and varying lengths of service. Course credits are 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. A variety of SDSU departments have established service-learning courses, and students are encouraged to contact specific departments for information. Application and consent are required. Contact the Teaching and Learning Center at 605-688-6413.
Student Affairs Division

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 (Disability Services, Financial Aid, Records and Registration, and Scholarships), Residential Life, The Union, TRiO Programs/Multicultural Affairs (International Student Affairs), University Dining Services, and Wellness (Intramurals and Club Sports, Recreation, and Student Health & Counseling). A brief overview of each department follows. If you have questions or need information about any of these areas, contact the Office of Student Affairs in SAD 318, phone 605-688-4493. The specific programs and services offered by the departments are listed below 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.

Office of Enrollment Services
Disability Services – Disability Services coordinates services for students with a wide range of disabilities. Services include coordinating testing accommodations, the acquisition of alternative format texts, classroom accommodations, referral to other service agencies, and coordinating additional services based on the individual needs of the student. The phone number for the coordinator of Disability Services is 605-688-4504.

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.

Veterans Affairs – SDSU is a fully accredited university eligible to provide GI Bill educational assistance for qualified veterans and dependents. Eligible dependents and veterans should contact the Veterans Service Office, SAD 108, South Dakota State University, Box 2201, Brookings, SD 57007, phone 605-688-4700, for application forms and information concerning their benefits.

South Dakota resident veterans who served on active duty during a declared war or who participated in a U.S. Department of Defense declared conflict or hostility and who have no remaining VA benefits may qualify for tuition assistance through a South Dakota state program. To determine eligibility, veterans should contact the Financial Aid Office, SAD 106, or phone 605-688-4702.

SDSU is also approved for processing a state program which provides reduced tuition for South Dakota National Guard students. Please direct questions about this program to the Registrar's Office, SAD 310, South Dakota State University, Box 2201, Brookings, SD 57007-0498. The student is responsible for submitting a national guard tuition assistance application to the Records Office prior to the Drop/Add deadline of each semester they seek benefits.

Records and Registration
The Registrar's Office assists students in meeting their academic goals through a variety of services that include online 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 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.

TRiO Programs/Multicultural Affairs
International Student Advising – This office administers policies and provides a broad range of support services relative to the nonimmigrant status of international students and scholars. Services include interpretation of immigration regulations, advising, outreach, handling official documents, and maintaining records. An extensive orientation program is conducted by the office prior to registration each semester. The purpose of the office is to facilitate the attainment of the educational goals of students from countries other than the United States. For further information, contact the office at SSU 065, SDSU, Brookings, SD 57007, phone 605-688-4477.

Multicultural Affairs – The Multicultural Affairs Office (OMA) at South Dakota State University develops campus initiatives that demonstrate the valued practice and philosophy of multiculturalism within the University community. Programs and activities developed by the office promote high achievement among the increasing number of minority students at South Dakota State University. The Multicultural Affairs Office enhances and complements the University mission by broadening the social, cultural, educational, and recreational experience of students. OMA offers support to students of color, implements multicultural and diversity programming, assists in the retention of students of color, advises cultural organizations, and coordinates the Minority Peer Mentor Program. The office is located at SSU 065 and can be reached by calling 605-688-6653.

Native American Student Advising – SDSU provides an adviser for Native American students to aid them in their adjustment to University life. The adviser assists students in the areas of financial aid, academic planning, and personal concerns, as well as providing information about Native Americans to the college and area community. For further information, contact the office at 605-688-6129, SSU 065.

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) scholarship opportunities to help with college costs (minimum $300); 2) individualized support in managing academic pursuits; 3) personalized financial, career, and social support services to ease transitions through college; 4) tutorial services in a variety of course areas (including math, English, and basic sciences); 5) referral assistance to other campus support services; and 6) 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. 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 parents finished a four-year
college degree, 2) an individual with a documented disability that impacts ability to be successful 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 065. Phone 605-688-6653.

**TRiO Upward Bound** – Upward Bound is a federally funded TRiO grant program designed to support high school students in their preparation for successful college entrance. The program provides support in areas of tutoring, mentoring, cultural enrichment, college tours, personal development, and academic preparation to ultimately have students enroll and graduate with a college degree. The students attend a residential summer academic program at SDSU delivered in cooperation with the Office of Academic Affairs. We are committed to exposing our students and their parents to the college campus environment and having South Dakota State University faculty and staff play a major role in their campus experience. Upward Bound can be contacted in SSU 065 or by phone at 605-688-5933.

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**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 Performing Arts Center and The Union, which includes services such as the Information Exchange, Outback Jacks, Central Reservations, and State Technical Services. Students can cash checks, send faxes, play billiards, rent outdoor recreational equipment, get off-campus housing information, reserve sound and lighting services for programs, and dine at the Market or at Jacks’ Place. 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 Student Activities Office works closely with the University Program Council (UPC), Greek Life, and manages the recognition of student organizations. The department also coordinates the New Student Orientation program for the summer, fall, and spring.

**University Relations**

University Relations (UR) is located in the Communications Center between the Administration Building and the Rotunda. This office offers a number of services in two broad categories to the campus.

**Media**

- Announcements of University activities and events of special interest to the general public via newspapers, radio, television, and the SDSU Web site.
- Promotion of student, faculty, departmental, and college accomplishments through news releases to area media. For media needs, contact Jeanne Jones Manzer at 605-688-4541 or e-mail: jeanne.jonesmanzer@sdstate.edu.

**Publications**

University Relations works closely with the campus Print Lab, the on-campus printing department located in Yeager Hall, SYE 102. With the advent of desktop publishing programs, writing and designing publications such as newsletters, brochures, posters, flyers, etc., has become much easier. Although nearly every office on campus has this capability, generally a publication designed “in house” does not necessarily mean it is “print ready.”

To ensure projects are ready for printing, electronic prepress procedures require University Relations to prepare the computer files for the Print Lab. These procedures apply to the simplest business form or letterhead to the most complicated full-color brochure. Additionally, the Office of University Relations is charged with the responsibility of overseeing the consistent quality of publications, for both internal and external audiences.

University Relations offers writing and design services for brochures, flyers, post cards, posters, newsletters, and magazines for departments and colleges.

University Relations approves the use of the name or logo of South Dakota State University in any form. All SDSU logos, seals, caricatures or wordmarks are licensed and cannot be used without permission.

For publication and printing needs, contact the Office of University Relations at 605-688-6161.
Water and Environmental Engineering Research Center (WEERC)

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 (NGPWRRC), 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 Delvin DeBoer, director, WEERC, SDSU, Box 2219, Brookings, SD 57007-0096; phone 605-688-5210; e-mail delvin.deboer@sdstate.edu.

Water Resources Institute (WRI)

The mission of the Water Resources Institute (WRI) is to coordinate research and training at South Dakota State University and other affiliated educational institutions and agencies across the state in the broad area of water resources. It administers funds received from the U.S. Department of the Interior, as made available through the Water Resources Research Act of 1984 and from the state of South Dakota. Funds received through these sources targeted for research are directed toward solving state, regional, and national water problems. The institute currently supports undergraduate and graduate students as well Ph.D. candidates in our mission to train the next generation of water scientists. WRI supports and conducts water research of significance to South Dakota and the North Central Region. The institute maintains a laboratory, which is open to students and researchers for use of microscopes, centrifuge, and other lab equipment in conjunction with research projects.

The Water Resources Institute cosponsors the Eastern South Dakota Water Conference, an annual event held in Brookings. Water is an important piece of the economic future of South Dakota, and this conference serves as a mechanism to educate participants on this resource. The Water Resources Institute also cosponsors the Big Sioux Water Festival in Brookings, South Dakota, which has hosted more than 15,000 fourth grade students during the past fifteen years, and makes presentations at water festivals in Huron, Aberdeen, and Pierre. Other youth-based programs include “Lakes are Cool” at the NeSoDak Outdoor Campus, and the Aberdeen Youth Sport Fishing Day, as well as adult limnology workshops.

WRI also provides service to the public related to identifying and solving water quality problems. This includes recommendations with interpretation of sample analysis and providing informational materials related to the potential solution to those water quality problems. The institute also provides a specific service to irrigators by providing recommendations on soil and water compatibility. These services are available to all South Dakotans.

WRI is located in the Agricultural Engineering Building and is associated with the College of Agriculture and Biological Sciences.

For more information, contact the Water Resources Institute by phone at 605-688-4910, by e-mail: jennifer.pickard@sdstate.edu, or on the Web at http://wri.sdstate.edu.
Wellness Center

The Wellness Center allows SDSU to provide not only highly effective health and wellness services, but fresh opportunities for student learning and outreach to the Brookings community. Services and programs provided are detailed below.

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. to 5 p.m. when classes are in session. During summer and academic breaks, appointments are scheduled from 8:30 a.m. to 12:30 p.m., Monday, Tuesday, Thursday, and Friday. (No appointments on Wednesdays.)

Drug and Alcohol Abuse Prevention Programs - SDSU, through the Student Health Clinic 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. Call 605-688-6146 or 605-688-4157 for information.

Health Education and Prevention Services - The Health Education and Prevention Services are sponsored by the Student Health Clinic and Counseling Center. The program emphasizes awareness, prevention, and response to sexual assault and date rape. Closely related issues of alcohol/drug abuse, STIs (including HIV/AIDS), and unplanned pregnancies are addressed. The Counseling Center supports student peer educators who are available to present awareness and prevention programs on the above topics for student organizations, classes when requested by the instructor, and residence hall student staff training. The counseling staff is available for victim assistance and response in case of sexual assault or violence. A close working relationship is maintained with other community agencies involved in prevention and response to violence and sexual assault. Confidentiality is assured at all times for the student/victim. Individuals with questions or personal concerns are asked to call the Student Health Clinic and Counseling Center at 605-688-6146 for assistance or information.

Student Health Clinic - The health clinic includes primary care for illnesses and injuries, laboratory diagnostics, reproductive health, immunizations, and pharmacy. Spouses and dependents of students and SDSU employees are eligible for services. You may call 605-688-4157 for further information, a medical appointment, or medical record assistance.

Counseling Center – Counseling Services provide individual and group counseling to students and SDSU employees 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. Call 605-688-6146 for further information.

Additional services include nutrition education and health promotion with a student-run organization advocating for healthy lifestyles — Helping Everyone Reach Optimal Health (HEROH).

Community Fitness and Recreation

A varied menu of activities and programs are offered including: cardio and weight equipment; aerobic, martial arts, 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 your fitness goals.

There are twenty-four recreational sports including flag football, 3-on-3 basketball, volleyball, and softball with more than 5,600 participants annually. Eight club sports such as hockey, rugby, and bowling compete regionally giving SDSU students additional recreation opportunities. Fitness and Recreation are open Monday through Thursday, 5:30 a.m. to 11 p.m.; Friday, 5:30 a.m. to 10 p.m.; Saturday, 8 a.m. to 8 p.m.; and Sunday, 1 p.m. to 5:00 p.m. Summer hours are Monday through Friday, 5:30 a.m. to 9 p.m.; Saturday, 8 a.m. to 5 p.m.; and Sunday, 1 p.m. to 5:00 p.m.

For further information regarding the Wellness Center and its services, you may call 605-688-5386.

Wintrode Tutoring Program

(www.sdstate.edu/gs/students/tutoring/index.cfm)

The Wintrode Tutoring Program provides free tutoring to SDSU students in select courses. Students can access tutoring by scheduling an appointment or utilizing walk-in sessions. Students who access tutoring will receive assistance with understanding course content and developing study strategies that will help them be more successful in their courses.
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Organization and Administration

The Board of Regents. 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 and programs, including recommending to the Regents the candidates for degrees. Faculty business is conducted by the Academic 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.

Board of Regents

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President
(Term expires March 31, 2010)
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(Term expires March 31, 2011)
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(Term expires March 31, 2013)
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Honorable Randall K. Morris
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Honorable Randy Schaefer
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General Administration

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Provost and Vice President for Academic Affairs
Laurie Stenberg Nichols, Ph.D.

Associate Vice President for Academic Affairs
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Vice President for Information Technology
Michael F. Adelaine, Ph.D.

Vice President for Research and Sponsored Programs
Kevin D. Kephart, Ph.D.

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Vice President for Student Affairs
Marysz Palczewski-Rames, Ed.D.

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Assistant Vice President for Facilities and Services
Dean Kattelmann, M.S.

Assistant Vice President for Student Services/Registrar
Matthew Aschenbrener, Ed.D.

Deans/Associate and Assistant Deans

College of Agriculture and Biological Sciences
Barry Dunn, Ph.D., Dean

Donald M. Marshall, Ph.D., Associate Dean and Director of Academic Programs

Latif Lighari, Ph.D., Associate, Dean and Director of Cooperative Extension Service

John D. Kirby, Ph.D., Associate Dean and Director of Agricultural Experiment Station

College of Arts and Sciences
Jerry D. Jorgensen, Ph.D., Dean

Daniel W. Landes, Ph.D., Assistant Dean

College of Education and Human Sciences
David Hildebrand, Ph.D., Interim Dean

College of Engineering
Lewis F. Brown, Ph.D., Dean

Richard A. Reid, Ph.D., Assistant Dean

College of General Studies
Keith Corbett, Ed.D., Dean

Denise Peterson, Ed.D., Assistant to the Dean

College of Nursing
Roberta K. Olson, Ph.D., Dean

Nancy Fahrenwald, Ph.D., Associate Dean

College of Pharmacy
Dennis Hedge, Pharm.D., Dean

Xiangming Guan, Ph.D., Associate Dean

Daniel Hansen, Pharm.D., Assistant Dean

Continuing and Extended Education
Gail Dobbs Tidemann, Ph.D., Dean

Graduate School
Kevin Kephart, Ph.D., Dean

Diane Holland Rickerl, Ph.D., Associate Dean

Honors College
Timothy J. Nichols, Ph.D., Dean

Library
David E. Gleim, Ph.D., Dean
Directors

Academic Evaluation & Assessment
Jo Ann Sckerl, Ed.D.
Academic Programs (College of AgBio)
Donald M. Marshall, Ph.D.
Administrative and Research Computing
Delmar R. Johnson, M.Ed.
Admissions
Tracy Welsh, B.A.
AgBio Communications Unit
VACANT
Agricultural Experiment Station
John D. Kirby, Ph.D.
Agricultural Heritage Museum
Mac Harris, M.S.
Agricultural Information Technologies
Michael F. Adelaine, Ph.D.
Alumni Association
Matt Fuks, B.S.
Animal Disease Research and Diagnostic Laboratory (ADRDL)
David H. Zeman, D.V.M.
Athletics
Justin Sell, M.S.
Bookstore, University
Derek Peterson, B.S.
Capitol University Center-Pierre
Ron Woodburn, M.S.
Career and Academic Planning (CAP Center)
Keith Corbett, Ed.D.
Center for Infectious Disease Research and Vaccinology
David H. Francis, Ph.D.
Cooperative Extension Service
Latif Lighari, Ph.D.
Dining Services
Jill Ackland, B.S.
Disability Services
Nancy Crooks, M.S.
Division Enhancement
Tim Nichols, Ph.D., Acting
Engineering Resource Center (ERC)
Kevin Dalsted, M.S.
Environmental Health & Safety
Gary Yarrow, Ph.D.
Finance and Business/Controller
Jeff A. Siekmann, M.B.A.
Financial Aid
Jay A. Larsen, M.Ed.
4-H Foundation
Nancy Swanson, M.A.
Human Resources
David Hanson, B.A.
Institutional Research
Jeri Kurtz, Ed.D.
International Affairs
Karl J. Schmidt, Ph.D.
Oak Lake Field Station
Nels Troelstrup, Ph.D.
Organization and Administration
Adam Karnopp, M.S.
Residential Life
Connie Granaldi, M.S.
Sioux Falls Programs
Gail Dobbs Tidemann, Ph.D.
South Dakota Art Museum
Lynn Verschoor, M.S.
SDSU Foundation/Development
Steve Erpenbach, B.S., President
Student Activities
Jennifer Novotny, M.S.
Transportation, Technology Transfer Service
Ali Selim, Ph.D.
University Relations
Michael Lockerm, M.Ed.
Water and Environmental Engineering Research Center
Delvin DeBoer, Ph.D.
Water Resources Institute
Van C. Kelley, Ph.D.
West River Ag Center
Martin K. Beutler, Ph.D.

Department Heads (by college)

Agriculture and Biological Sciences
Van C. Kelley, Ph.D.
Animal and Range Sciences
Clinton Rusk, Ph.D.
Biology and Microbiology
Thomas M. Cheesbrough, Ph.D.
Dairy Science
Vikram V. Mistry, Ph.D.
Economics
Evert Van der Sluis, Ph.D.
Horticulture, Forestry, Landscape and Parks
David Graper, Ph.D.
Plant Science
Sue Blodgett, Ph.D.
Rural Sociology
Diane Kayongo-Male, Ph.D., Acting
Veterinary Science
David H. Zeman, D.V.M.
Wildlife and Fisheries Sciences
David W. Willis, Ph.D.

Arts and Sciences
Aerospace Studies
Lt Col Carleton H. Hirschel, M.P.A.
Chemistry and Biochemistry
James A. Rice, Ph.D.
Communication Studies and Theatre
Laurie Haleta, Ph.D.
English
Kathleen Donovan, Ph.D.
Geography
George White, Ph.D.
History and Political Science
April Brooks, Ph.D.
Journalism and Mass Communication
Mary Peterson Arnold, Ph.D.
Military Science
MAJ Kory Knight, M.S.
Modern Languages
Maria Ramos, Ph.D.
Music
Dave Reynolds, D.M.A.
Philosophy and Religion
Greg Peterson, Ph.D., Acting
Psychology
Braden Watson, Ph.D.
Visual Arts
Norman Gambill, Ph.D.

Education and Human Sciences
Counseling and Human Resource Development
Jay Trenhaile, Ed.D.
Design, Merchandising and Consumer Sciences
Jane E. Hegland, Ph.D.
Educational Leadership
Kenneth Rasmussen, Ph.D.
Health, Physical Education and Recreation
Bernadette Olson, Ed.D., Acting
Human Development
Andrew Streimel, Ph.D.
Nutrition, Food Science and Hospitality
Chunyang Wang, Ph.D.
Teacher Education
Lonell L. Moeller, Ph.D.

Engineering
Civil and Environmental Engineering
Bruce Berdanier, Ph.D.
Electrical Engineering and Computer Science
Dennis Helder, Ph.D.
Engineering Technology and Management
Teressa Hall, Ph.D.
Mathematics and Statistics
Kurt Cogswell, Ph.D.
Mechanical Engineering
Kurt Bassett, Ph.D.
Physics
Joel Rauber, Ph.D.

Nursing
Graduate Nursing
Sandra Bunkers, Ph.D.
Nursing Student Services
Roberta Olson, Ph.D.
Undergraduate Nursing
Janet Lord, Ph.D.
West River Nursing
Barbara Hobbs, Ph.D.

Pharmacy
Pharmacy Practice
James Clem, Pharm.D.
Pharmaceutical Sciences
Chandradhar Dwivedi, Ph.D.
Affiliations and Accreditations

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 and a member of the North Central Association of Colleges and Schools (30 North LaSalle Street, Suite 2400, Chicago, IL, 60602-2504; Phone 312-263-0456). Its purpose is to maintain high standards of instructional work and educational programs. The University is accredited through the doctoral level. Its next comprehensive evaluation is 2010.

Agricultural Systems Technology: The Agricultural Systems Technology Program is accredited by the American Society of Agricultural Engineering (2950 Niles Road, St. Joseph, MI 49085-9659; Phone: 616-429-0300).

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 (1575 Eye St., NW, Suite 400, Washington, D.C. 20005; Phone: 202-289-1818), and it is now one of only two accredited museums in the state.

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).

Chemistry: The Chemistry Department is accredited by the American Chemical Society (1155 Sixteenth St., N.W., Washington, DC 20036; Phone: 202-872-4589).

Computer Science: The Computer Science program is accredited by the Accreditation Board of Engineering & Technology (111 Market Pl., Suite 1050 Baltimore, MD 21202; Phone: 410-347-7700).

Construction Management: The Construction Management program is accredited by the American Council for Construction Education (146 Monroe Center NW, Suite 1318; Grand Rapids, MI 49503; Phone: 616-458-0400).

Counseling and Human Resource Development: The M.S. in Counseling and Human Resource Development program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (5999 Stevenson Ave., Alexandria, VA 22304; Phone: 703-823-9800, ext. 301).

Dietetics: The Didactic Program in Dietetics is developmentally accredited by the Commission on Accreditation for Dietetics Education of the American Dietetic Association (120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995; Phone: 312-899-0040 Ext 5400).

Early Childhood Education: The Early Childhood Education program is accredited by the National Association for Education of Young Children (1506 16th St, NW, Washington, D.C. 20036-1426; Phone: 202-424-2460).

Education and Human Sciences: The curriculum in Education and Human Sciences is accredited by the American Association of Family and Consumer Sciences (1555 King Street, Alexandria, VA 22314; Phone: 703-706-4600).

Engineering: The programs of Agricultural and Biosystems, Civil, Electrical, and Mechanical Engineering are accredited by the Accreditation Board for Engineering and Technology - Engineering Accreditation Commission (111 Market Place, Suite 1050, Baltimore, MD 21202; Phone: 410-347-7700).

Engineering Technology: The programs of Electronics Engineering Technology and Manufacturing Engineering Technology are accredited by the Accreditation Board for Engineering and Technology – Technology Accreditation Commission (111 Market Place, Suite 1050, Baltimore, MD 21202; Phone: 410-347-7700).

Extension: The Extension programs of Agricultural and Biosystems Engineering; Animal and Range Sciences; Biology/Microbiology; Dairy Science; Economics; Experiment Station; Family and Consumer Sciences; Horticulture, Forestry, Landscapes and Parks; Plant Science; Rural Sociology; Station Biochemistry; Veterinary Medicine; and Wildlife and Fisheries Sciences are reviewed by the Cooperative State Research Education and Extension Services (400 Independence Avenue SW, Stop 2201, Washington, DC 20250-2201).

Health Promotion: The Health Promotion major is endorsed and recognized by the American College of Sports Medicine for meeting the knowledge, skills, and abilities expected of an ACSM Health/Fitness Instructor.

Interior Design: The Interior Design program is accredited by the Council for Interior Design Accreditation (146 Monroe Center NW, Suite 1318; Grand Rapids, MI 49503; Phone: 616-458-0400).

Journalism and Mass Communication: The curriculum in Journalism and Mass Communication 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).

Music: The Music Department has full membership in the National Association of Schools of Music (12150 Roger Bacon Drive, Suite 21, Reston, VA 20290; Phone: 703-437-0700).

Nursing: The bachelor's and master's degree 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).

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).

Teacher Education: 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 (20 Massachusetts Ave., NW, Suite 500, Washington, D.C. 20036-1023; Phone: 202-466-7496).

The University also holds membership in the American Council onEducation, the American Council on Education's Internationalization Collaborative, the Council on International Educational Exchange (CIEE), the College Consortium for International Studies (CCIS), the Cooperative Center for Study Abroad (CSCA), the International Student Exchange Program (ISEP), the American Association of Colleges for Teacher Education, the American Association of University Women, the American Council 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., Council of Graduate Schools in the United States, 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).
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UNIVERSITY STAFF
As of December 2009

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

Chicoine, 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 Human Development, Graduate Faculty, 1994, 2009; B.S., SDSU, 1978; M.Ed., Colorado State University, 1984; Ph.D., Ohio State University, 1988.

Adelaine, Michael F., Vice President for Information Technology, 1990, 2003; B.S., Michigan State University, 1974; M.S., University of Nebraska, 1985; Ph.D., 1989.

Kephart, Kevin D., Vice President for Research, Graduate Faculty, 1986, 2005; B.S., Montana State University, 1979; M.S., University of Wyoming, 1982; Ph.D., Iowa State University, 1987.


Helling, Mary Kay, Associate Vice President for Academic Affairs and Professor of Human Development, Graduate Faculty, 1978, 2003; B.S., SDSU, 1977; M.S., 1982; Ph.D., Purdue University, 1992.

Raffolo, John J., Associate Vice President of Research & Sponsored Programs and the Graduate School and Professor of Biology and Microbiology, Graduate Faculty, 1999; B.S., Loyola University, 1965; M.S., University of Iowa, 1969; Ph.D., 1972.


Kattelmann, Dean E., Assistant Vice President of Facilities and Services, 2002; B.S., Missouri State University, 1976; M.S., University of Missouri, 1989.


Academic Deans

Brown, Lewis E., Dean of the College of Engineering, Professor of Electrical Engineering, Graduate Faculty, 1992, 2000; B.S., SDSU, 1984; M.S., Iowa State University, 1986; Ph.D., 1988.

Corbett, Keith W., Dean of the College of General Studies, Professor of Educational Leadership, Graduate Faculty, 1981, 2004; B.S., SDSU, 1976; M.Ed., 1987; Ed.D., University of South Dakota, 2001.

Dunn, Barry, Dean of the College of Agriculture and Biological Sciences, Professor of Animal and Range Sciences, Graduate Faculty, 2000, 2010; B.S., SDSU, 1975; M.S., 1977; Ph.D., 2000.


Hedge, Dennis, Dean of the College of Pharmacy, Professor of Pharmacy Practice, Graduate Faculty, 1992, 2002, 2007; Pharm.D., University of Kansas, 1991.

Hilderbrand, David, Interim Dean of the College of Education and Human Sciences; Dean Emeritus of Graduate School, Research and Sponsored Programs; Professor Emeritus of Chemistry; Graduate Faculty, 1974, 2004, 2009; B.A., Southwest Baptist College, 1967; M.A., University of Missouri- Columbia, 1969; Ph.D., 1971.

Jorgensen, Jerry D., Dean of the College of Arts and Sciences, Professor of Communication Studies and Theatre, Graduate Faculty, 1979, 2000; B.S., SDSU, 1978; M.S., 1984; Ph.D., University of Nebraska, 1990.


Olson, Roberta K., Dean of the College of Nursing, Professor of Nursing, Graduate Faculty, 1994; B.S., SDSU, 1964; M.S.N., Washington University, 1968; Ph.D., Saint Louis University, 1984.


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


Dwivedi, Chandradhar, Distinguished Professor and Head of Pharmaceutical Sciences, Graduate Faculty, 1987, 2000; B.S., Gorakhpur University, 1964; M.S., 1966; Ph.D., Lucknow University, 1972.

Evenson, Donald P., Distinguished Professor of Veterinary Science, 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 of Biology and Microbiology, Graduate Faculty, 1968, 1978; B.A., University of Massachusetts, 1964; Ph.D., Iowa State University, 1968.

Gritzner, Charles F., Distinguished Professor of Geography, Graduate Faculty, 1989, 2006; B.A., University of South Dakota, 1984.


Hess, Donna J., Distinguished Professor Emerita 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.


Johnson, W. Carter, Distinguished Professor of Horticulture, Forestry, Landscape and Parks, Graduate Faculty, 1989, 2006; B.S., Augustana College, 1968; Ph.D., North Dakota State University, 1971.

Malo, Douglas D., Distinguished Professor of Plant Science, Graduate Faculty, 1975, 1999; B.S., Iowa State University, 1971; M.S., North Dakota State University, 1974; Ph.D., 1975.


Schingoethe, David J., Distinguished Professor of Dairy Science, Graduate Faculty, 1969, 2001; B.S., University of Illinois, 1964; M.S., 1965; Ph.D., Michigan State University, 1968.

Wahlstrom, Richard C., Distinguished Professor Emeritus of Animal and Range Sciences, 1952, 1988; B.S., University of Nebraska, 1948; M.S., University of Illinois, 1950; Ph.D., 1952.


Willis, David W., Distinguished Professor and Head of Wildlife and Fisheries Sciences, Graduate Faculty, 1987, 1995; B.S., University of North Dakota, 1977; M.S., 1978; Ph.D., Colorado State University, 1980.

Woodard, Charles L., Distinguished Professor of English, Graduate Faculty, 1975, 1985; B.S., Dakota State University, 1964; M.A., University of Nebraska, 1966; Ph.D., University of Oklahoma, 1975.


Faculty, Staff

Aaron, David, Assistant Professor of Physics, 1986; B.S., SDSU, 1975; M.S., University of Wisconsin, 1981.

Abdelqader, Malek, Postdoctoral Research Associate, 2008; B.S., Jordan University of Science and Technology (Jordan), 2000; M.Sc., McGill University (Canada), 2004; Ph.D., SDSU, 2008.


Agostini, Thomas, Assistant Professor of History and Political Science, Graduate Faculty, 2009; B.A., Virginia Military Institute, 1990; M.A., James Madison University, 1993; Ph.D., Lehigh University, 2002.

Aguiar, Gary G., Associate Professor of Political Science, Graduate Faculty, 1999, 2003; B.A., Coe College, 1983; B.A., University of Hawaii, 1990; M.A., Indiana University, 1993; Ph.D., 1996.


Alfonso, Troy M., Assistant Director of Conference and Special Services, 2003, 2005; B.S., Bemidji State University, 1994; M.S., University of Wisconsin, 1996.

Allison-Brewer, Nanabah, Head Women's Volleyball Coach, Intercollegiate Athletics, 2000; B.S., University of New Mexico, 2006; M.A., University of Arizona, 2008.


Anand, Sanjeev, Associate Professor of Dairy Science, Graduate Faculty, 2006; B.S., D.S. College (India), 1978; M.S., National Dairy Research Institute (India), 1981; Ph.D., 1986.

Andera, Tim, Professor of Education and Human Sciences, Graduate Faculty, 2000; 2006; A.A.S., University of South Dakota, 1974; B.S.T., 1976; B.S., 1977; B.S.E., 1977; M.S., Bemidji State University, 1986; Ed.D., Illinois State University, 1994.
Anderson, Brenda L., Associate Director of Student Health Services, 1982, 1984; B.S., SDSU, 1979; M.S., 1986.


Anderson, Carter D., Adjunct Assistant Professor of Economics, 2006; B.S., North Dakota State University, 1981; M.S., 1983.

Anderson, Cody, Imagining Engineering 2008; B.S., SDSU, 2007

Anderson, Gary A., Professor of Agricultural and Biosystems Engineering, Graduate Faculty, 1987, 1999; B.S., SDSU, 1975; M.S., Iowa State University, 1985; Ph.D., 1987.


Anderson, Randy, Adjunct Professor, Plant Science, 2004; B.S., SDSU, 1974; M.S., 1976; Ph.D., University of Wyoming, 1980.

Andrawis, Alfred S., Professor of Electrical Engineering, Graduate Faculty, 1981, 2001; B.S., Alexandria University (Egypt), 1974; M.S., SDSU, 1982; Ph.D., Virginia Polytechnic Institute and State University, 1991.

Andrawis, Madeleine Y., Professor of Electrical Engineering/Teaching Learning Center Coordinator, Graduate Faculty, 1980, 2001; B.A., Cairo University (Egypt), 1977; M.S., SDSU, 1983; Ph.D., Virginia Polytechnic Institute and State University, 1991.

Archer, Misty D., Residence Hall Director, 2005; B.S., Central Michigan University, 2004.

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 Rural Sociology, Graduate Faculty, 1986, 1999; B.S., SDSU, 1980, M.S., 1982; Ph.D., 1989.

Aschenbrener, Crystal S., Assistant Professor of Rural Sociology, 2008; B.S., University of South Dakota, 1994; M.S.W., University of Kansas, 1998.


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 Wildlife and Fisheries, 2003; B.S., University of Maine, 1980; M.S., University of Missouri, 1983; Ph.D., 1988.

Baer, Adam D., Geospatial Analyst, 2006; B.S., University of Missouri-Columbia, 2003; M.S., 2005.

Baer, Rebecca, Associate Professor of Pharmacy Practice, 2001, 2006; B.S., University of Georgia, 1982; B.S., SDSU, 1993; Pharm.D., 1995.

Baer, Robert J., Professor of Dairy Science, Graduate Faculty, 1982, 1992; B.S., University of Georgia, 1977; M.S., 1979; Ph.D., 1983.

Baggett, Marie-Pierre E., Associate Professor of Modern Languages, 1998, 2002; B.A., Université de Clermont (France), 1986; M.A., University of California, 1989; Ph.D., 1996.

Baggett, Paul B., Assistant Professor of English, Graduate Faculty, 2002, 2008; B.A., University of California-Irvine, 1987; M.A., California State University-Long Beach, 1993; Ph.D., University of Miami, 1998.


Bahr, Ann Marie B., Professor of Philosophy and Religion, Graduate Faculty, 1988, 1993; B.A., Lawrence University, 1972; M.A., Stanford University, 1975; Ph.D., Temple University, 1989.
Berdanier, Bruce W., Professor and Head of Civil and Environmental Engineering, Graduate Faculty, 2008; B.S., Ohio State University, 1980; M.S., Purdue University, 1983; Ph.D., Ohio State University, 1995.


Berg, Jr., Robert K., Manager, SESD Experiment Station Farm, Professor, Graduate Faculty, 1993, 1998; B.S., Oklahoma State University, 1981; M.S., 1982; Ph.D., Iowa State University, 1987.


Berry, Jr., Charles R., Adjunct Professor of Wildlife and Fisheries Sciences, Graduate Faculty, 1985, 1991; B.S., Randolph-Macon College, 1967; M.S., 1970; Ph.D., Virginia Polytechnic Institute and State University, 1976.

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.

Bertrand, Katie N., Assistant Professor of Wildlife and Fisheries Sciences, Graduate Faculty, 2008; 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.


Bielfeldt, Dennis D., Professor of Philosophy and Religion, Graduate Faculty, 1995, 2004; B.S., SDSU, 1977; M.A., University of Iowa, 1984; Ph.D., 1987.

Biesecker, Matthew J., Assistant Professor of Mathematics and Statistics, 2003; B.S., California State University, 1994; M.S., Utah State University, 1996; Ph.D., 2004.


Binstock, Greg, Assistant Track and Field Coach, 2005; B.A., Augustana, 1995; M.S., Bemidji State University, 2005.

Birch, Carol, Assistant Professor of Nursing, 1990; B.S.N., Loyola University, 1979; M.S., Northern Illinois University, 1981.

Bjordahl, Janet A., Assistant Professor of Chemistry and Biochemistry, 1990; B.S., SDSU, 1973; Ph.D., 1999.


Blackwell, Brian G., Adjunct Assistant Professor of Wildlife and Fisheries Sciences, 2001; B.S., SDSU, 1990; M.S., Texas A&M University, 1993; Ph.D., SDSU, 2001.


Bleckley, 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.

Bliss, Norman B., Adjunct Professor of Geography, 1994; B.S., University of California, 1967; M.S., University of Washington, 1970; Ph.D., University of Pennsylvania, 1978.

Blodgett, Sue L., Professor and Head of Plant Science, Graduate Faculty, 2007; B.S., Syracuse University, 1974; M.S., Cornell University, 1980; M.S., Kansas State University, 1987; Ph.D., 1989.


Bock, Mary K., Admissions Counselor/Writer, 2006; B.A., College of Saint Thomas, 2005.


Bommisetti, Venkateswara R., Research Assistant Professor of Electrical Engineering, 2004; BS, Nagalur University, 1990; MS G. B. Pant University, 1993; D. Eng., Toyama University, 2001.


Bonvallet, Geoffrey A., Assistant Professor of Physics, 2005; B.A., College of Wooster, 2000; M.S., University of Wisconsin, 2002; Ph.D., 2005.

Booher, James M., Program Director of Athletic Training and Professor of Health, Physical Education and Recreation, Graduate Faculty, 1967, 1983; B.A., Nebraska Wesleyan University, 1965; M.S., SDSU, 1969; Ph.D., University of Utah, 1976.

Botts, Rebecca, Assistant Professor in Equine Production and Management, Graduate Faculty, 2009; B.S., University of Missouri - Columbia, 2003; M.S., University of Nebraska - Lincoln, 2005; Ph.D., Colorado State University, 2009.

Boulware, Jeffrey S., Associate Professor of Education and Human Sciences, 2002; B.S., Montana State University, 1974; M.S., Embry-Riddle Aeronautical University, 1987.


Bowen, Mary, Assistant Professor of Human Development, Consumer and Family Sciences, 2005; B.S., SDSU, 1999; M.S., 2001; Ed.D., University of South Dakota, 2005.

Bowyer, R. Terry, Adjunct Professor of Wildlife and Fisheries, 2003; B.S., Humboldt State University, 1970; M.S., Humboldt State University, 1976; Ph.D., University of Michigan, 1985.


University Staff 367
Brandenburger, Michele, Instructor of Nutrition, Food Science, and Hospitality, 2009; D.C., Northwestern Health Sciences University, 1997; B.S., 1997; M.S., SDSU, 2007.

Brandt, Bruce E., Professor of English, Graduate Faculty, 1979, 1989; B.A., University of Denver, 1969; M.A., 1971; Ph.D., Harvard University, 1977.


Brewer, Joseph, Assistant Professor of History and Political Science, 2008; B.S., Iowa State University, 2001; M.A., University of Arizona, 2003; Ph.D., University of Arizona, 2008.


Briddick, Hande, Associate Professor of Education and Human Sciences, Graduate Faculty, 2002, 2009; B.S., Middle East Technical University (Turkey), 1991; M.S., Kent State University, 1995; Ph.D., Kent State University, 2004.

Briddick, William C., Assistant Professor of Education and Human Sciences, Graduate Faculty, 2002, 2005; B.A., Southern Illinois University, 1987; M.Ed., Vanderbilt University, 1989; Ph.D., Kent State University, 2005.

Briese, Pamela, Adjunct Assistant Professor of Chemistry and Biochemistry, 2004; B.S., University of South Dakota, 1979; M.S., 1996.

Brink, Kristine, Instructor Nurse Practitioner of Nursing, 2009; B.S., SDSU, 1997; M.S., University of Wisconsin, 2006.

Britzman, Darwin G., Adjunct Professor of Animal and Range Sciences, 1999; B.S., SDSU, 1953; M.S., University of Minnesota, 1962; Ph.D., SDSU, 1964.


Brooks, April, Professor and Head, Department of History and Political Science, 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, Michael L., Professor of Wildlife and Fisheries Sciences, Graduate Faculty, 1994, 2003; B.S., Arkansas Technical University, 1986; M.S., Texas A&M University, 1989; Ph.D., 1993.

Browning, Larry M., Professor of Physics, 1990, 2000; B.S., Syracuse University, 1975; M.S., Purdue University, 1980; Ph.D., 1984.

Brozel, Volker, Professor of Biology and Microbiology, Graduate Faculty, 2003, 2009; B.S., University of Stellenbosch (South Africa), 1986; M.S., University of Pretoria (South Africa), 1990; Ph.D., 1993.

Caspers-Graper, Mary, Head of Technical Services/Professor, 1985, 2008; B.A., Luther College, 1979; M.A., University of Iowa, 1980; M.I.S., University of Arizona, 1985.


Catangu, Michael A., Extension Entomologist/Associate Professor of Plant Science, Graduate Faculty, 1986, 2002; B.S., University of the Philippines, 1982; M.S., SDSU, 1987; Ph.D., University of Nebraska, 1992.


Cecil, Mathew, Associate Professor of Journalism and Mass Communications, Graduate Faculty, 2005, 2007; B.S., SDSU, 1995; M.A., Mankato State University, 1997; Ph.D., University of Iowa, 2000.

Cempellin, Leda, Assistant Professor of Visual Arts, 2006; Dottore in Lettere Moderne (Laurea), University of Padua, Italy, 1999; Dottore di Ricerca in Storia dell’Arte (Ph.D.), University of Parma (Italy), 2004.


Chandrasekher, Gudiseva, Associate Professor of Pharmaceutical Sciences, 2008; B.S., Andhra University (India), 1977; M.S., Osmania University (India), 1979; Ph.D., University of Mysore (India), 1983.

Chang, Ji-jul, Postdoctoral Research Associate, Plant Science, 2003; B.S., Yonsei University (Korea), 1988; M.S., SDSU, 1997; Ph.D., 2002.

Chang, Kuo-Liang, Assistant Professor of Economics, 2009; B.A., Tamkang University (Taiwan), 1992; M.A., University of Utah, 1999; Ph.D., 2007.

Chase, Christopher, Professor of Veterinary Science and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty, 1992, 2001; D.V.M., Iowa State University, 1980; M.S., University of Wisconsin, 1987; Ph.D., 1990.

Chase, Thomas E., Associate Professor of Plant Science, Graduate Faculty, 1990, 1995; B.S., State University of New York, 1979; Ph.D., University of Vermont, 1986.


Chavez, Russel S., Adjunct Military Instructor, 1999.

Cheesbrough, Thomas M., Professor and Head of Biology and Microbiology, Graduate Faculty, 1990, 2000; B.S., University of Wyoming, 1976; M.S., 1978; Ph.D., Purdue University, 1982.

Chen, Ding-Geng, Associate Professor of Mathematics and Statistics, 2005; B.S., Changsha University, 1981; M.S., Hunan University, 1987; Ph.D., University of Guelph, 1995.

Chevalier, Timothy J., Adjunct Instructor of Modern Languages, 2001; B.A., Augustana College, 1982; M.S., Western Maryland College, 1993.

Chin, Yuen Lynn, Assistant Professor of Pharmacy Practice, 2008; Pharm.D, Drake University, 2007.

Chipman, Jason, Adjunct Assistant Professor of Education and Human Sciences, Rapid City Site, 2008; B.S., BHISU, 1994; M.S., SDSU, 1997.

Chips, Steven R., Adjunct Associate Professor of Wildlife and Fisheries Sciences, Graduate Faculty, 1999; B.S., Davis and Elkins College, 1990; M.S., West Virginia University, 1992; Ph.D., University of Idaho, 1997.

Cho, Soo Hyun, Assistant Professor of Design, Merchandising, and Consumer Sciences, 2009; B.A., Korea University, 2003; M.S., 2005.

Chooldhary, Rupali, Postdoctoral Research Associate, 2008; B.Sc., J. N. Agricultural University (India), 1991; M.S., Indian Institute of Technology (India), 1994; Ph.D., Oklahoma State University, 2004.

Christensen, Honda, Adjunct Lecturer of Nursing, 2004; B.S.N., SDSU, 1999.


Christic, Jill, Adjunct Lecturer in Nursing, 1990; B.S., SDSU, 1976.

Christopher-Hennings, Jane, Professor of Veterinary Science and Animal Disease Research and Diagnostic Laboratory, Graduate Faculty, 1990, 2007; B.S., University of Wisconsin, 1975; M.S., 1990; D.V.M., University of Minnesota, 1983.


Clapper, Jeffrey A., Professor of Animal and Range Sciences, Graduate Faculty, 1997, 2007; B.S., Ohio State University, 1982; M.S., 1987; Ph.D., Purdue University, 1992.


Clark, Randy, Associate Professor of Visual Arts, 2000; B.F.A., University of Utah, 1978; M.F.A., Utah State University, 2002.

Clark, Sarah, Instructor of Mathematics and Statistics, 2006; B.S., St. Cloud State University, 2000; M.S., SDSU, 2008.

Clay, David E., Professor of Plant Science, Graduate Faculty, 1989, 2001; B.S., University of Wisconsin, 1976; M.S., University of Idaho, 1984; Ph.D., University of Minnesota, 1988.

Clay, Sharon A., Professor of Plant Science, Graduate Faculty, 1989, 1998; B.S., University of Wisconsin, 1977; M.S., University of Idaho, 1982; Ph.D., University of Minnesota, 1986.

Clem, James, Professor and Head of Pharmacy Practice, Graduate Faculty, 1992, 2008; B.S., University of Iowa, 1989; Pharm.D., 1991.

Cochrane, Claudia V., Research Coordinator, 2006; B.A., Centro Unificado de Ensino de Brasilia (Brazil), 1984; M.A., Pennsylvania State University, 1996.

Cochrane, Mark, Senior Research Scientist of Geographic Information Science Center of Excellence/Professor, Graduate Faculty, 2005; S.B.O., Massachusetts Institute of Technology, 1993; Ph.D., Pennsylvania State University, 1998.

Cogswell, Kurt D., Professor and Head of Mathematics and Statistics Graduate Faculty, 1997, 2006; B.S., Massachusetts Institute of Technology, 1978; M.S., North Dakota State University, 1991; Ph.D., Northwestern University, 1996.

Cole-Dai, Jihong, Associate Professor of Chemistry and Biochemistry, Graduate Faculty, 2000; B.S., University of Science and Technology of China, 1982; M.S., University of Maryland, 1984; Ph.D., 1987.

Connell, Patrick S., Adjunct Military Instructor, 2008.

Conrad, Roy C., Adjunct Assistant Professor of Education and Human Sciences, 2007; B.A., Sioux Falls College, 1986; M.S., South Dakota State University, 1996; Ph.D., Capella University, 2008.

Converse, Barbara, Extension Assistant, 2000; B.S., SDSU, 1968.

Coon, Heather, Adjunct Lecturer of Nursing, 2007; B.S., SDSU, 2002.

Coolcy, Brian, Assistant Men’s Basketball Coach, Intercollegiate Athletics, 2006; B.A., Nebraska Wesleyan University, 2009; M.S. South Dakota State University, 2009.


Cooper, Joseph J., Complex Director, 2006; B.S., Northern Michigan University, 2006.

Cortus, Erin, Assistant Professor of Agricultural and Biosystems Engineering, 2009; B.S., University of Saskatchewan (Canada), 2002; Ph.D., 2007.


Crawford, Kylee, Adjunct Lecturer of Nursing, 2007; B.S.N., SDSU, 2006.

Crawley, Ricky A., Associate Professor of Music, 1997, 2002; B.M.E., James Madison University, 1982; M.M., Michigan State University, 1984; Ph.D., Florida State University, 2001.

Creal, Tim, Adjunct Assistant Professor of Education and Human Sciences, Rapid City Site, Graduate Faculty, 2001; B.S., Black Hills State University, 1978; M.S., SDSU, 1990; Ed.S., University of South Dakota, 1994; Ed.D., 1996.

Crego, Stephen, Assistant Manager, Dairy Research and Training Facility, 2009; B.S., Cornell University, 1985.


Crofutt, Tammy, Adjunct Lecturer of Nursing, 2006; B.S.N, SDSU, 2001.


Cushman, Robert A., Adjunct Assistant Professor of Animal and Range Sciences, 2008; B.S., University of Maine at Orono, 1988; M.S., University of Connecticut, 1992; Ph.D., North Carolina State University, 1998.

Cutler, Kay Marie-Zenk, Associate Professor of Human Development, Graduate Faculty, 1997, 2002; B.A., University of Minnesota, 1989; Ph.D., University of Texas, 1995.

Dalaly, Basil, Professor of Nutrition, Food Science, and Hospitality, 2004; B.S., University of Baghdad, 1965; M.S., SDSU, 1967; Ph.D., University of Nebraska, 1970.


Daly, Angela, Instructor of General Studies, 2006; B.S., Saint Cloud State University, 1989; M.A., University of South Dakota, 1994.

Daly, Russell, Assistant Professor of Veterinary Science and Extension Veterinarian, 2005; B.S., SDSU, 1988; D.V.M, Iowa State University, 1990.

Damm, Sheena, Adjunct Lecturer in Nursing, 2007; B.S., SDSU, 2004.


Daniels, Ann Michelle, Extension Family Life, Parenting & Child Care Specialist/Associate Professor of Human Development, 1999, 2004; B.S., University of Arkansas, 1988; M.Ed., 1990; Ph.D., Kansas State University, 1999.

Daniels, Doug, Adjunct Professor of Electrical Engineering, 2008; B.S., SDSU, 1993; M.S., Colorado Technical University, 1996.

Danielson, Amy, Complex Director, 2007; B.S. Bemidji State University, 2005.

Danker, Kathleen A., Professor of English, Graduate Faculty, 1990, 2001; B.A., University of Nebraska, 1971; M.A., 1974; Ph.D., 1985.

Dashiel, Kenton, Adjunct Professor of Plant Science, Graduate Faculty, 2005; B.S., Purdue University, 1976; M.S., Oklahoma State University, 1979; Ph.D., University of Florida, 1983.

Davies, Gareth E., Associate Professor of Pharmaceutical Sciences, Graduate Faculty, 2005, 2009; B.S., University of Plymouth (United Kingdom), 1995; Ph.D., University of Cardiff (United Kingdom), 2000.

Davis, Alan, Professor of Education and Human Sciences, Graduate Faculty, 2005; B.A., Western Washington University, 1978; M.R.C., University of Kentucky, 1980; Ph.D., Oregon State University, 1984.

Davis, David E., Associate Professor of Economics, Graduate Faculty, 2005, 2009; B.S.B.A., University of South Dakota, 1993; M.A., University of Oregon, 1998; Ph.D., 1998.

Davis, Deena, Adjunct Lecturer of Nursing, 2007; B.S., SDSU, 2005.


De Boer, Delvin E., Professor of Civil and Environmental Engineering, Director of Water and Environmental Engineering Research Center, Graduate Faculty, 1978, 1997; B.S., SDSU, 1978; M.S., 1980; Ph.D., Iowa State University, 1990.

De Haven, Rodney, Coordinator and Head Coach, Cross-Country/Track, 2004; B.S., SDSU, 1989.

De Perno, Christopher S., Adjunct Assistant Professor of Wildlife and Fisheries, 2000; B.S., Central Michigan University, 1990; M.S., Purdue University, 1994; Ph.D., SDSU, 1998.

DeBates, Debra A., Associate Professor of Human Development, Consumer and Family Sciences, Graduate Faculty, 1991, 2004; B.S., SDSU, 1974; M.S., 1993; Ph.D., Iowa State University of Science and Technology, 1999.

Delfanian, Feriedoon, Professor of Mechanical Engineering, Graduate Faculty, 1979, 2001; B.S., SDSU, 1977; M.S., 1980; Ph.D., North Dakota State University, 1995.


Den Hoed, Timothy, Adjunct Assistant Professor of Aerospace Studies, 2009; B.S., Colorado Technical University, 2006; MBA, Colorado Technical University, 2008.


Dey, Moui, Associate Professor of Nutrition Food Science and Hospitality, 2009; B.S., University of Calcutta, 1994; M.S., 1996; Ph.D., 2002.

Dickinson, Bruce, Assistant Professor of Nutrition, Food Science and Hospitality, 2007; B.S., University of Northern Colorado, 1983; MBA, University of Sioux Falls, 1997; Ed.D., USD-Vermillion, 2003.

Diddle-Hildebrand, Laura D., Associate Professor of Music, 2003, 2007; B.M., Indiana University, 1989; M.A.T., 1991; Ph. D., University of South Carolina, 2005.

Diersen, Matthew A., Extension Specialist and Professor of Economics, Graduate Faculty, 1999, 2009; B.A., University of Minnesota, 1993; M.S., North Dakota State University, 1995; Ph.D., University of Illinois, 1999.
Dieter, Carla J., Associate Professor of Nursing and Family Nurse Practitioner, Student Health Services, Graduate Faculty, 1984, 2005; A., College of Saint Mary, 1975; B.S.N., University of Nebraska, 1978; M.S., SDSU, 1989; Ed.D., University of South Dakota, 2001.

Dieter, Charles, Professor of Biology and Microbiology, Graduate Faculty, 1987, 2009; B.S., Concordia Teachers College, 1977; M.S., SDSU, 1987; Ph.D., 1993.

Digateo no, Daniel T., Adjunct Assistant Professor of Education and Human Sciences, 2005; B.S., University of Minnesota, 1978; M. North American Baptist Seminary, 1984; M.S., St. Thomas University, 1988; Ph.D., Nova Southeastern University, 1997.

Djiru, Gemiaische D., Assistant Professor of Statistics, 2007; B.S., Addis Ababa University, 1990; M.S., Addis Ababa University, 1994; M.S., Limburgs Universitair Centrum, 2001; M.S., Limburgs Universitair Centrum, 2002; Ph.D., University of Hannover, 2005.


Donovan, Kathleen, Professor and Head of English, Graduate Faculty, 1994, 2000; B.A., Spalding College, 1968; M.A., University of Nebraska, 1988; Ph.D., University of Arizona, 1994.

Doolittle, James J., Interim Director, North Central Sun Grant Center; Professor of Plant Science, Graduate Faculty, 1991, 2001; B.S., Purdue University, 1982; M.S., Texas A&M University, 1986; Ph.D., 1991.

Doukkova, Marcela, Geospatial Analyst, 2006; M.A., University of Nebraska-Omaha, 2006.


Droke, Elizabeth, Associate Professor of Nutrition, Food Science and Hospitality, 2005; B.S., University of Illinois, 1985; M.S., Ohio State University, 1988; Ph.D., North Carolina State University, 1991.

Duan, Shanzhong, Associate Professor of Mechanical Engineering, Graduate Faculty, 2004, 2008; B.S., Kunning Institute of Technology, 1982; M.S., Tianjin University, 1988; Ph.D., Rensselaer Polytechnic Institute, 1999.


Dwivedi, Chandrachdar, Distinguished Professor and Head of Pharmaceutical Sciences, Graduate Faculty, 1987, 2000; B.S., Gorakhpur University, 1964; M.S., 1966; Ph.D., Lucknow University, 1972.


Eide, Jennifer, Lecturer/Horse Unit Manager, 2006; B.S., SDSU, 1995.

Eidenshink, Jeffery, Adjunct Assistant Professor of Geography, 2002; B.S., SDSU, 1973; M.S., 1979; Ph.D., 2001.


Ellison, Susan, Adjunct Professor of Chemistry and Biochemistry, 2003; B.A., Concordia College, 1979; M.D., University of South Dakota, 1993.


Ellis, Andrew R., Instructor of Biology and Microbiology, 2001; B.S., SDSU, 2001; M.S., 2006.

Elverson, Cynthia D., Assistant Professor of Nursing, NACC Coordinator, 1992, 2004; 2008, B.S., University of Missouri, 1979; M.S., University of California, 1986, Ph.D., University of Nebraska, 2007.

Emmons, Patrick J., Assistant Professor of Civil and Environmental Engineering, 1991; B.A., Winona State University, 1968; M.S., Northern Arizona University, 1978.

Emo, Kenneth R., Assistant Professor of Education and Human Sciences, 2005; B.S., University of California, 1983; M.Ed., 1990; Ph.D., University of Colorado, 2005.


Enevoldsen, Bernadine L., Professor of Design, Merchandising, and Consumer Sciences, Graduate Faculty, 1964, 2001; B.S., SDSU, 1964; M.S., 1986; Ph.D., University of Minnesota, 1993.


Erdman, Katherine, Career Development Specialist and Associate Professor of General Studies, 1994, 2005; B.S., Mankato State University, 1989; M.S., 1994; Ed.D., University of South Dakota, 2004.

Erickson, Alan K., Professor of Veterinary Science, Graduate Faculty, 1990, 2004; B.A., Minot State College, 1983; B.A., 1984; Ph.D., North Dakota State University, 1989.

Erickson, Bradley L., Head Men's and Women's Swimming and Diving Coach, and Assistant Professor, Intercollegiate Athletics, 1974, 1994; B.S., SDSU, 1974; M.S., 1975.

Erickson, Christina, Instructor of Nursing, 2006; B.A., Gonzaga University, 1985; B.S.N., SDSU, 2002; M.S., 2008.


Eviss, Jr., Ned H., Adjunct Associate Professor of Wildlife and Fisheries Sciences, 1997; B.S., Appalachian State University, 1973; M.S., Humboldt State University, 1984; Ph.D., Oregon State University, 1989.

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Gehrke, Jr., Henry, Professor Emeritus of Chemistry and Biochemistry, 1964, 1973; B.S., Oklahoma State University, 1958; M.S., University of Iowa, 1963; Ph.D., 1964.


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Haertel, Lois S., Professor Emerita of Biology, Graduate Faculty, 1969, 1988; B.S., University of Illinois, 1961; M.S., 1963; Ph.D., Oregon State University, 1969.

Halverson, Andrew W., Professor Emeritus of Chemistry, 1949, 1985; B.S., SDSU, 1943; M.S., University of Wisconsin, 1947; Ph.D., 1949.


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Johnson, LeRoy C., Associate Professor Emeritus of Horticulture, Forestry, Landscape and Parks, 1965, 1988; B.S., Michigan State University, 1951; M.S., Kansas State University, 1964.

Kantack, Benjamin H., Professor Emeritus of Entomology and Plant Science, 1962, 1977; B.S., Kansas State University, 1951; M.S., Oklahoma State University, 1954; Ph.D., University of Nebraska, 1963.

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2010 Fall Term

August 30, Monday ............................ Orientation/Start Date
August 30, Monday, 4:00 PM .................... Instruction begins
August 30- September 1, Monday- Wednesday .................... Tuition and Fee Payment Days
September 6, Monday ............................ Labor Day Holiday
September 9, Thursday ........................... Last day to drop or add and adjust final fees
September 10, Friday ............................. "W" grade begins
September 17, Friday ............................. Last day to submit a graduation application for Fall 2010
October 11, Monday ............................ Native American Day Holiday
October 22, Friday ................................. First half Fall Term ends
October 23, Saturday ............................. Hobo Day
October 27, Wednesday .......................... Deficiency reports due on WebAdvisor by midnight
November 11, Thursday ........................... Veterans' Day Holiday
November 15, Monday ............................ Last day to drop a course
November 25-26, Thursday-Friday ............ Thanksgiving Recess
December 10, Friday ............................. Last day of classes, Fall 2010
December 11, Saturday ........................... Graduation Ceremony, 10:00 AM
December 13-17*, Monday-Friday .............. Final exams
December 22 ................... Grades due on WebAdvisor by midnight

* December 17 - official graduation date noted on transcript

2011 Spring Term

January 12, Wednesday ............................ Orientation/Start Date
January 12, Wednesday, 4:00 PM .................... Instruction begins
January 12-14, Wednesday- Friday .................... Tuition and Fee Payment Days
January 17, Monday ............................... Martin Luther King Day Holiday
January 21, Friday ................................. Last day to drop or add and adjust final fees
January 22, Saturday ............................... "W" grade begins
February 4, Friday ................................. Last day to submit a graduation application for Spring 2011
February 21, Monday ............................... Presidents' Day Holiday
March 7-11, Monday-Friday ......................... Spring Break
March 14, Monday ................................. First half Spring Term ends
March 17, Thursday ............................... Deficiency reports due on WebAdvisor by midnight
April 4, Monday ................................. Last day to drop a course
April 22-25, Friday-Monday ......................... Easter Recess
April 29, Friday ................................. Last day of classes, Spring 2011
May 2-6*, Monday-Friday ......................... Final exams
May 7, Saturday ................................. 125th Annual Commencement Ceremony
Undergraduate 10:00 AM, Graduate 2:30 PM
May 11, Wednesday ............................. Grades due on WebAdvisor by midnight

* May 6 - official graduation date noted on transcript

2011 Summer Term

May 9 (Monday) - May 27 (Friday) ............................ May Interim
May 30, Monday .................................. Memorial Day Holiday
May 31 (Tuesday) - August 5 (Friday) ...................... 10-week Academic Summer Session
July 4, Monday .................................. Independence Day Holiday
August 8 (Monday) - August 26 (Friday) ...................... August Interim
May 9 (Monday) - August 26 (Friday) ...................... Summer Administrative Term