South Dakota State University Bulletin

SDSU

Undergraduate 1998-2000

UNIVERSITY CALENDARS

1998 Fall Term

(1 day registration, 71 class days, 5 exam days)

August 31, Monday ..... Registration and Orientation
September 1, Tuesday ..... Instruction begins
September 7, Monday ..... Labor Day Holiday
September 15, Tuesday ..... Last day to drop or add and adjust final fees
September 18, Friday ..... Last day to submit a graduation application for Fall 1998
October 12, Monday ..... Native American Day Holiday
October 15, Thursday ..... "W" grade begins
October 17, Saturday ..... Hobo Day
October 21, Wednesday ..... First half Fall Term ends
October 26, Monday ..... Deficiency reports due in Registrar's Office, Adm 208, by 5:00 p.m.
November 11, Wednesday ..... Veterans Day Holiday
November 12, Thursday ..... Last day to drop a course
November 26, 27, Thursday-Friday ..... Thanksgiving Recess
December 12, Saturday ..... Graduation, 10:00 a.m.
December 15, Tuesday ..... Last day of classes, Fall 1998
December 16-22, Wednesday - Tuesday ..... Final examinations
December 28, Monday ..... Grades due in Registrar's Office not later than 5:00 p.m.

1999 Spring Term

(1 day registration, 73 class days, 5 exam days)

January 6, Wednesday ..... Registration and Orientation
January 7, Thursday ..... Instruction begins
January 18, Monday ..... Martin Luther King, Jr. Day Holiday
January 21, Thursday ..... Last day to drop or add and adjust final fees
February 3, Wednesday ..... Last day to submit a graduation application for Spring 1999
February 15, Monday ..... Presidents' Day Holiday
February 22, Monday ..... "W" grade begins
March 1, Monday ..... First half Spring Term ends
March 4, Thursday ..... Deficiency reports due in Registrar's Office, Adm 208, by 5:00 p.m.
March 8-12, Monday-Friday ..... Spring Break
March 29, Monday ..... Last day to drop a course
April 2, 5, Friday-Monday ..... Easter Recess
April 30, Friday ..... Last day of classes, Spring 1999
May 1, Saturday ..... 113th Annual Commencement, 10:00 a.m.
May 3-7, Monday-Friday ..... Final examinations
May 12, Wednesday ..... Grades due in Registrar's Office not later than 5:00 p.m.

1999 Summer Term

May 10 - June 4 ..... Session 1
May 31 ..... Memorial Day Holiday
June 7 - July 2 ..... Session 2
July 5 ..... Independence Day Holiday
July 6 - July 30 ..... Session 3
August 2 - August 27 ..... Session 4

1999 Fall Term

(1 day registration, 71 class days, 5 exam days)

August 30, Monday ..... Registration and Orientation
August 31, Tuesday ..... Instruction begins
September 6, Monday ..... Labor Day Holiday
September 14, Tuesday ..... Last day to drop or add and adjust final fees
September 17, Friday ..... Last day to submit a graduation application for Fall 1999
October 11, Monday ..... Native American Day Holiday
October 14, Thursday ..... "W" grade begins
October 21, Thursday ..... First half Fall Term ends
October 23, Saturday ..... Hobo Day
October 26, Tuesday ..... Deficiency reports due in Registrar's Office, Adm 208, by 5:00 p.m.
November 10, Wednesday ..... Last day to drop a course
November 11, Thursday ..... Veterans Day Holiday
November 25, 26, Thursday, Friday ..... Thanksgiving Recess
December 11, Saturday ..... Graduation, 10:00 a.m.
December 14, Tuesday ..... Last day of classes, Fall 1999
December 15, Wednesday ..... Reading Day
December 16-22, Thursday-Wednesday ..... Final examinations
December 28, Tuesday ..... Grades due in Registrar's Office not later than 5:00 p.m.

2000 Spring Term

(1 day registration, 73 class days, 5 exam days)

January 12, Wednesday ..... Registration and Orientation
January13, Thursday ..... Instruction begins
January 17, Monday ..... Martin Luther King, Jr. Day Holiday
January 27, Thursday ..... Last day to drop or add and adjust final fees
February 9, Wednesday ..... Last day to submit a graduation application for Spring 2000
February 21, Monday ..... Presidents' Day Holiday
February 29, Tuesday ..... "W" grade begins
March 6-10, Monday-Friday ..... Spring Break
March 15, Wednesday ..... First half Spring Term ends
March 20, Monday ..... Deficiency reports due in Registrar's Office, Adm 208, by 5:00 p.m.
April 4, Tuesday ..... Last day to drop a course
April 21, 24, Friday, Monday ..... Easter Recess
May 5, Friday ..... Last day of classes, Spring 2000
May 6, Saturday ..... 114th Annual Commencement, 10:00 a.m.
May 8-12, Monday-Friday ..... Final examinations
May 17, Wednesday ..... Grades due in Registrar's Office not later than 5:00 p.m.

2000 Summer Term

May 15 - June 9 ..... Session 1
May 29 ..... Memorial Day Holiday
June 12 - July 7 ..... Session 2
July 4 ..... Independence Day Holiday
July 10 - August 4 ..... Session 3
August 7 - September 1 ..... Session 4

General Catalog 1998-2000

South Dakota State University Bulletin Quarterly (USPS 474-180)

Volume 90 **Number 2** **June 1999**

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

12,500 copies of this document were printed at an approximate cost of $1.17 per document for South Dakota State University.

FREQUENTLY CALLED NUMBERS

Admissions (Undergraduate)	688-4121
Toll Free (adjacent states)	1-800-637-2670
Campus Police	688-5117
Financial Aid	688-4695
Information Exchange	688-6127
Registrar	688-4470
Student Health	688-5588
Transcripts (ordering)	688-5015
Weather Line	688-6790

SOUTH DAKOTA STATE UNIVERSITY NON-DISCRIMINATION POLICY

It is the policy of South Dakota State University (SDSU) not to discriminate on the basis of race, color, creed, religion, national origin, ancestry, citizenship, age, gender, sexual orientation, disability, or Vietnam Era Veteran status in the offering of all benefits, services, and education and employment opportunities.

Discrimination complaints on the basis of sex, including sexual harassment complaints, should be directed to the Title IX Coordinator: Ms. Saila Gandhi, SDSU Advocacy Officer, Administration Building (AD), Room 217, Phone: 605-688-6361.

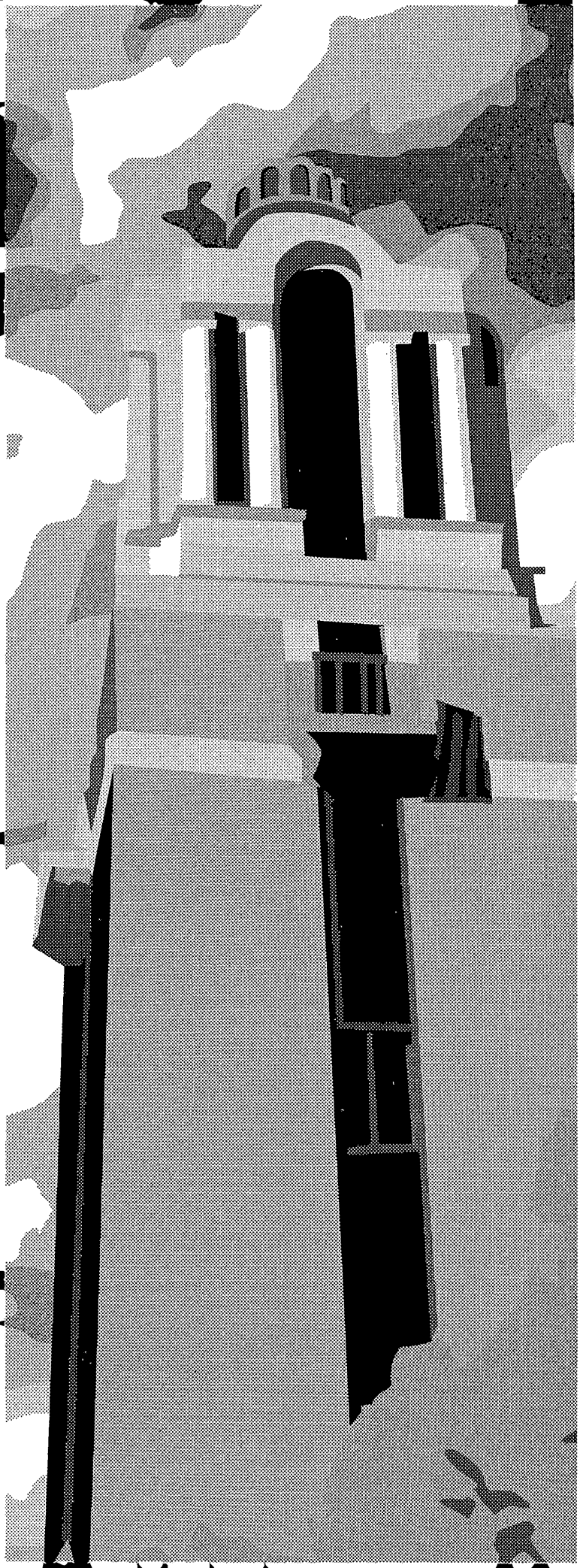
Discrimination complaints on the basis of disability should be directed to the Section 504/ADA Coordinator: Mr. Eugene T. Butler, Jr., Administration Building, Room 217, Phone: 605-688-6361 (TTY 605-688-4394).

Discrimination complaints based on other protected categories should be directed to Ms. Saila Gandhi, Advocacy Officer, Administration Building, Room 217, Phone: 605-688-6361.

Teaching

Research and Scholarship

Outreach and Service



History and Mission: The Land-Grant Heritage

Establishment. An act of the Territorial Legislature, approved February 21, 1881, provided that "an Agriculture College for the Territory of Dakota be established at 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 Agricultural College in lieu of a grant that had been made to new states in 1841.

Developments. In 1923 the institution'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 was established to provide assistance to students who are undecided as to major, are preprofessional, or who want a one or two year general studies program. 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. On July 1, 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-dated image.

The Agricultural Experiment Station was organized in 1887 under the Hatch Act of Congress, which provided for establishment of agricultural experiment stations in connection with agricultural colleges. The stations were established to conduct research that concerns the home or agriculture throughout the U.S.

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.

Mission. The central mission of South Dakota State University is to serve through teaching, research, and extension activities, as the state's land-grant institution. Our first mission, then is undergraduate and graduate education from the freshman to the doctoral level. This priority is achieved through selected high quality academic, professional, extra-curricular and recreational programs. Our second mission is to conduct nationally competitive strategic research, scholarly and creative activities. Our third mission is the transfer of knowledge, especially to the citizens of South Dakota, through the Cooperative Extension Service and other entities.

The University fulfills these missions through the following activities: delivering approved undergraduate programs; delivering approved graduate programs; engaging in scholarship and creative activities in all of its academic disciplines; providing public service through a variety of approved centers and organizational units; providing continuing education by delivering credit and non-credit offerings to locations across state, region, and world; and delivering coordinated outreach programming as a conduit for the University's service mission.

In order to achieve these three primary missions the University also has other secondary missions.

South Dakota State University is responsible for providing a campus environment that helps students develop leadership skills and personal interests essential for fully appreciating life and for contributing to the common good.

The University must collect, preserve, display and make available artistic, artifactual, documentary, and intellectual materials important to understanding our culture.

One mission is to be pluralistic, welcoming men and women of every race, creed, and background. As a university with a global vision, SDSU encourages enrollment diversity and international exchange opportunities.

South Dakota State University must use a variety of resources and revenues effectively and efficiently. The University seeks accountability, assessment, and evaluation as a means to determine priorities and strengthen performance. As part of that accountability it must be a good caretaker of facilities, fixtures, and funds.

Finally, South Dakota State University is a community of students, faculty, staff, alumni, constituencies, volunteers, and friends that provides generous support. South Dakota State University must invite this community to participate in university governance and serve as an advocate for our land-grant mission.

Purposes

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

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

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

Educational Objectives

The **broad 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 a satisfactory adjustment in human relationships. Ideally, upon graduation, SDSU students will have attained the abilities to think, read, speak, and write effectively, both within their practiced disciplines and beyond. In confidently shaping the future, 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. They 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, they should seek to foster understanding and harmony among their fellow citizens of this diverse nation and world.

Intellectual and professional competence is attained when a graduate:

1. Has developed knowledge and skills – including those of clear oral and written expression and evaluative listening – 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.

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 his/her relationship to this code.

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 in attempts to play a constructive role in the dynamics of social change, and the evolving of social and civic values in which he/she believes.

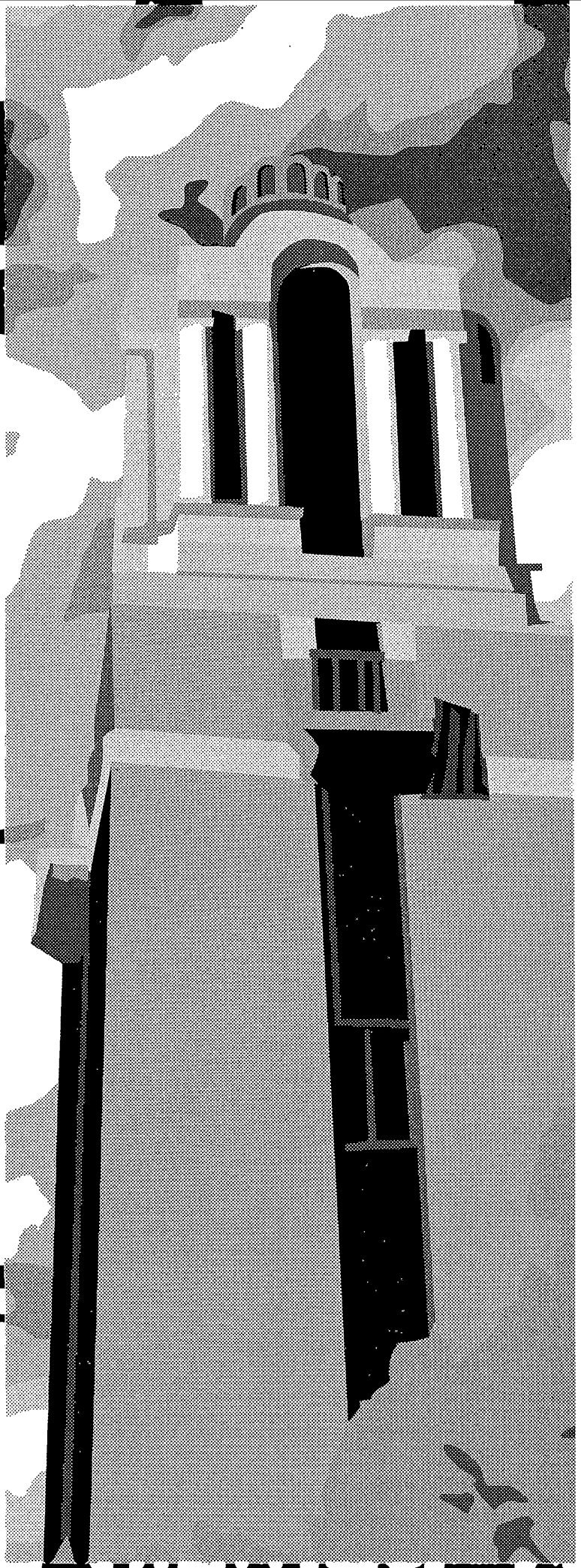
A satisfactory adjustment in human relationships has been achieved when a graduate:

1. Respects the fellowship of many by following the principle of doing to others as he/she would have them do to him/her.
2. Supports the dignity of fellow human beings in his/her own and other cultures by respecting their social amenities, rights, abilities, and racial, religious and cultural attributes.

Research Program

The university is committed to excellence in both basic and applied research, as well as other scholarly and creative activities associated with the university's teaching mission. An effort is maintained to discover new ideas, processes, and developments which will expand and strengthen the state's industrial and agricultural economy. Research and scholarly activities are considered to be integral, essential, and traditional parts of university life involving faculty, as well as graduate and undergraduate students. The research program provides an atmosphere and encouragement for these activities in all segments of the institution. The university seeks and welcomes extramural support for its research program.

For information, contact the Director of Research, South Dakota State University, Box 2201, Brookings, South Dakota 57007-1998.



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**
- **$15 Application Fee**
  If you have previously attended SDSU or another South Dakota public university, you are not required to pay the application fee to SDSU.
- **High School Transcript**
- **Official Report of ACT**
  All students who are not two years beyond high school graduation are required to take the ACT test and have the results sent to SDSU.

In addition, all transfer applicants must provide:

- **Official College Transcript(s)**
  You must request official transcripts from all the schools you previously attended. All transcripts should be sent 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 sent to students prior to their enrolling at SDSU.

Applications for 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:sdsuadms@adm.sdstate.edu
www.sdstate.edu

Undergraduate Admission Requirements

Admission to SDSU is open to all academically qualified students and is granted without regard to age, race, color, religion, sex, handicap, or national origin.

Freshman Admission

To be a candidate for admission to a **baccalaureate degree program**, students must meet requirements A and B:

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

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

4 years of English
or ACT English sub-test score of 17 or above
or AP English score of 2 or above
3 years of Advanced Mathematics [1]
or ACT Math sub-test score of 17 or above
or AP Calculus score of 2 or above
3 years of Laboratory Science [2]
or ACT Science Reasoning sub-test score of 17 or above
or AP Science score of 2 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 2 or above
½ year of Computer Science
or AP Computer Science score of 2 or above
½ year of Fine Arts
or AP Fine Arts score of 2 or above

[1] Advanced math includes algebra or any higher level math.

[2] Laboratory science includes biology, chemistry, physics, or other approved science courses in which there is a weekly lab period scheduled.

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

Admission to the **associate of arts (two-year) program** in general agriculture is granted if you:

Rank in the top two-thirds of your high school graduating class,
OR
Have an ACT composite score of at least 18.

Students enrolled in the two-year program who have not met the minimum high school course requirements may enter a bachelor's program only after they have satisfactorily completed 3 credits of English or speech, 3 credits of mathematics, 3 credits of natural science, and 3 credits of social science with a grade point average of 2.0 or higher.

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.

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 engineering, 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 21 who have earned fewer than 24 semester college credits must also meet the Freshman admission requirements as outlined above.

Former Students

Former SDSU students who want to reapply for admission must submit another admission application and transcripts from all colleges attended since leaving SDSU. Former students will be admitted upon review of all college level course work. Approval of admission is required by the dean of the appropriate college and the director of admissions. A petition process may be required if the student has been placed on probation or refused status.

Non-Traditional Students

Applicants under 21 years of age who did not graduate from high school must complete the GED and obtain an ACT composite score of 18 and ACT English, Mathematics, Social Studies/Reading and Science Reasoning sub-test scores of at least 17.

Applicants who are at least 21 years of age or older and who have not previously attended college will be admitted in good standing if they have graduated from high school or have completed the GED.

Home Schooled Students

Students who have been home schooled must submit a transcript of coursework completed and obtain an ACT composite score of 18 and ACT English, Mathematics, Social Studies/Reading and Science Reasoning sub-test scores of at least 17.

Special Students

Students who are over 21 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.

Concurrent High School Students

High school juniors and seniors may be permitted to take not more than two courses per semester if they meet the concurrent admission requirements, submit a high school transcript and concurrent admission application, and provide documentation of high school approval.

U.S. Army Concurrent Admission Program (ConAP)

SDSU is a participant in the U.S. Army Concurrent Admissions Program (ConAP). This program allows a qualified applicant 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.

Policy for Transfer of Undergraduate Credit

Undergraduate transfer credits are evaluated by the appropriate college dean based on SDSU college and major requirements. Specific questions can be directed to the dean of the college you are entering.

I. A student must submit official transcripts to SDSU of all academic course work taken at other institutions. This course work is then evaluated by the College Dean and recorded on the SDSU transcript by the Registrar. An applicant's signature on the admission application certifies that he or she has complied with this regulation and incorrect or omitted data could be grounds for denial of admission or suspension.

II. A student who takes courses at another institution after his or her initial enrollment and prior to graduation or leaving SDSU is required to submit an official transcript to the Admissions Office. The transcript will be evaluated by the Dean and recorded on the SDSU transcript. Failure to comply with this regulation could be grounds for suspension.

III. Undergraduate credits are acceptable for transfer if taken from a regionally accredited institution and are applicable to the student's degree program at SDSU. Credits from colleges or universities which are not accredited by a regional accrediting association* may be accepted for transfer subject to all other provisions of these guidelines and any conditions for validation which may be prescribed by SDSU. Course credits are acceptable for transfer if completed with a passing grade.

A. 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.

B. Remedial courses, orientation, life experience, and high school level courses are not accepted for transfer credit. No transfer credit is granted for General Educational Development Tests. (SDSU Note: Joint high school/college courses are covered in formally signed articulation agreements.)

C. General education courses from regionally accredited technical-vocational institutes may be accepted in transfer, subject to evaluation for equivalency. (Note: At SDSU this includes all general education courses covered in formally signed articulation agreements.) Where specific vocational courses are applicable to an individual's degree program, credit may be accepted upon the approval of the dean of the college in which the student is enrolled if the course is equivalent to a specific SDSU course. As technical-vocational institutions develop and change, transfer policies at SDSU are under review. Therefore, check with the SDSU Admissions Office regarding these.

D. Credit earned for college level courses by examination, extension, correspondence, CLEP, advanced placement will be evaluated and accepted for transfer if equivalent to courses at and consistent with the policies of SDSU.

E. When a course has been repeated for credit, the last grade earned will be used in the evaluation of the acceptance of credit.

F. Total transfer credit for work at a junior or community college (2 year), or two-year technical college/institution **may not exceed one-half of the hours required** for completion of the baccalaureate degree at SDSU. Students who have completed more than the acceptable semester hours of junior or community college work may apply completed, transferable courses to specific course requirements and thereby 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.

IV. Evaluations of courses will be made by the appropriate institutional officials at the time of admission by comparing descriptions of courses completed with those at SDSU.

V. General educational requirements successfully completed at the sending institution within the South Dakota higher education system will be accepted toward meeting these parallel requirements for SDSU.

VI. Transfer credits will be accepted with the same grade and credit as was recorded on the transcript from the institution at which the course was completed. Courses accepted in transfer from institutions with a different credit and/or grading system will be equitably converted to the SDSU system and will be transcripted with the SDSU equivalent credit and grade. Each institution may establish grade-point average requirements for graduation, honors, and academic standing based upon the work of the student at the receiving institution in addition to the

cumulative credit and grade requirements. Any transferable grade, whether accepted or not, will be incorporated into the addition of the cumulative grade point average and will be included on the student's transcript.

VII. The President or his/her designee is responsible for insuring that Regental policy will be followed by those involved in determining what courses will be transferred to meet graduation requirements. Each institution shall develop and maintain a procedure for the appeal of transfer credit decisions.

* 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.

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. 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

South Dakota State University has established articulation agreements with Southeast Technical Institute, Lake Area Technical Institute, Mitchell Technical Institute, and Western Dakota Technical Institute. These agreements identify what courses and programs are transferrable between the institutions. Similar articulation agreements also have been established with regional community colleges, colleges and universities, and selected international educational institutions. College deans assist students in determining the status of articulated courses.

Correspondence Credit

SDSU will grant credit for correspondence courses from other colleges under the following circumstances: Limited credit for correspondence work may be applied toward a degree. Such credit will not be approved if the work is done while the student is enrolled in the university, unless arrangements have been made in advance with the dean of your college. Maximum acceptable credit by correspondence may be limited by the dean of the college you are entering. No credit will be given for correspondence courses in Engl 101, 301, or 379 unless such courses are taken from a South Dakota Board of Regents institution.

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

Servicemembers Opportunity College (SOC)

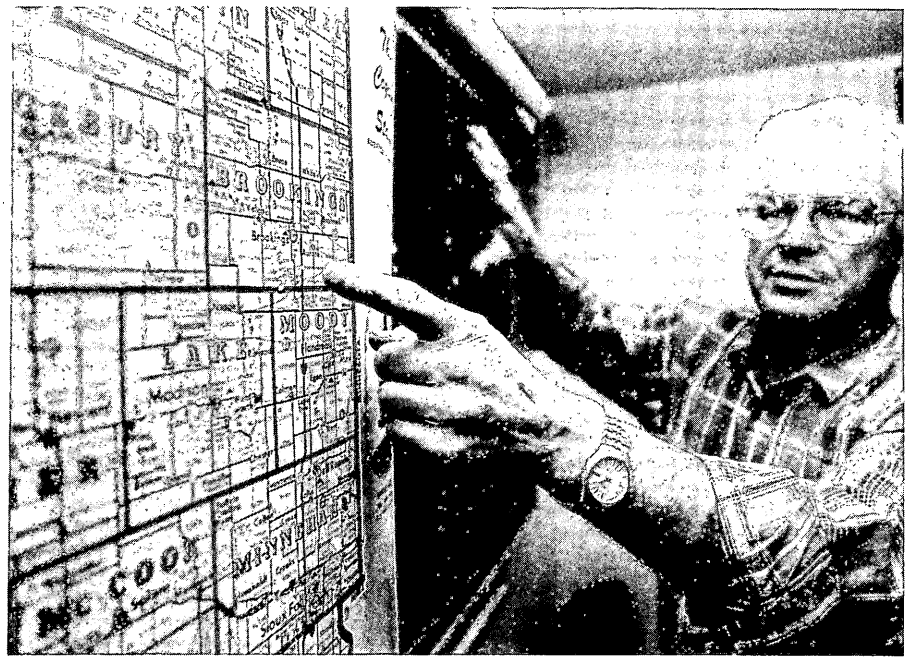
South Dakota State University has been designated as an institutional member of Servicemembers Opportunity Colleges (SOC), a group of more than 400 colleges and universities providing voluntary postsecondary education to members of the military throughout the world. As a SOC member, SDSU recognizes the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

Admission with Advanced Standing

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

Admission of International Students on Nonimmigrant Visas

SDSU is dedicated to providing educational opportunities for students from abroad and has traditionally enrolled students from as many as 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 $15.00

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.

International Students have a separate application packet. Complete applications must arrive by: June 1 to be considered for fall admission; October 1 for spring admission, for applicants outside the United States. Applications not meeting the deadline requirement for one semester will remain active and when complete will be considered for the next semester. Contact the International Student Affairs Office for the application packet and further information: International Student Affairs, Administration 312, SDSU, Brookings, SD 57007. Phone: (605) 688-4122; e-mail intlstud@adm.sdstate.edu or FAX (605) 688-5951.

Policy for Transfer of Foreign Undergraduate Credit

College level and advanced secondary level courses taken at foreign institutions will be evaluated for transfer consideration by an independent credential evaluation service and/or the appropriate institutional officials. Credit will be considered for transfer only when content is determined to be equivalent to SDSU courses. A syllabus from the foreign institution is required to determine equivalency. No elective credit will be allowed for courses not equivalent to SDSU courses. No English course will be accepted for credit from a foreign 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 foreign 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 foreign institutions determined to be vocational/technical level programs.

Non-Native Speakers of English

The Michigan Test of English Proficiency will be administered to non-native speakers of English. Testing may be waived with a score of a 600 or higher on the TOEFL.

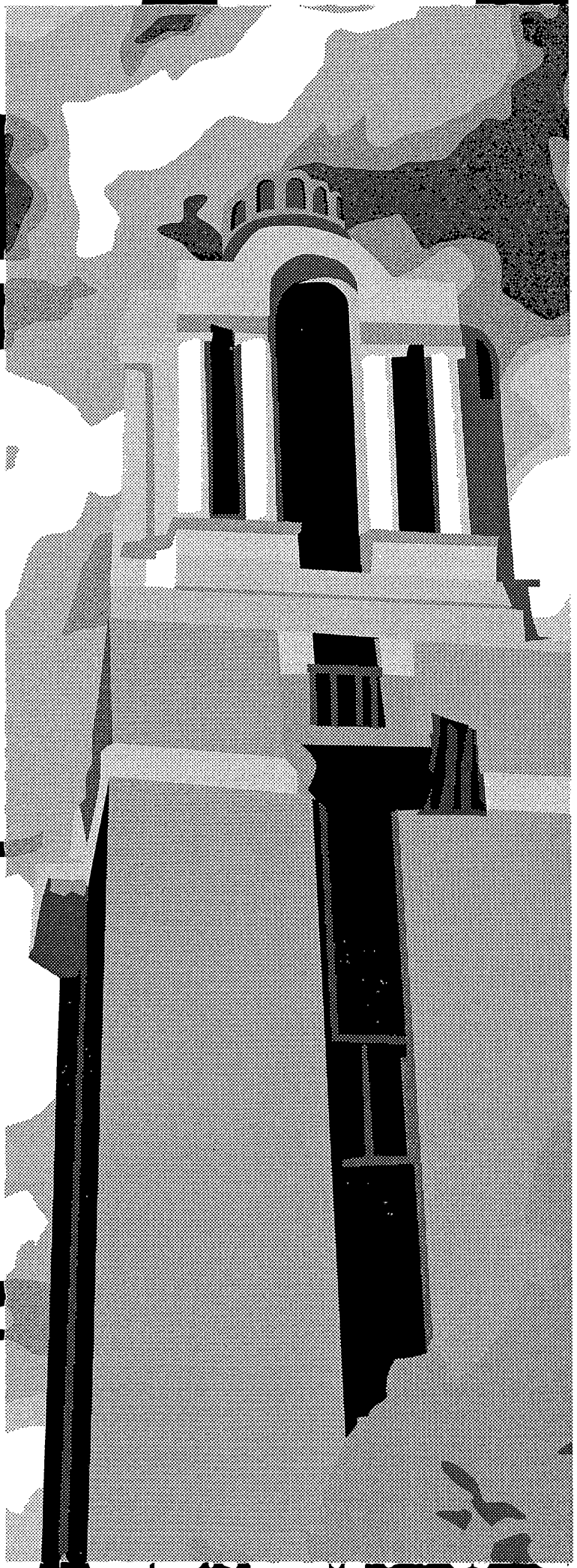
Testing will be conducted prior to enrollment. Results will be used to determine whether a student needs to complete one or more support courses in English as a Second Language in addition to regular academic classes. The courses are designed to better prepare students for their academic program in general 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, Administration 312, SDSU, Brookings, SD 57007, Phone: (605) 688-4122. E-mail - intlstud@adm.sdstate.edu.

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.



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 or 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. Through the application of academic amnesty, the prior, poor academic record can be excluded from current work under certain conditions. The goal of this policy is to respond to the academic needs of matured individuals as they develop newly-identified potential.

Criteria

The student must:

1. Be seeking an undergraduate degree from SDSU. The student who has already graduated may not apply for amnesty.
2. Have last attended a formal post-secondary educational institution (including a vocational/technical institute) no less than 5 years prior to the most current SDSU admission.
3. Have completed a minimum of 12 newly attempted credits from SDSU with a minimum of 2.0 GPA and meet the program minimum GPA for those programs with a higher GPA entrance requirement. (If more than 12 credits have been completed, all credits must calculate to 2.0 GPA or program GPA.)

Procedure

1. The student must submit a formal Academic Amnesty Petition through the adviser, the department head for the undergraduate program into which the student desires entry or is already admitted, and the appropriate college dean.
2. The decision of the academic dean is final.
3. Academic amnesty may be requested for either (a) all previous post-secondary education work, or (b) all previous post-secondary education at specific institution(s). Individual courses and/or terms may not be petitioned.
4. If amnesty is approved, the student's academic amnesty record will not be counted toward completion of the current degree program.
5. All previous work, whether SDSU or transfer work, will remain on the student's permanent record. A notation will be entered when/if amnesty is granted and the appropriate calculations (e.g., cumulative grade point average) will be adjusted to reflect the amnesty decision.
6. If the student changes college and/or major, the amnesty petition must be resubmitted to the new adviser, department head and appropriate academic dean.
7. Academic Amnesty, if granted, will only be applicable at SDSU and does not impose any decision on any other institution(s) which the student may subsequently attend.
8. Academic Amnesty cannot be used for federal financial aid satisfactory academic progress purposes. Students need to visit the SDSU Financial Aid Office to complete an appeal form if financial aid eligibility is affected.

Assessment Program

SDSU has a comprehensive Assessment Program to evaluate its educational programs and services. This program is designed to measure the effectiveness of the general education 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.

Students who complete 48 passed credit hours at or above the 100 level, including 15 credit hours of general education electives are required to take a proficiency exam. The exams will be offered each fall and spring semester.

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. All degree-seeking students who have completed 48 credit hours including 15 hours of specified core courses are required to take the proficiency examination during the first semester in which they become eligible. 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. A due process procedure has been developed to deal with such situations.

Students failing to achieve the minimum scores established by the South Dakota Board of Regents on one or more components will be allowed to retest the failed part(s) and must do so within one year. Students who do not score at or above the cutoff will be required to develop a remedial plan in conjunction with their advisers. The proficiency examination will be offered each spring and fall. For further information contact the Director of Academic Evaluation and Assessment at 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.

Three hours of laboratory work, where no outside preparation is required, or two hours of laboratory where outside activity is required is assigned one credit hour.

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

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 testing programs.

No more than 34 credits obtained by examination for credit may be applied toward the Bachelor's degree.

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

If credit is accepted by examination, the permanent record will show: course name — credit by examination, with an EX grade for the specified number of credits. Course equivalent credit and two grade points per credit will be allowed toward graduation. 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. If you have taken an upper level course in a given subject, you cannot receive credit by examination for a lower level course dealing with the same content.

Standardized Tests

Credit may be received in certain subjects through the College Level Examination Program (CLEP), the Proficiency Examination Program (PEP), the Advanced Placement Program (AP), or through the local placement test in Mathematics. The Mathematics and CLEP exams are administered at SDSU, the other programs are administered only through national testing centers. You are charged a testing fee for each of the testing programs except the local mathematics test.

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.

Local Challenge Exams

If a standardized exam is not available for a course for which you wish credit, a special examination may be established. This process is initiated by obtaining a "Challenge By Examination" form 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.

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 original 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.

Course Exemption

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

For information about credit through any of these programs contact the Academic Evaluation and Assessment Office in Room 201 in Pugsley Center. 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

Requires a semester GPA of 3.4 or above and full-time student status (minimum of 12.0 semester credits).

Honors Designation

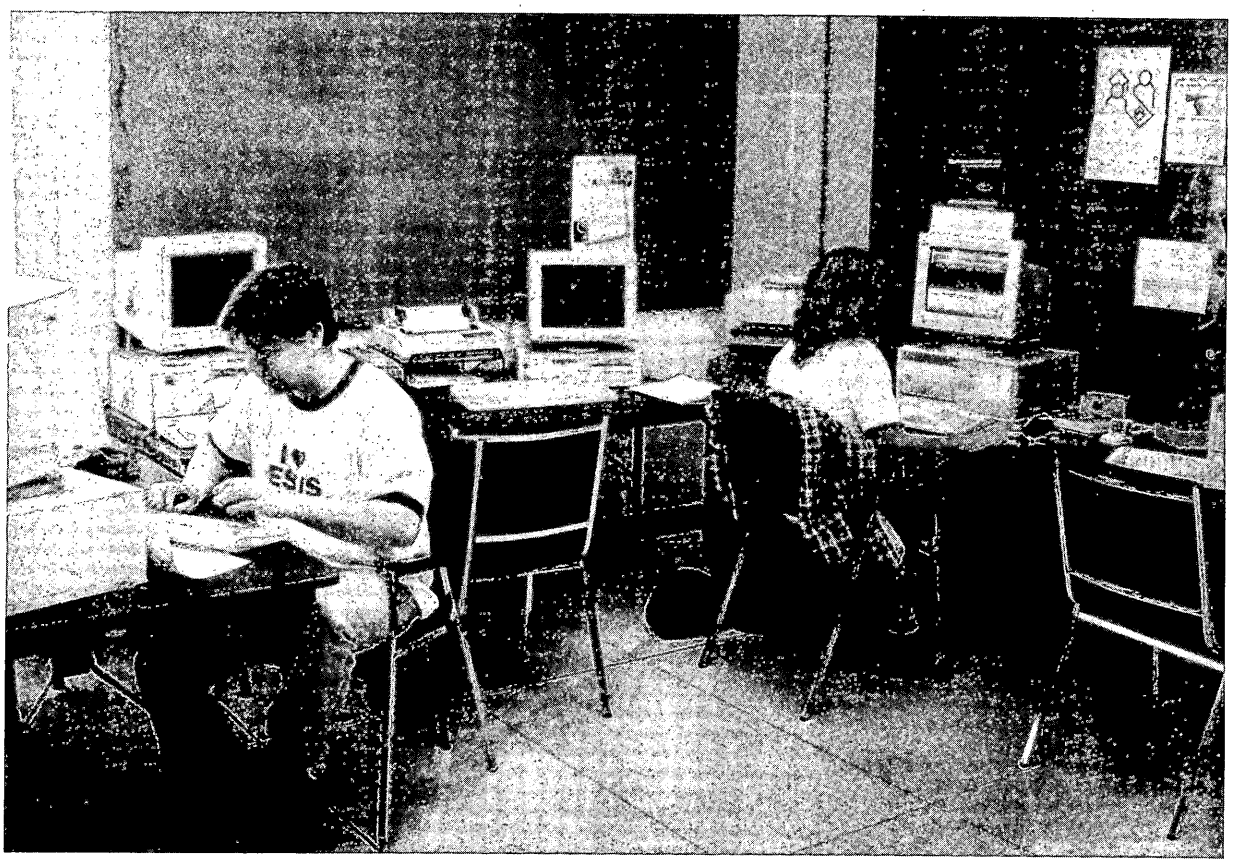
1. To be eligible for honors, a Bachelor's Degree student must have 60 earned semester hours in residence (at SDSU).
2. Students who transfer shall receive full value toward honors for grades and credits transferred, provided the institutions are fully accredited.
3. Honors shall be awarded on the basis of cumulative grade point average.
4. Honors will be based on all grades. The commencement program will include a listing of candidates for honors. However, final determination is made after all grades are included.
   Honors shall be of three degrees:
   With Highest Honor — grade point average 3.80 or above.
   With High Honor — grade point average 3.60 to 3.79.
   With Honor — grade point average 3.4 to 3.59.
5. Honor students shall have the appropriate honors included on their diploma.

Foreign Language Credit

Students who enter the University with a background in foreign language may begin their language study at the level most appropriate to them. Students are encouraged to take the foreign language placement test to determine their level of competence. No student will be allowed to enroll in a foreign language class beyond 202 without confirmation of competence either by the placement test or the endorsement of a member of the departmental faculty.

Students completing any course beyond the 101 level, with a grade of C or better, may receive credit for the previous course(s). However, a maximum of 16 credit hours can be achieved for courses not taken. In order to receive credit, a verification form must be obtained from the Foreign Languages Department office and completed. Then an "Application for Placement Credit" form must be completed and the required fee paid in the Academic Evaluation and Assessment Office.

Students who have studied foreign language other than those offered by the Department of Foreign Languages may petition to have that study satisfy their B.A. foreign language requirement. No credit will be given for competency in a foreign language if it is the student's native language.



Grading

The grading system is based on achievement in comparison with other members of your class.

A grade report is distributed to each registered student each term and a cumulative record is maintained in the Registrar's Office.

Types of Grades

The quality of work is indicated by the following marks:

A Exceptional 4.0 grade points

B Superior 3.0

C Average 2.0

D Passing 1.0
(lowest passing mark)

AU Audit

EX Pass-Credit by exam

P Pass

TR Credit received by transfer

CR Credit

F Failure
You must repeat the subject in a regular class to get a passing mark. Repeating the course will not remove the failure from your permanent record. Beginning Fall 1995, only the most recent grade is calculated into the cumulative grade point average.

NR Grade not reported by instructor.
Will not enter into the semester or cumulative grade point average.

W Withdrew

I Incomplete
A report indicating if for reasons beyond the student's control, a student cannot finish the required work in a course, the work completed is of passing grade, and it is **deemed practical for the student to complete the subject without repeating it in a regular class,** the student may apply to the instructor for an Incomplete grade. If the instructor accepts this application, the student and the instructor must agree on a plan to complete the work of the course. The plan must be in writing and have a completion date of not more than one year from the end of the regular course. At the end of the plan or the one-year period, whichever is sooner, the instructor may assign any academic grade, from "F" to "A". Any incomplete not properly removed within one year will remain on the permanent record as an "I". A grade of "I" is not calculated into the GPA.

IP In Progress
A report indicating that the requirements for the course, as specified on the initial course syllabi by the instructor at the start of the term, extend beyond the current term. The IP grade is an acceptable grade only if the instructor files, through the department head, a request to report an IP grade for the entire course, or in the case of independent study for an individual student, prior to the census date for the course. Requests must be approved by the College Dean and must be on file each term with the Academic Vice President and the Registrar. At the time grades are recorded, the Registrar will audit the reported IP grades against approvals received. (After initial review, courses such as Thesis, Thesis Sustaining, and Research Paper can be maintained on permanent file, rather than be submitted each term.) The grade of "IP" is not calculated into the GPA.

With the exception of a year old "I", any grade reported to the Registrar may be changed by recommendation of the instructor and college dean and approval by the Vice President for Academic Affairs.

Any graduating senior and 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 but will be required to apply for graduation for a subsequent semester. Emergency situations require the filing of a petition by the student to the Dean for approval prior to the final grading deadline for the final semester.

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 these examples:

Course	Credits	Grade	Grade Points
Mil 101	1	A	4
Math 113	5	B	15
Chem 112	4	C	8
Fren 101	4	C	8
Engl 101	3	D	3
Total	17		38

GPA — 38 divided by 17 = 2.23

The cumulative grade point average is obtained by dividing grade points by the number of hours attempted. **In computing grade point averages all hours attempted (graded A, B, C, D, F) are included.** Note: This excludes I, AU, IP, CR, EX, P, NR, TR, W grades.

Repeating a Course to Raise the Grade. All courses taken appear on the student's academic record, but, effective Fall 1995, when a course is repeated, only the most recent grade is calculated into the cumulative GPA.

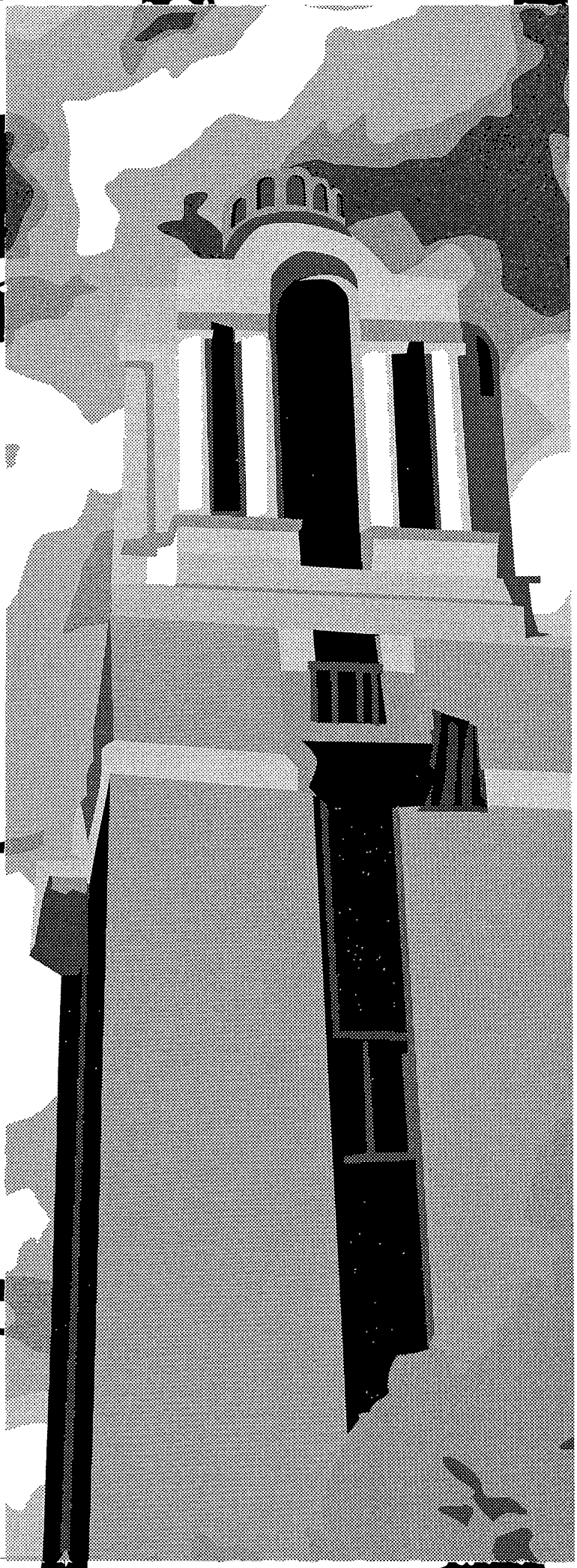
A repeated course must be taken the most recent time Fall 1995 or later for this policy to apply.

This policy applies only to undergraduate course work. The Graduate School uses both grades in computing the GPA.

You must notify the Registrar's Office, Ad 208, when a course, whether failed or passed, is repeated.

Pass-Fail System. The primary objective of the Pass/Fail 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 course requirements.
3. Colleges may further restrict the Pass/Fail credit option.
4. A "D" letter grade or better is considered to be a passing grade in a pass/fail elective.
5. Registration for pass-fail electives will be accomplished only after registration day by Audit/Pass-Fail Form to the Registrar's Office. The pass/fail option should be known only to the academic adviser, instructor, the student and the registrar.
6. You may change from pass/fail elective to credit or vice versa only during the two week add period.
7. The grade (P or F) will be recorded on your permanent record. A grade of "P" 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. An "F" grade will calculate in the computation of the semester and the cumulative grade point average.
   Note: Some courses are taught only on a Pass/Fail basis. Consult the department if you have a question.



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 — 1.80; Sophomore — 1.90; 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 and 32 resident credits at SDSU. A student must have 20 upper division level credits, 14 of which need to be at SDSU.

If you do not maintain the above average, your scholastic status will be affected as follows:

1. Scholastic status is reviewed at the end of each semester (term). Summer term is treated as a regular term relative to probationary and suspended status.
2. **Probation.** At the end of the first term in which a student's CGPA does not meet the minimum GPA standard, he or she will be placed on "scholastic probation." Consultation with the academic adviser is expected. Actions such as curtailment of participation on faculty-student committees may be appropriate. The dean may require the student to carry a reduced load for the next semester.
3. **Continued Probation**. Students on academic probation, whose SGPA is equal to or above the GPA standard, and whose CGPA is still below the GPA standard are placed on "continued probation" for one more term.
4. **Suspended.** Students on academic probation whose CGPA and SGPA fall below the GPA standard will be suspended. Students on continued probation whose CGPA is below the GPA standard will be suspended. Readmission may be possible on a "continued probation" status, upon application for readmission, and after a minimum of two terms of nonattendance. To appeal a suspended status after two terms of nonattendance, the student must do so to the dean of his or her college. **If one has been on a suspended status twice, he or she will not ordinarily be permitted to enroll again.**

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 (01:10:23:01 - 1:10:23:04) 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 Vice President for Academic Affairs Office, AD 230, 688-4173.

Attendance

Policy: It is the policy of South Dakota State University that faculty determine the 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. Any exceptions to the faculty member's written attendance policy such as medical concerns, disabilities, or approved university-related activities must be negotiated between the student and faculty member prior to the absence whenever possible. If arrangements are unable to be negotiated with a faculty member, or at the department or college levels, students may contact the office of the Vice President for Academic Affairs.

Policy Implementation: The faculty and administration will honor officially approved absences where individuals or groups are absent in the interest of the university. Absences for verified medical reasons, death of family member or significant other, or other verified extenuating circumstances judged acceptable by the instructor or the institution will also be honored. Students with excused absences will be given equivalent opportunities for obtaining grades as students who were in attendance. Should excused absences be excessive, the faculty member may recommend withdrawal from the course or a grade of incomplete.

Class Definition

1. Sophomore rank requires 32 semester credit hours.
2. Junior rank requires 64 semester credit hours.
3. Senior rank 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 humanities, social science, and natural science degree requirements must be chosen from the approved list.

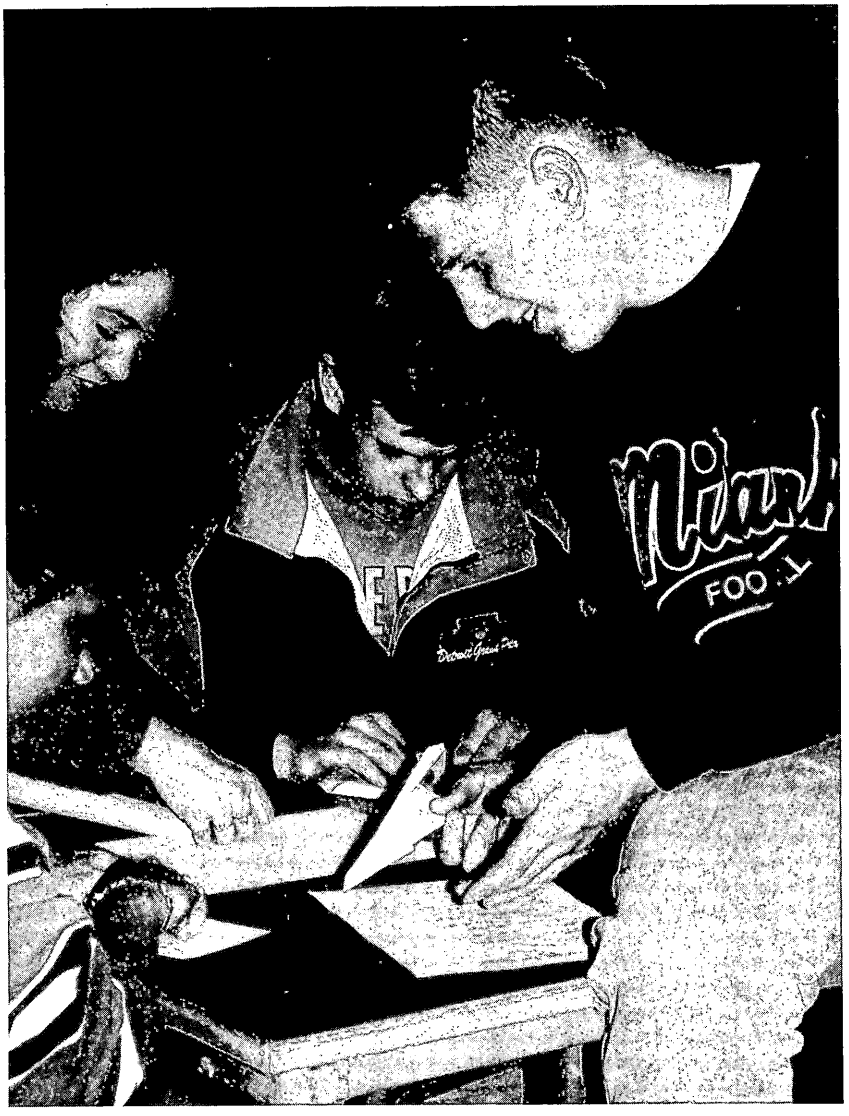
The dean of the college in which the degree is sought must approve registration in an elective if the subject is counted toward the degree.

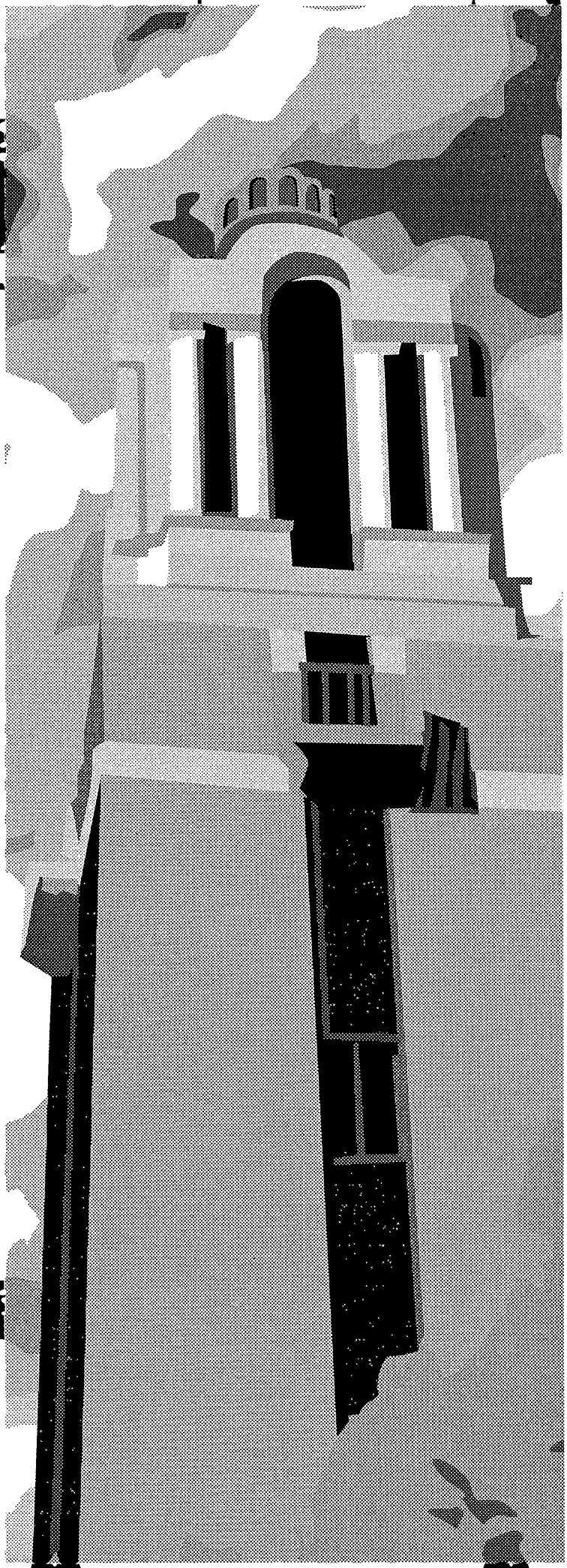
Rate of Progress

Each student is advised by a member of the faculty. 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 graduates must carry 9 semester credits.** Undergraduates will not be permitted to register in more than 20 semester credits the first term. Registration in more than 20 semester credits in subsequent terms is permitted only when the previous semester's work shows high achievement.

All overloads in excess of 20 credit hours must be approved by petition through the dean of the student's college. In general, courses will not be offered to fewer than 10 students for undergraduate courses or 7 students for graduate courses, unless there is some special reason for doing so. Instructors will cancel courses with low enrollment or for other reasons, only with the approval of the dean of the college concerned.





Academic *Changes*

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 add slip procedure.**

Auditing courses by graduate and undergraduate students will be a matter of record (recorded on their academic transcript). No grade is given for Audit. Audit courses are counted as part of the 20 hour rule for overloads. **Audit courses are not counted in calculating undergraduate or graduate full-time student status.**

Drop-Add Procedure

1. Approval for dropping or adding courses is initiated with your faculty adviser, add/drop is signed by the adviser and the instructor or designee, and taken to the Registrar's Office, Ad 208, for official recording.

2. Courses may be added, the pass/fail elective may be chosen, and cross listed course prefixes for that semester may be changed during the first 10 class days each semester for standard semester courses and until 13% of instruction is completed for non-standard semester courses.

3. Courses may be dropped without charge during the first 10 class days for standard semester courses or until 13% of instruction is completed for non-standard semester courses. Drops after that date are not entitled to refund.

4. 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.

5. When an instructor deems it advisable for you to drop from class, a drop slip must be completed, processed, and submitted to the Registrar's Office prior to calendar deadlines. Your name will not be removed from the class roll until the drop slip is given to the Registrar's Office.

Grades for dropped courses:

1. Students will be allowed to drop courses until 41.7% of instruction is completed (date published in semester course schedule) with nothing recorded on their transcripts.

2. Thereafter, until 69.4% of instruction is completed (date published in semester course schedule), a "W" will be recorded on the student's permanent transcript indicating a late drop.

3. You may not drop an individual course after 69.4% of instruction is completed.

4. 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.

5. After 69.4% of instruction is completed, if extenuating circumstances (i.e., illness) have prevented class participation, a petition for an individual drop may be filed through the Dean of the student's college.

Repeated Courses

All courses taken appear on the student's academic record, but, effective Fall 1995, when a course is repeated, only the most recent grade is calculated into the cumulative GPA.

A repeated course must be taken the most recent time Fall 1995 or later for this policy to apply.

This policy applies only to undergraduate course work. The Graduate School uses both grades in computing the GPA.

You must notify the Registrar's Office, Ad 208, when a course, whether failed or passed, is repeated.

Major Changes

There is a process available for changing, adding, or deleting a student's major. See your College Dean's office to begin the process. When complete, the paperwork must be filed for recording with the Registrar's Office, Adm 208.

Petitions and Appeals

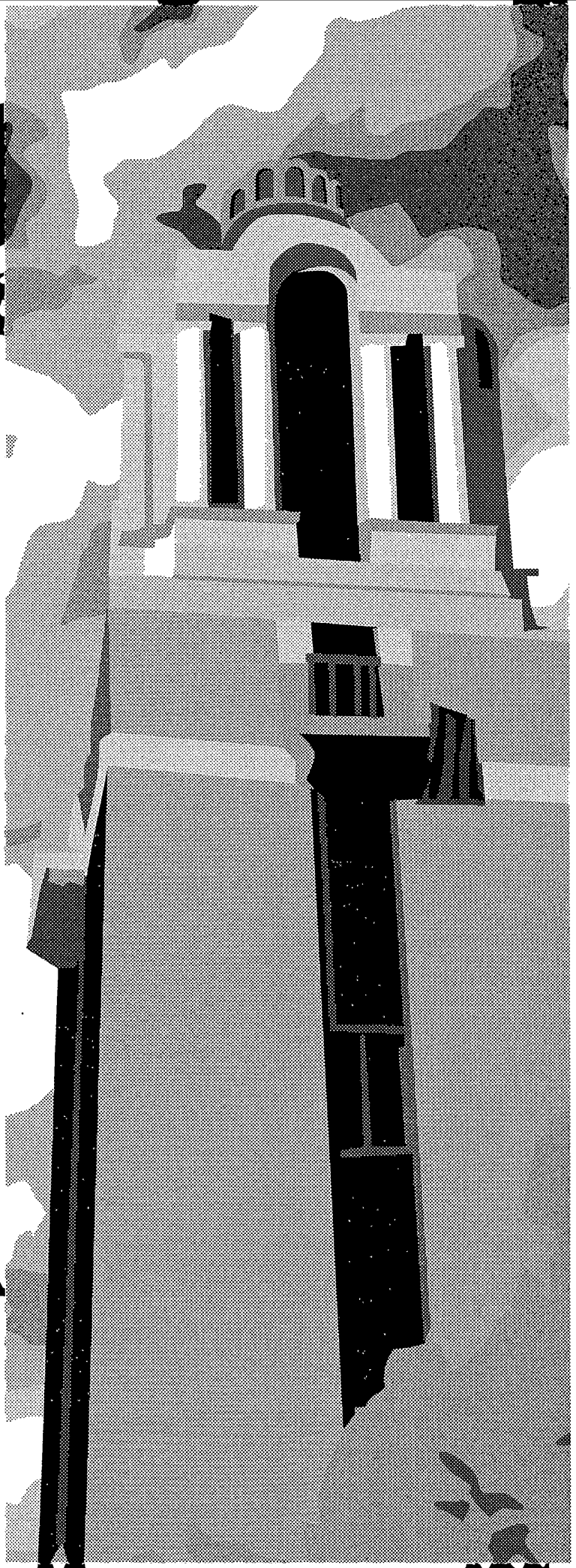
South Dakota State University has an established University Petition Process for students to follow in seeking exceptions to established academic and administrative policies.

There are four areas of appeal: Drop/Add Appeals, Academic Appeals, Graduation Appeals, and Financial Appeals.

The petition process begins with the student obtaining a University Petition form from his or her college dean's office or 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 Records Office, Administration Building, Room 208 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 69.4% 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 Dean of the student's college.



Academic Advising Role Statements

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. Academic advising may be included in teaching, may be a part of service, or can be a specified work load assignment.

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 life-long 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 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 advisees 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.

Affirmative Action/Equal Employment Opportunity Policy

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, religion, gender, sexual preference, national origin, or disability, through a continuing policy of "Affirmative Action." Positive efforts to further equality of opportunity in education and employment will be: 1) vigorously pursued; 2) conform to current legal requirements; and 3) be consistent with University standards of excellence and quality.

The "affirmative action" required to meet our responsibilities will include the statement and continual review of University policies relating to equal opportunity and non-discrimination, the collection and analysis of data, the formulation and implementation of 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.

Affirmative Action questions and concerns can be directed to the Affirmative Action Officer, Mr. Eugene T. Butler, Jr. (Administration Building, Room 217; telephone 605-688-6361; fax 605-688-4443).

Disability Policy Statement

South Dakota State University (SDSU) reaffirms that it is committed to a policy of non-discrimination on the basis of physical or mental disability/impairment in the offering of all benefits, services, educational and employment opportunities. Mr. Eugene T. Butler, Jr. has been designated the SDSU "Responsible Employee" to coordinate institutional compliance with the non-discrimination requirements of the Americans with Disabilities Act (ADA) of 1990. As ADA Coordinator, Mr. Butler will also be responsible for the effective integration of ADA procedures with AA/EEO, Title IX, Sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and Sexual Harassment programs. Information concerning the provisions of the Americans with Disabilities Act of 1990 and the duties and rights provided therein, are available from the office of the ADA Coordinator (Administration Building, Room 217, Telephone (605) 688-6361/Fax (605) 688-4443/ TTY (605) 688-4394. Students and staff may also seek information from the Disabled Student Adviser or Dean of Student Affairs in Administration 318; Telephone 688-4493.

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.

Graduation Policies and Procedures

A. Graduation Application - Date Due in Dean's Office
Check the Fall Semester and Spring Semester Course Schedules for dates.

B. Incomplete grades in courses required for graduation.
Graduating Seniors and Graduating Graduate Students (beginning Fall 1991)

1. Any graduating senior or graduating graduate student
   a. who receives an incomplete in the final semester in a course required for graduation, 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).
2. After that date removals of Incompletes for courses not required for the degree are no longer permitted. This policy also applies to grade changes or any other academic change to the student's record.
3. This policy has always been in effect but is reinforced in this policy statement.

D. GPA's
The undergraduate GPA is frozen internally only for class rank purposes. The student's class rank does not appear on the transcript but can be requested from the Registrar's Office where it is available.

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

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

F. Notification to the student of above policies and procedures.

1. Every student will receive an information letter and will sign off on these policies and procedures at the time the graduation application is filed with the Dean.
2. The Registrar will include this policy and procedures statement with the graduation information sent to all graduating students each semester.

Non-Degree Courses

In addition to courses leading to degrees, the university offers special and short courses in several lines of work. Some of these may be given for academic credit or no academic credit; others may be offered for Continuing Education Units. Consult the department head involved or the Coordinator of Outreach Programming, Adm 315, South Dakota State University, Box 2201, Brookings, SD 57007; 605-688-4431.E-mail sckerlj@adm.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 or 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 probation, suspension, and expulsion.

POLICY STATEMENT: Harassment on any grounds, directed against individuals, is proscribed.

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

II. Harassment on the basis of race, color, creed, religion, national origin, ancestry, citizenship, gender, sexual orientation, age, or disability, or harassment on any grounds, directed against individuals, may be established by showing:
   A. Conduct toward another person that has the purpose of creating an intimidating, hostile, or demeaning environment and that interferes with his or her ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.
   B. Conduct toward another person that has the effect of creating an intimidating, hostile, or demeaning environment that adversely interferes with his or her ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.
      1. Harassment consists, in most cases, of more than casual or isolated incidents.
      2. Consideration should be given to the context, nature, scope, frequency, duration, and location of the incidents, whether they are physically threatening or humiliating as opposed to merely offensive utterances, as well as to the identity, number, and relationships of the persons involved.
      3. Harassment shall be found where, in aggregate, the incidents are sufficiently pervasive or persistent or severe that a reasonable person with the same characteristics of the victim of the harassing conduct would be adversely affected to a degree that interferes with his or 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 or 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 Saila Gandhi, SDSU Advocacy Officer/Title IX Coordinator (Phone: 605-688-6361, Ad 217). Confidentiality will be maintained to the maximum extent possible in resolving the problem. If a complainant chooses to exercise his or 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.

Student Code of Freedom and Responsibility

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

Trip Regulations

A. Students involved in trips related to **university-sponsored instructional 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 the Vice President for Academic Affairs prior to the trip.

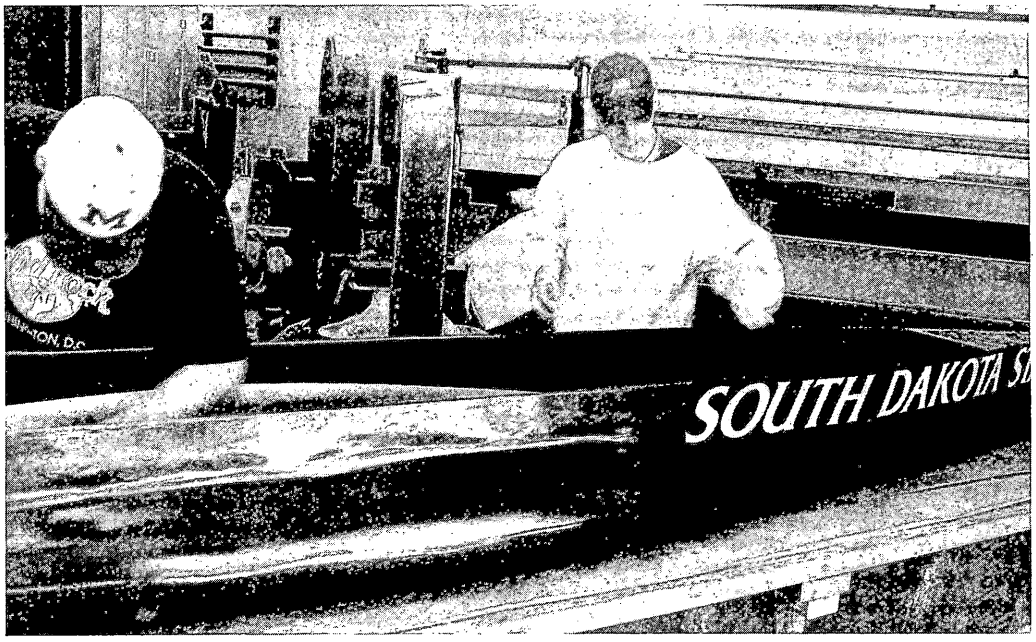
B. Students on university-approved trips are covered by accident-medical insurance. State-owned vehicles may be utilized if criteria established in the policy regulating use of state-owned vehicles are met. Drivers of personal vehicles should have liability insurance.

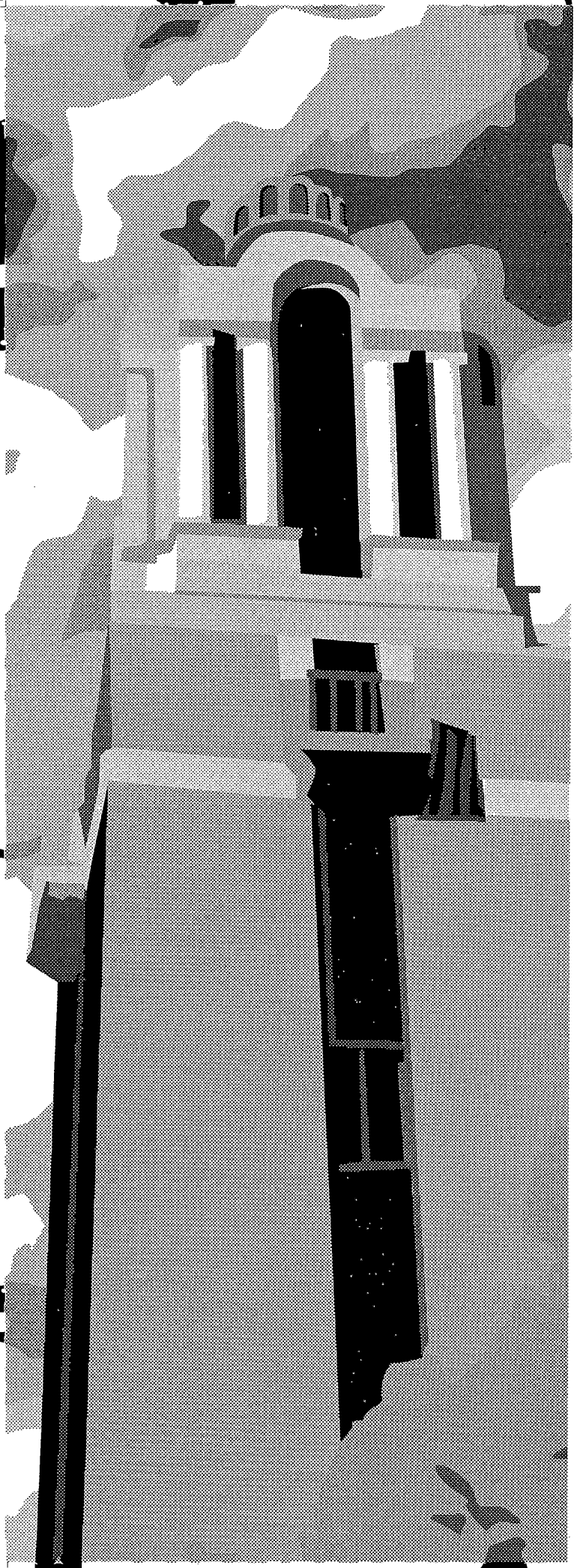
C. Students are eligible for trips if 1) activities of the student have not been curtailed by action of an authorized university judicial body; 2) no single trip shall keep students away from classes more than 5 consecutive class days.

D. The faculty will honor trip absences approved by university officials where individuals or groups are absent in the interest of the University. Differences encountered between student and instructor will be arbitrated by the Vice President for Academic Affairs.

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





Graduation Requirements

General Degree Requirements

Qualities of mind, approaches to knowledge, and personal commitments to be promoted by the SDSU undergraduate general education core requirements.

1. Intellectual and professional competence,
2. Adequate personal development,
3. A sense of social and civic responsibility,
4. A satisfactory adjustment in human relationships.

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 core curriculum.

The General Degree Requirements

A. Completion of **at least 128 semester credit hours** (see individual professional college 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, transfer or at SDSU. The IGPA is based on all course work 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. Resident requirement. Successful completion of at least 32 hours at South Dakota State University with a minimum of 20 credit hours of junior and senior (300-400) level courses, 14 of which need to be at SDSU. (For the two-year Associate of Arts degree program, successful completion of at least 16 hours at South Dakota State University is required.) Credits earned by examination are not counted as resident credit unless an exception has been made because of special program features.

D. Completion of University core requirements as described below (total 42 credits).

E. Completion of all college and major field requirements.

Note: 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.

General Education Core

Qualities of mind, approaches to knowledge, and personal commitments to be promoted by the SDSU undergraduate general education core requirements.

1. **Higher Order Thinking Skills**. Our graduates should be able to reason well, to recognize the relationships which exist among ideas, to recognize when reason and evidence are sufficient, to explore the legitimacy of institution, and to subject inert data to the probing analysis of the mind. The graduate will be capable of dealing with all aspects of critical thinking (inquiry, analysis, synthesis, judgment, imagination, creativity, and others).
2. **Literacy.** Our graduates should be able to read, write, and speak effectively in many different environments. They should be able to manage information effectively and be good listeners.
3. **Numeracy.** Our graduates should be able to use concepts involving sophisticated responses to arguments and propositions which depend on mathematics, numbers and statistics. They should understand data and mathematical reasoning.
4. **Natural Science Understanding.** Our graduates should understand the scientific method and fundamental principles of physical and biological sciences. They should understand the intellectual and philosophical context of scientific observation, research, and debate including the implications of science on humans, social structures, and on the political world.
5. **Social Science Understanding**. Our graduates should have a scientific understanding of human characteristics, including the elements of responsibility and freedom, in spatial, temporal, behavioral, cultural, and institutional contexts.
6. **Humanities Understanding**. Our graduates should have an awareness of what it means to be human and acquaintance with approaches of human nature, ethical reasoning, and ultimate meaning as developed in history, literature, philosophy, religion, languages, and the humanities. Graduates should learn to thoughtfully make choices, assume responsibility for decisions, and have a rationale for their decisions.
7. **Aesthetic Understanding**. Our graduates should be aware of, appreciate, and participate in the arts (music, painting, sculpture, architecture, photography, and other forms) as modes of expressing and understanding the human spirit and of expressing beauty. Graduates should be able to use fine arts to see, hear, and appreciate the importance of disciplined creativity on the shared social fabric that holds a culture together.
8. **International and Multicultural Experience**. Our graduates should appreciate ethnic diversity in the United States and throughout the world. Knowledge and appreciation of ethnic diversity by SDSU students means that they be educated to live and work, now and after graduation, with people from a variety of cultures, ethnic groups, places and abilities.
9. **Commitment to Wellness.** Our graduates should recognize the wisdom of a holistic approach to personal wellness. Wellness is developed in physical, spiritual, emotional, interpersonal, intellectual, and vocational dimensions.
10. **Citizenship.** Our graduates should actively acknowledge that no person stands alone. A responsible person in a democratic society volunteers (time and talents) to serve for the betterment of the community, the state, the nation, and all humankind.
11. **Land Stewardship.** Our graduates should have an understanding and appreciation of the fundamental role that land (including soil, water, organisms, and rock) plays in society and our obligations as stewards of the land.

The 42 credit hour general education core at SDSU is composed of Wellness, 2 cr.; Communications, 9 cr.; Mathematics, 3 cr.; and Liberal Studies, 28 cr.

A. Wellness: 2 cr.

Satisfactory completion of two semester credits of WEL, Skills for Healthy Living (1 credit lecture/1 credit lab taken during the same semester) is required. For students transferring from an accredited institution, PE activity credits from that institution will substitute for the WEL requirement.

Two PE 100 Fitness and Lifetime Activities may be taken as electives and will count toward graduation.

If the student initially transfers to SDSU, and 32 credits or more are accepted in transfer, he/she is exempt from this requirement.

B. Communications: 9 cr.

1. The written communication requirement: 6 credits of English composition are required. Engl 101 Freshman Composition should be taken in the freshman year and Engl 301 (for Engineering students, Engl 301 or 379) should be taken in the junior year.

For students transferring English composition credits from an accredited institution, course equivalency is required. If the course is evaluated as equivalent to Engl 101 or 301 (or 379), regardless of the credits transferred, the requirement has been met.

2. The oral communication requirement: You must obtain satisfactory proficiency in oral communication by completing SpCm 101, Fundamentals of Speech, 3 cr., or by taking an advanced course approved by the Head of the Communication Studies and Theatre Department.

For students transferring speech credits from an accredited institution, course equivalency is required. If the course is evaluated as equivalent to SpCm 101 or an advanced course, regardless of the credits transferred, the requirement has been met.

C. Mathematics: 3 cr.

Satisfactory completion of three credit hours of mathematics at or above the level of college algebra (i.e., Math 143,102, 113, 120 or a Calculus course). Note: Math 010, 101, 140, and 241 will not satisfy the Math Core.

D. Liberal Studies: 28 cr.

Humanities and Fine Arts	6-11 cr.
Natural Sciences (Biological and Physical)	8-13 cr.
Social Sciences	9-14 cr.

To give an intellectual perspective of life's meaning, the faculty has established a core requirement in liberal studies. These courses will provide a foundation in broad areas of general education. Also, they will provide an access to fields of study from which you may choose a major field. These courses can also provide a competent background for building a career in the professional curricula.

Understanding the Great Ideas: Humanities and Fine Arts

Satisfactory completion of 6-11 semester hours‡ of humanities and fine arts with the required hours from at least two disciplines (i.e., Fren, Germ, Span is one discipline; Music and Music Lit is one discipline, etc.). At least three credits must be taken from the Humanities Section.

The humanities are broadly defined as courses concerned with the understanding and expression of ideas, creative processes and critical human encounters. To encourage and facilitate selection of courses from all aspects, the approved courses are listed in two groups. Those in Humanities deal primarily with ideas and attitudes expressed in words, while those in Fine Arts deal primarily with thoughts and feelings expressed through the arts.

‡ A combined total number of 28 semester hours must be taken in Humanities (a minimum of 6 semester hours) **and** Natural Sciences (a minimum of 8 semester hours) **and** Social Sciences (a minimum of 9 semester hours) to satisfactorily meet the Liberal Studies Core Requirement.

Humanities

Art History (ArtH)
- 100 Art and Design Appreciation (3cr)
- 211 Survey of World Art and Architecture (3cr)
- 212 Western Traditions in Art and Architecture (3cr)
- 310 History of U.S. Art and Architecture (3cr)
- 320 Modern Art & Architecture Survey (3cr)

Biology (Bio)
- 383 Bioethics (4cr)

English (Engl)
- 210 Introduction to Literature (3cr)
- 211 World Literature I (3cr)
- 212 World Literature II (3cr)
- 221 English Literature I (3cr)
- 222 English Literature II (3cr)
- 241 American Literature I (3cr)
- 242 American Literature II (3cr)
- 248 Women in Literature (3cr)
- 250 Literature of Diverse Cultures (1-3cr)
- 256 Literature of the American West (3cr)
- 268 Literature: (3cr)
- 330 Shakespeare (3cr)
- 367 American Short Story: (3cr)

European Studies (EurS)
- 300 Topics in European Culture (3cr)

Foreign Languages (FL)
- 134 Foreign Cultures (3cr)

French (Fren)
- 101 Introductory French I (4cr)
- 102 Introductory French II (4cr)
- 201 Intermediate French I (4cr)
- 202 Intermediate French II (4cr)

German (Germ)
- 101 Introductory German I (4cr)
- 102 Introductory German II (4cr)
- 201 Intermediate German I (3cr)
- 202 Intermediate German II (3cr)

Lakota (Lak)
- 101 Introductory Lakota I (4cr)
- 102 Introductory Lakota II (4cr)
- 201 Intermediate Lakota I (3cr)
- 202 Intermediate Lakota II (3cr)

Russian (Russ)
- 101 Introductory Russian I (4cr)
- 102 Introductory Russian II (4cr)
- 201 Intermediate Russian I (3cr)
- 202 Intermediate Russian II (3cr)

Spanish (Span)
- 101 Introductory Spanish I (4cr)
- 102 Introductory Spanish II (4cr)
- 201 Intermediate Spanish I (3cr)
- 202 Intermediate Spanish II (3cr)

Humanities *continued*

History (Hist)
121 History of Western Civilization to 1650 (3cr)
122 History of Western Civilization since 1650 (3cr)
322 Greece and Rome (3cr)
323 Roman Empire and the Early Church (3cr)

Honors (Hon)
301 Honors Colloquium (1-4cr)
302 Honors Colloquium (1-4cr)

Latin American Area Studies (LAAS)
301 Latin American Cultures (3cr)

Music (Mus)
100 Music Appreciation (2cr)
201 History of Country Music (3cr)
301 Blues, Jazz and Rock (3cr)

Music Literature (Mus)
130 Music Literature and History I (2cr)
131 Music Literature and History II (2cr)
230 Music Literature and History III (2cr)
231 Music Literature and History IV (2cr)

Nutrition and Food Science (NFS)
111 Food and People (3cr)

Philosophy (Phil)
100 Introduction to Philosophy (4cr)
200 Introduction to Logic (3cr)
215 Introduction to Social/Political Philosophy (3cr)
220 Introduction to Ethics (3cr)
313 Great Philosophers (2-3cr)
320 Professional Ethics (3cr)
331 Philosophy of Science (3cr)
332 Environmental Ethics (3cr)
383 Bioethics (4cr)

Religion (Rel)
213 Introduction to Religion (3cr)
224 Old Testament (3cr)
225 New Testament (3cr)
237 Religion in American Culture (3cr)
238 Native American Religions (3cr)
331 Feminism and Theology (3cr)
332 Environmental Ethics (3cr)
351 World Religions I (3cr)
352 World Religions II (3cr)

Radio, Television and Film (RTVF)
160 Introduction to Film (3cr)
360 Film Narrative (3cr)

Speech Communications (SpCm)
340 Oral Interpretation (3cr)

Theater (Thea)
100 Introduction to Theatre (3cr)

Fine Arts

Art (Art)
111 Drawing I (3cr)
121 Design I (3cr)
123 Three Dimensional Design (3cr)
212 Figure Drawing (3cr)
231 Painting I–Beginning Level (3cr)
241 Sculpture I–Beginning Level (3cr)
251 Ceramics I–Beginning Level (3cr)
281 Printmaking I–Beginning Level (3cr)

Dance (Danc)
130 Dance Fundamentals (1cr)
240 Multicultural Dance Activities (1cr)

Applied Music (MuAp)
100 101 102 103 Individual Instruction in Voice (1cr)
110 111 112 113 Individual Instruction in Keyboard (1cr)
120 121 122 123 Individual Instruction in Woodwinds (1cr)
130 131 132 133 Individual Instruction in Brass (1cr)
140 141 142 143 Individual Instruction in Percussion (1cr)
150 151 152 153 Individual Instruction in Strings (1cr)

Music Ensembles (MuEn)
100 University Women's Choir/Pasquettes (1cr)
101 Concert Choir (1-2cr)
102 University Men's Choir/Statesmen (1cr)
110 Civic-University Orchestra (1cr)
120 Marching Band (1-2cr)
121 Symphonic Band (1cr)
122 Concert Band (1cr)
180 Jazz Ensemble (1cr)

Theater (Thea)
131 Acting (3cr)
241 Stagecraft (3cr)

Understanding the Natural Sciences: Biological and Physical

Satisfactory completion of 8-13 semester hours‡ of natural science. This must include two courses in sequence from the courses listed as "sequence courses" below **and** any other additional credits from any course listed below in the biological and physical sections so as to equal from 8-13 credits.

SEQUENCE COURSES (Must take one combination of courses in sequence) Bio 101 & 103; Bio 101 & Bot 201; Bio 151 & 153; Chem 100 & 102; Chem 106 & 108; Chem 106 & 120; Chem 112 & 114; Chem 112 & 120; Geog 131 & 132; Phys 111 & 113; Phys 211 & 213; PS 213 & 243.

Natural Sciences

The natural sciences include mathematics and the biological and physical sciences that deal with matter, energy, and their interrelationships and transformations.

‡ A combined total number of 28 semester hours must be taken in Humanities (a minimum of 6 semester hours) **and** Natural Sciences (a minimum of 8 semester hours) **and** Social Sciences (a minimum of 9 semester hours) to satisfactorily meet the Liberal Studies Core Requirement.

Biological Sciences

Biology (Bio)
101 Biology Survey I (3cr)
103 Biology Survey II (3cr)
105 Human Biology (3cr)
151 General Biology I (4 cr)
153 General Biology II (4 cr)
200 Biological Diversity (4cr)

Biological Sciences *continued*

Botany (Bot)
201 General Botany (3cr)

Microbiology (Micr)
231 General Microbiology (4cr)

Nutrition and Food Science (NFS)
221 Survey of Nutrition (3cr)

Plant Science (PS)
305 General Entomology (3cr)

Wildlife & Fisheries Sciences (WL)
110 Environmental Conservation (2cr)

Physical Sciences

Chemistry (Chem)
100 World of Chemistry I (3-4cr)
102 World of Chemistry II (3-4cr
106 Chemistry Survey (4cr)
108 Organic & Biochemistry (5cr)
112 General Chemistry I (4cr)
114 General Chemistry II (3-4cr)
116 Experimental General Chemistry II (1cr)
120 Elementary Organic Chemistry (3-4cr)

Geography (Geog)
131 Physical Geography I (4cr)
132 Physical Geography II (4cr)

Honors (Hon)
304 Honors Colloquium (1-4cr)

Mathematics (Math)
102 College Algebra (3cr)
113 College Algebra and Trigonometry (5cr)
120 Trigonometry (3cr)
123 Calculus I (5cr)
143 Finite Mathematics (3cr)
222 Calculus for Non-Math Majors (5cr)
224 Calculus II (4cr)
225 Calculus III (3cr)

Physics (Phys)
101 Survey of Physics (4cr)
111 Introduction to Physics I (4cr)
113 Introduction to Physics II (4cr)
185 Introduction to Astronomy (3cr)
211 University Physics I (4cr)
213 University Physics II (4cr)

Plant Science (PS)
213 Soils (3cr)
243 Geology (3cr)

Understanding our Social Environment

Satisfactory completion of 9-14 semester hours‡ of social science from at least two disciplines.

Social Sciences

The social sciences are among those courses that broaden your perspectives concerning your own identity, your participation as members of society, your understanding of human interrelationships, and your comprehension of public issues.

‡ A combined total number of 28 semester hours must be taken in Humanities (a minimum of 6 semester hours) **and** Natural Sciences (a minimum of 8 semester hours) **and** Social Sciences (a minimum of 9 semester hours) to satisfactorily meet the Liberal Studies Core Requirements.

Apparel Merchandising (AM)
350 Dress and Adornment in World Cultures (3cr)

Anthropology (Anth)
200 General Anthropology (3cr)
310 Cultural Anthropology (3cr)
421 Indians of North America (3cr)

Consumer Affairs (CA)
291 Consumers and the Market (3cr)

Economics (Econ)
201 Microeconomics Principles (3cr)
202 Macroeconomics Principles (3cr)
301 Intermediate Microeconomics (3cr)
302 Intermediate Macroeconomics (3cr)

Educational Foundations (EdFn)
375 Human Relations (3cr)

European Studies (EurS)
301 Topics in European Society (3cr)

General Engineering (GE)
231 Technology and Society (3cr)

Geography (Geog)
200 Introduction to Human Geography (3cr)
210 World Regional Geography (3cr)
212 Geography of North America (3cr)
219 Geography of South Dakota (3cr)
351 Economic Geography (3cr)

Gerontology (Gero)
201 Introduction to Gerontology (3cr)

Health Science (HSc)
212 Contemporary Health Problems (2cr)

History (Hist)
151 U.S. History to 1877 (3cr)
152 U.S. History since 1877 (3cr)
349 Women in History (3cr)
368 History of the American Indians (3cr)

Honors (Hon)
303 Honors Colloquium (1-4cr)

Social Sciences *continued*

Human Development, Child and Family Studies (HDCF)
- 141 Individual and the Family (2cr)
- 250 The Development of Human Sexuality (3 cr)
- 312 Human Development and Personality II: Adolescence (3cr)
- 313 Human Development and Personality III: Adulthood (3cr)
- 327 Human Development and Personality I: Childhood (3cr)

Pharmacy (Pha)
- 201 Medication and the Consumer (2cr)

Political Science (PolS)
- 100 American Government (3cr)
- 101 American Government Honors (3cr)
- 102 American Political Issues (3cr)
- 165 Political Ideologies (3cr)
- 210 State and Local Government (3cr)
- 253 Current World Problems (3cr)
- 305 Women and Politics (3cr)

Psychology (Psyc)
- 101 General Psychology (3cr)
- 102 Introduction to Psychology (4cr)
- 202 Advanced General Psychology (3cr)
- 327 Child Psychology (3cr)
- 362 Theories of Personality (3cr)
- 366 Psychological Gender Issues (3cr)
- 451 Abnormal Behavior (3cr)

Sociology (Soc)
- 100 Introduction to Sociology (3cr)
- 150 Social Problems (3cr)
- 240 Sociology of Rural America (3cr)
- 250 Marriage (3cr)
- 340 Urban Sociology (3cr)

Women's Studies (WmSt)
- 101 Introduction to Women's Studies (3cr)

Fraction of Credits – Transfer Students

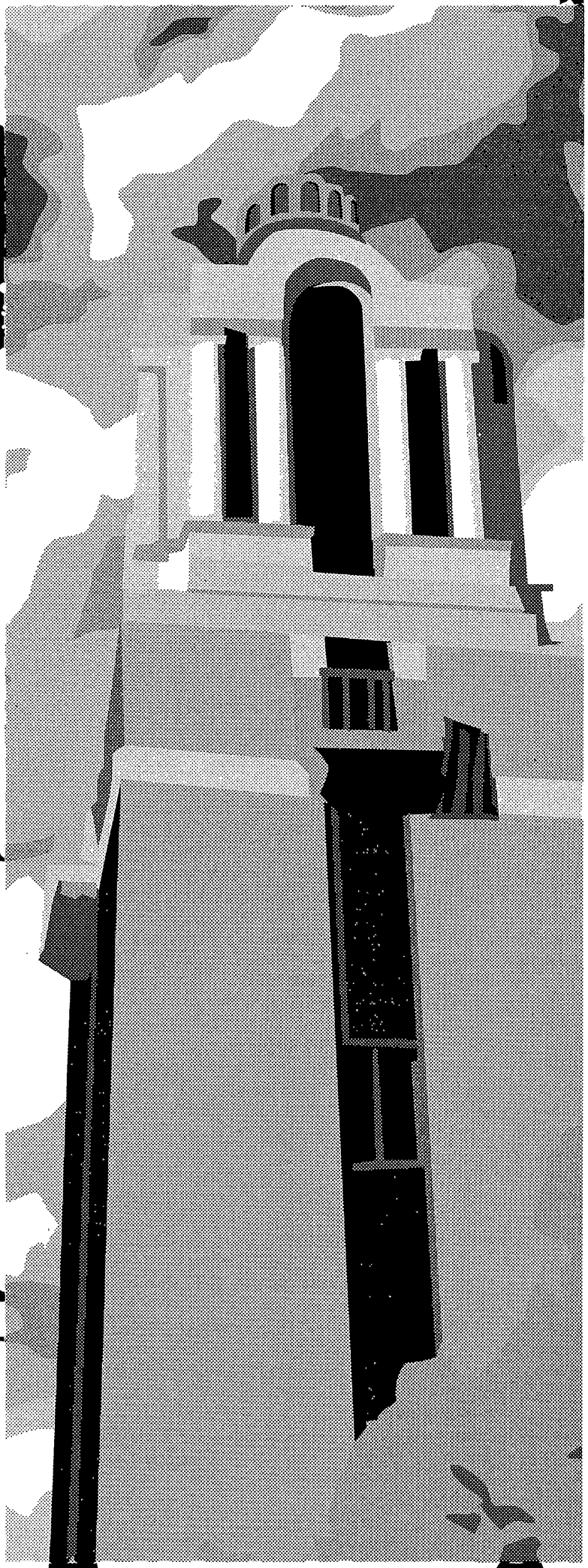
Transfer courses that are in the core areas of Physical Education, Math, Humanities, Social Sciences, and Natural Sciences should be met within a fraction of one credit of what is required in order for that core requirement to be considered met. For instance, if a student transfers in 8 1/3 credits of Social Science credit, that student will have met the 9 credit minimum for the Social Science core. If only 8 credits or fewer have been transferred, then the student must take additional credits from the list of Social Science core courses in the University Catalog to equal the minimum of 9 credits that is required. Total credits toward graduation must include specific College requirements.

College and Major Field Requirements

Courses outlined under the college and major field curricula must be completed to the satisfaction of the head of the major department and college dean. Students **in continuous attendance** have the right to graduate under the catalog curriculum in effect at entry or any subsequent catalog until they graduate. However, necessary substitutions and additional courses may be required to meet the standards of the major field at the time of graduation.

All requirements must be met under the same catalog.

Students who interrupt their college education for more than one year (two regular semesters — fall/spring) re-enter under the new catalog.



Degrees and *Associated Majors*

Degree Definitions

Associate Degree

An associate degree may be a two-year transfer degree that indicates the completion of a student's lower division general education requirements, or it may be a specialized degree designed to prepare a student for entry into a particular occupation upon the completion of the degree.

South Dakota State University provides a two year associate (A.S.) degree program in General Agriculture.

Bachelor's Degree

The bachelor's degree is the academic title conferred on a student by the University for satisfactory completion of a prescribed four to five year course of study. The bachelor's degree enables a student to acquire a certain amount of general learning and to also become proficient in a particular discipline or profession.

At SDSU the credits required for the bachelor's degree range from 128-136. The degrees offered are:

Bachelor of Arts (B.A.)
Bachelor of Science (B.S.)
Bachelor of Science in Education (B.S.E.)
Bachelor of Music Education (B.M.E.)
Bachelor of Science in Technology (B.S.T.)

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. Master's degrees may be designated as academic degrees designed to provide an introduction to scholarly activities and research, or professional master's degrees. SDSU offers M.Ed., M.A., and M.S. degrees.

Doctoral Degree

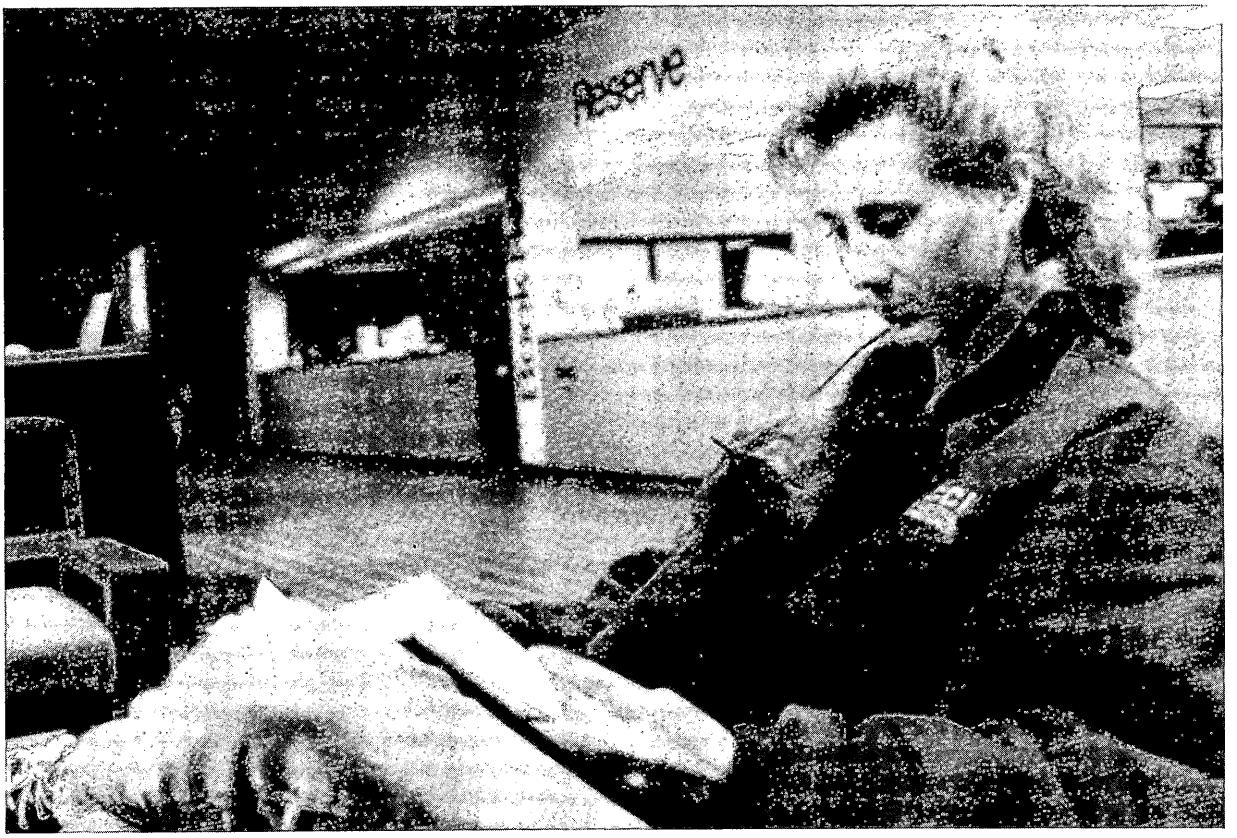
The Doctor of Philosophy (Ph.D.) program is designed to prepare a person to become a scholar, that is, to discover, integrate, and apply knowledge, as well as communicate and disseminate it. A well-prepared doctoral candidate will have developed the ability to understand and evaluate critically the literature of the field and to apply appropriate principles and procedures to the recognition, evaluation, interpretation, and understanding of issues, problems, and ethical questions at the frontiers of knowledge. SDSU offers the Ph.D. degree in these areas: Agricultural Engineering (joint with Iowa State University); Agronomy; Animal Science; Atmospheric, Environmental and Water Resources (joint with South Dakota School of Mines and Technology); Biological Sciences; Chemistry; and Sociology.

Major

An academic major within a degree program enables students to make an in-depth inquiry into a discipline or a professional field of study. It should be 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.

Minor

An academic minor within a degree program enables a student to make an inquiry into a secondary discipline or field of study or to investigate a particular content theme. It too should be organized around a specific set of objectives or questions that are achieved through an ordered series of courses. Minors are intended to provide limited competency in the subject.



Degrees and Associated Majors

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

* See Graduate School Bulletin for majors in these degrees.

All Authorized Majors, Minors and Options

All Authorized Majors, Minors and Options

All Authorized Majors, Minors and Options

All Authorized Majors, Minors and Options

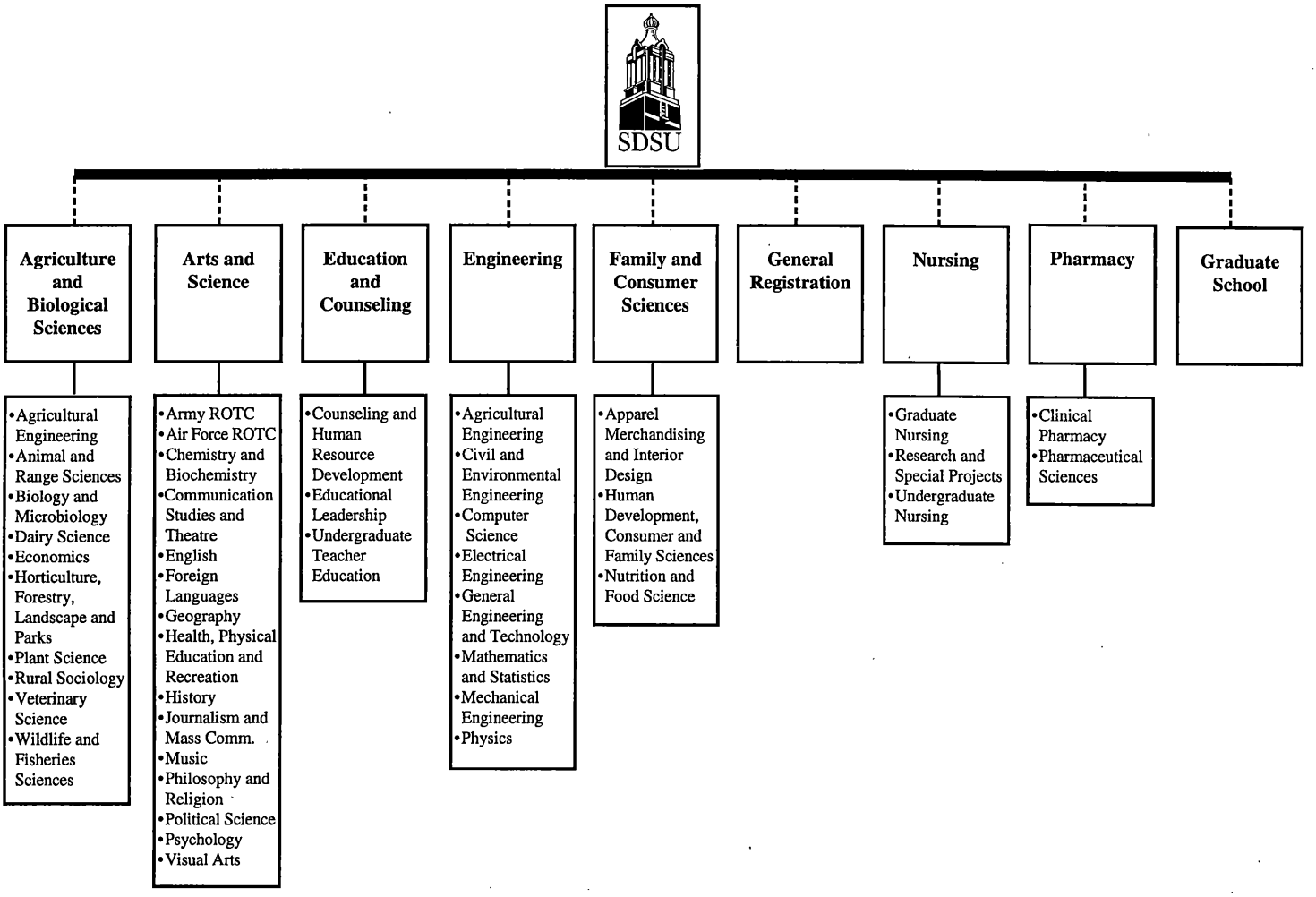
PROGRAM OF STUDY	ADMINISTERED BY	PAGE
Veterinary Science (Pre-Veterinary Medicine)	ABS	95, 163
Vocational Technical Education (B.S.E.D.)	EDUC	163
Wildlife & Fisheries Sciences (B.S., M.S., minor)	ABS/BS	96, 163-164
Women's Studies (minor)	A&S	96, 164
Zoology (E)(minor)	ABS/BS, A&S	96, 164

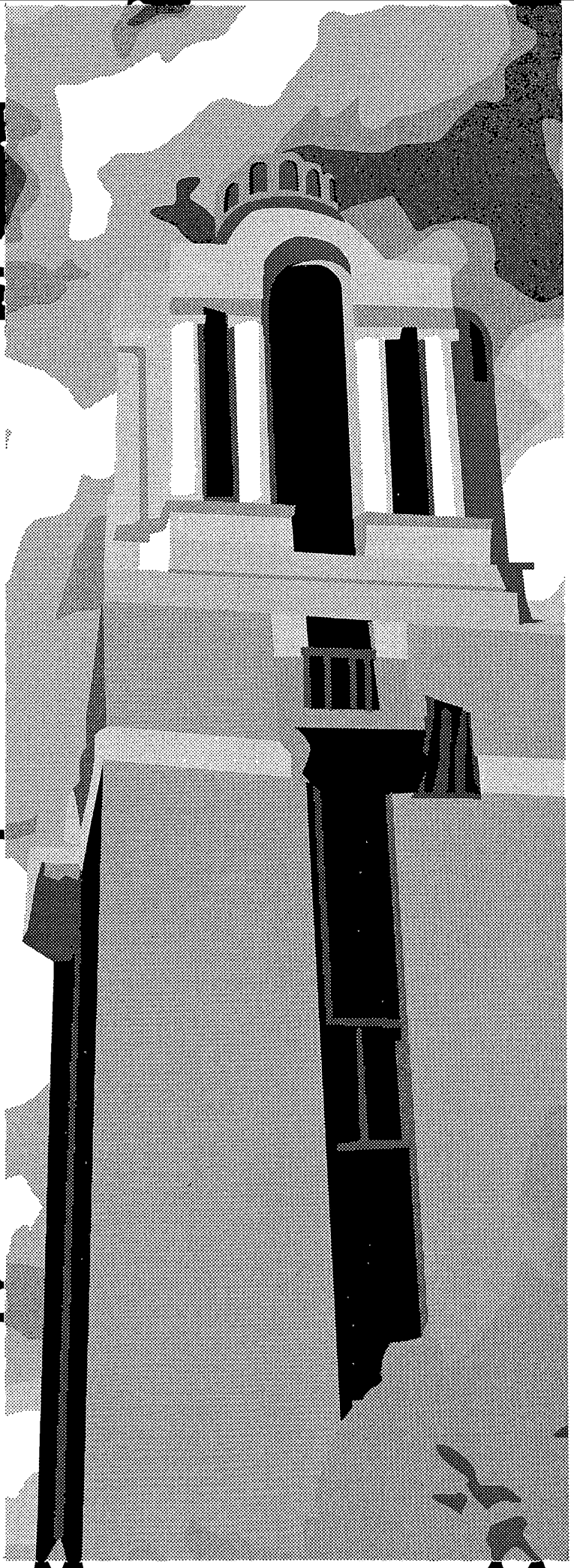
PRE-PROFESSIONAL AREAS OF STUDY	ADMINISTERED BY	PAGE
Pre-Chiropractic (3-4 years)	GR	59-60
Pre-Dental (4 years)	GR	60
Pre-Law (4 years)	GR	61, 92
Pre-Medicine (4 years)	GR	61-62
Pre-Ministerial (4 years)	GR	62
Pre-Mortuary (1-2 years)	GR	62
Pre-Occupational Therapy (2-4 years)	A&S	81, 90
Pre-Optometry (2-4 years)	GR	62
Pre-Physical Therapy (4 years)	A&S	91
Pre-Veterinary Medicine (2-3 years)	ABS	95, 163

KEY TO UNITS ADMINISTERING INDIVIDUAL CURRICULUMS

A&S	College of Arts and Science
ABS/Ag	College of Agriculture and Biological Sciences, Agriculture Curriculum
ABS/BS	College of Agriculture and Biological Sciences, Biological Science Curriculum
ENGR	College of Engineering
EDUC	College of Education and Counseling
FCS	College of Family and Consumer Sciences
GR	College of General Registration
NURS	College of Nursing
PHARM	College of Pharmacy
Grad	Graduate School
VPAA	Vice President for Academic Affairs
*	option (area within a major)
(E)	Education curriculum available with these majors

Organizational Structure of South Dakota State University





Colleges

Agriculture and Biological Sciences

David A. Bryant, Dean, AgH 135, 605-688-4148
Gene Arnold, Associate Dean, Academic Programs, AgH 156, 605-688-5133
Mylo Hellickson, Associate Dean, Extension Service, AgH 154, 605-688-4792
Fred Cholick, Associate Dean, Experiment Station, AgH 129, 605-688-4149
Box 2207, Brookings, SD 57007-0191

Introduction

The academic program in the College of Agriculture and Biological Sciences is two-fold: One deals with the traditional field of agriculture and the other biological sciences. A core curriculum is available in each of these two broad fields of endeavor. Both curricula lead to a Bachelor of Science degree.

Agricultural work is divided into four areas – academic programs, research, extension, and statewide services. Experiments and investigations for the benefit of agriculture are done in connection with problems of livestock, natural resources, field crops, veterinary science, horticultural crops, agricultural economics, dairy, landscape design, and mechanized agriculture. The results of research form the basis for classroom instruction, for extension work, and for a means of answering inquiries coming to the College. The Extension Service takes the work of instruction statewide by bringing results of research to every home.

Agriculture includes technical, professional, and business occupations dealing with producing, processing, and distributing farm products. The agricultural teachers, agricultural researchers, men and women who assist the farmers with their complex needs, farmers and ranchers themselves, processors of farm products, and retailers are all part of modern day agriculture.

Work in **biological sciences** is mainly in the departments of Biology/Microbiology and Wildlife/Fisheries Sciences. One also must realize that biological science is an integral part of all departments that deal with plant and animal sciences. Many future biology teachers, wildlife biologists, plant and animal physiologists and geneticists will find the program in biological sciences a fruitful one to follow.

The biological sciences include all technical and professional occupations dealing with the basic fields of plant and animal life, collectively called biology. Such public agencies as high schools, colleges and universities, park services, fish and wildlife agencies, etc., are all demanding educated individuals capable of assuming responsible positions in society.

Departments/Units

Agricultural Engineering (Ag Systems Technology)
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
Agricultural Communications
Agricultural Experiment Station
Animal Disease Research & Diagnostic Lab
Cooperative Extension Service
4-H
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 Bulletin.

Accreditations/Reviews

American Association of Veterinary Laboratory Diagnosticians (AAVLD)
American Society of Agricultural Engineering (ASAE)
Cooperative State Research Service (CSRS)

Programs

Most students in the College of Agriculture and Biological Sciences will be required to take basic core courses. The greater share of these courses should be taken during the first and second years of college.

Freshmen may enter these curricula without specifying a major. You, however, should make your major and option choice by the last semester of the sophomore year. 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 option, you should report to the Director of Academic Programs for your adviser reassignment.

You must complete a minimum of 25 semester credit hours in courses numbered 300 or above to qualify for the B.S. degree. Math 224-225 Calculus II and III may be counted as five credits toward the total.

At the discretion of various departments a minimum of 24 semester credit hours shall constitute a major; 16 credits a minor.

The core curricula which follow include the overall college and university requirements. You should make every effort to complete these requirements as early as possible in the four-year program.

Agriculture and Biological Sciences Curricula

Major Field	Curriculum	Department Administering
Agricultural Business	Agriculture	Economics
Agricultural Economics	Agriculture	Economics
Agricultural Education	Agriculture	Director of Academic Programs
Agricultural Journalism	Agriculture	Director of Academic Programs
Agricultural Systems Technology	Agriculture	Ag Engineering
Agronomy	Agriculture	Plant Science
Animal Science	Agriculture	Animal & Range Sciences
Biology	Biological Science	Biology & Microbiology
Dairy Manufacturing	Agriculture	Dairy Science
Dairy Production	Agriculture	Dairy Science
Environmental Management	Biological Science	Biology & Microbiology
General Agriculture	Agriculture	Director of Academic Programs
Horticulture	Agriculture	Horticulture, Forestry, Landscape and Parks
Landscape Design	Agriculture	Horticulture, Forestry, Landscape and Parks
Microbiology	Biological Science	Biology & Microbiology
Park Management	Agriculture	Horticulture, Forestry, Landscape and Parks
Pre-Veterinary Science		Veterinary Science
Range Science	Agriculture	Animal & Range Sciences
Wildlife & Fisheries Sciences	Biological Science	Wildlife & Fisheries Sciences

Agriculture and Biological Sciences Curricula

Core Curriculum in Agriculture

Leading to the Bachelor of Science degree

Course	Credits
Wel 100, Skills for Healthy Living and Lab	2
Communications (total 11 cr)	
Engl 101 & 301, Composition	6
SpCm 101, Fundamentals of Speech	3
Communications elective†	2
Social Science (Total 9 cr.)	
Econ 201, Microeconomics Principles **or**	
Econ 202, Macroeconomics Principles	3
Soc 100, Introduction to Sociology	3
Social Science Elective*	3
Humanities electives*	6
Science & Mathematics (total 17 cr)**	
Chemistry, excluding Chem 101	4
Math 102, College Algebra, **or**	
Math 113, Algebra & Trigonometry	3 or 5
Physics, excluding Phys 185	4
Biological Science*	3
Science and/or Math electives§	1-3
Group 1 Courses in Ag (See list following)	12
Departmental and Option Requirements &	
General electives	71
Total Hours for Graduation	128

† Communications elective to be selected from the following:
Engl 379, Technical Communication
MCom 210, Newswriting and Reporting
MCom 313, Publicity Methods
MCom 315, Magazine Writing and Production
MCom 331, Television Production
SpCm 201, Interpersonal Communication
SpCm 315, Public Speaking
SpCm 334, Discussion

* See approved listing, pages 35-38

** 6 credits must be taken from approved sequential course listing.

§ Most department curricula will have specific requirements in this area, but for those which do not, the courses should be selected from the fields of Biology, Botany, Chemistry, Entomology, Geology, Mathematics, Microbiology, Physics, Plant Pathology, Zoology and Wildlife and Fisheries Sciences (Ornithology, WL 363 and Ichthyology, WL 367). Courses in Group I which are of a basic nature, PS 305, PS 223, cannot be counted toward this requirement unless they are over and above the 12 credit minimum for Group I courses.

Group I Courses in Agriculture

A minimum of 12 credits from courses listed below must be selected and should be completed during the first two years. Some departments

require all or specific courses, while others leave the selection entirely to the student and the adviser.

Course	Credits
AgEc 271, Farm & Ranch Management	4
AgEc 354, Agricultural Marketing & Prices	3
AS 101, Introduction to Animal Science	3
AS 233, Applied Animal Nutrition	3
AS 241, Meat: Production to Consumption	3
AST 202, Agricultural Mechanics	2
AST 213, Agricultural, Industrial & Outdoor Power	3
AST 262, Environmental Safety and Society	2
AST 333, Soil & Water Mechanics	3
AST 342, Electricity for Farm & Home	3
DS 130, Introduction to Dairy Science	3
DS 231, Dairy Foods	3
Ho 111, General Horticulture	3
La 201, Introduction to Landscape Design	3
PR 101, Parks and Society	3
PS 103, Crop Production	3
PS 213, Soils	3
PS 223, Principles of Plant Pathology	3
PS 307, Insect Pest Management **or** PS 305, General Entomology	3
Rang 205, Introduction to Range Management	3
WL 110, Environmental Conservation	2

Three options are possible under the core in Agriculture. These options are Business, Science, and Production.

Business Option

For students who plan to enter any of the business phases of agriculture, i.e., sales, administration, public relations, technical advances, etc. Those interested in farming or ranching might also consider this option since these activities are becoming significant business enterprises. **Students selecting this option will complete the general requirements listed in the College Core for Agriculture plus the following requirements to complete their work for a Bachelor of Science degree.** The more specific requirements are listed under the appropriate option in each departmental curriculum.

Course	Credits
Acct 210, Principles of Accounting I	3
BAdm 360, Organization and Management	3
Econ 201, Microeconomics Principles	3
Econ 202, Macroeconomics Principles	3
Business electives*	12

*The business electives must be chosen from the following courses:
- Acct 211, Principles of Accounting II
- AgEc 354, Agricultural Marketing & Prices
- BAdm 310, Business Finance
- BAdm 350, Legal Environment of Business and Contracts
- BAdm 351, Business Law I
- BAdm 380, Personal Finance
- Econ 330, Money and Banking
- Econ 370, Marketing
- Econ 476, Marketing Research
- Stat 341, Statistical Methods I

Science Option

The student who pursues a strong emphasis in the physical and biological sciences will be more able to cope satisfactorily with rapidly occurring scientific advances. This option will also place you in a good position to do graduate work in most agricultural fields. **Students majoring in this option will complete the general requirements listed in the College Core in Agriculture plus the following additional requirements.** The more specific requirements are listed under the appropriate option for each departmental curriculum.

Mathematics, Chem or Physics	15
Biological Science* see approved listing	9

* Courses must be selected from at least 2 of the following areas: Biology, Botany, Entomology, Microbiology, Plant Pathology, Wildlife and Fisheries Sciences, and Zoology.

Production or Technical Option

The student who plans to return to the farm, do extension work, or serve as a fieldperson for breed associations and crop improvement associations will find this the logical option. This option also serves the student well who plans to enter any of the areas of production, such as dairy herd supervisor, greenhouse operator or into the various federal and state agencies upon graduation. **No further courses beyond the General Core for Agriculture are required by the college.** The more specific requirements beyond the core are listed under the appropriate option in each departmental curriculum.

Core Curriculum in Biological Science

Leading to the Bachelor of Science degree

Course	Credits
Wel 100, Skills for Healthy Living and Lab	2
Communications (total 11 cr.)	
Engl 101 & 301, Composition	6
SpCm 101, Fundamentals of Speech	3
Communications elective†	2 or 3
Social Science (total 9 cr.)	
Econ 201, Microeconomics Principles **or** Econ 202, Macroeconomics Principles	3
Soc 100, Introduction to Sociology	3
Social Science elective*	3
Humanities electives*	6
Biological Science (total 12-13 cr)	
Required:	
Bio 101, Biology Survey I **or** Bio 151, General Biology I	3 or 4
Bio 103, Biology Survey II **or** Bio 153, General Biology II	3 or 4
Select two courses from the following:	
Bio 311, Principles of Ecology	3
Bio 343, Cell Biology	3
Bio 371, Genetics	3
Micr 231, General Microbiology	4
Other Science & Mathematics	21-22
Chemistry, excluding Chem 101	12
Math 113 **or** Math 102 and Math 120 **or** Math 123 **or** Math 222	5-6
Physics, excluding Phys 185	4
Departmental Requirements & General electives	65-67
Total Hours toward Graduation	128

† Communications Elective to be selected from the following:
- Engl 379, Technical Communication
- MCom 210, Newswriting and Reporting
- MCom 313, Publicity Methods
- MCom 315, Magazine Writing and Production
- MCom 331, Television Production
- SpCm 201, Interpersonal Communication
- SpCm 315, Public Speaking
- SpCm 334, Discussion

* See approved listing, pages 35-38

Activities

Nationally known agricultural fraternities for men, Alpha Gamma Rho and Farmhouse, and for women, Ceres, are organized on campus and provide living accommodations. 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.

The largest extracurricular activity involving students in the College of Agriculture and Biological Sciences, with participation open to all university students, is the Little International. A two-day function patterned after the International Livestock Exposition in Chicago, Little I is held each year during late winter or early spring. Much experience is gained by students in planning, producing, and managing this event.

Most departments in the College of Agriculture and Biological Sciences have one or more student organizations. You are encouraged to become involved with at least one of these organizations, especially that which is most closely associated with your major field.

Arts and Science

Herbert E. Cheever, Jr., Dean
Allen Branum, Assistant Dean
NHE 251, 605-688-6619
Box 2275A, Brookings, SD 57007-0094
e-mail: cheeverh@mg.sdstate.edu

Introduction

The College of Arts and Science serves two significant functions within the University. It provides instruction in the university 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 fifteen departments in the College of Arts and Science 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 Science.

Departments

Aerospace Studies
Chemistry and Biochemistry
Communication Studies and Theatre
English
Foreign Languages
Geography
Health, Physical Education, and Recreation
History
Journalism and Mass Communication
Military Science
Music
Philosophy and Religion
Political Science
Psychology
Visual Arts

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 Bulletin.

Accreditations

American Chemical Society (ACS)
Accrediting Council on Education in Journalism and Mass Communication (ACEJMC)
National Athletic Training Association (NATA)
National Association of Schools of Music (NASM)

Programs

General Degree Requirements

Below are listed the general requirements for each of the three degrees offered within the college.

Bachelor of Science

Engl 101, Freshman Composition 3
Engl 301, Advanced Composition 3
Wel 100, Skills for Healthy Living and Lab 2
SpCm 101, Fundamentals of Speech 3
Mathematics Core Requirement 3
Humanities (from approved university list, pp. 35-36; see Additional Requirements on next page) 9
Natural Science (from approved university list including two courses in sequence, list on pp. 36-37)
Biological Sciences 6
Physical Sciences 8
Social Sciences (from approved university list, pp. 37-38; see Additional Requirements on next page) 12

Bachelor of Arts

Engl 101, Freshman Composition 3
Engl 301, Advanced Composition 3
Wel 100, Skills for Healthy Living and Lab 2
SpCm 101, Fundamentals of Speech 3
Mathematics Core Requirement 3
Modern Language* (201, 202 in one language) 6-14
Humanities (from approved university list, pp. 35-36, from discipline other than a foreign language) 6
Natural Sciences (from approved university list including two courses in sequence, list on pp. 36-37) 8
Social Sciences (from approved university list, pp. 37-38; see Additional Requirements on next page) 12

* International students whose native language is not English may substitute 14 credits in "American Culture" courses for the foreign 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 Science for permission to follow this option.

Bachelor of Music Education

Engl 101, Freshman Composition 3
Engl 301, Advanced Composition 3
Hist 368, History of the American Indians **or**
Anth 421, Indians of North America 3
Wel 100, Skills for Healthy Living and Lab 2
Psyc 101, General Psychology 3
SpCm 101, Fundamentals of Speech 3
Mathematics Core Requirement 3
Humanities (from approved university list, pp. 35-36; 8 hours of Foreign Language recommended; 5 hours must be in discipline(s) other than music) 11
Natural Science (from approved university list including two courses in sequence, list on pp. 36-37) 8
Social Sciences (from approved university list, pp. 37-38) 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 Counseling 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 Science. In addition, the following special requirements and rules have been established for all graduates of the College of Arts and Science:

1. The requirements of one of the College of Arts and Science 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. 40 semester credits must be upper division (300 and above).
3. Six credits must be taken in the area of International Studies. These courses may duplicate humanities or social science core courses. The lists of courses that count toward the International Studies requirement are below.
4. No more than 6 credits in one discipline may be counted toward the humanities or social science core requirements for any College of Arts and Science degree.

The following courses fulfill the International Studies Requirement (#3 above)

Students may fulfill their university core and international studies requirements with the same course. Courses marked with an asterisk (*) are also part of the university core.

International Studies/Humanities

ArtH 100*	Art and Design Appreciation
ArtH 211*	Survey of World Art and Architecture
ArtH 212*	Western Traditions in Art and Architecture
Danc 240*	Multicultural Dance Activities
Engl 211*	World Literature I
Engl 212*	World Literature II
Engl 221*-222*	English Literature I & II
EurS 300*	Topics in European Culture
FL	All courses except FL 420
Fren	All courses
Germ	All courses
Span	All courses
Russ	All courses
Hist 121*-122*	History of Western Civilization
Hist 322*	Greece and Rome
LAAS	All courses
Mus 230*	Music Literature and History III
Mus 231*	Music Literature and History IV
Phil 423	Political Philosophy
Phil 424	Modern Political Philosophy
Rel 351*	World Religions I
Rel 352*	World Religions II

International Studies/Social Sciences

Anth 310*	Cultural Anthropology
Econ 404	History of Economic Thought
Econ 405	Comparative Economic Systems
Econ 440	Economics of the International Sector
Econ 460	Economic Development
EurS 301*	Topics in European Society
Geog 200*	Introduction to Human Geography
Geog 210*	World Regional Geography
Geog 313	Geography of Latin America
Geog 314	Geography of the Former USSR
Geog 315	Geography of Europe
Geog 316	Geography of Asia
Geog 317	Geography of Africa
Hist 325	Medieval History
Hist 342	English History since 1688
Hist 345	History of Russia
Hist 418	History of Latin America
Hist 447	Modern Germany
LAAS	All Courses
PolS 165*	Political Ideologies
PolS 253*	Current World Problems
PolS 341	European Democratic Governments
PolS 343	Russian Politics
PolS 345	Canada
PolS 347	Latin American Politics
PolS 350	International Relations
PolS 446	China and Asian Politics

Activities

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

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 Madison and Brookings.

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, Opera Workshop, and Madrigal.

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

Dee Hopkins, Dean
Wen 108, 605-688-4321
Box 507, Brookings, SD 57007
e-mail: hopkinsd@ur.sdstate.edu

Introduction

The College of Education and Counseling offers programs leading to initial certification, continuing growth, and professional development for teachers, administrators, and counselors. The College designs and teaches its courses to promote student construction and generation of knowledge that will be useful to them in their lives and in their professional world.

Governance Structure

The College of Education and Counseling is the governance unit within SDSU that is primarily responsible for the preparation of teachers and other professional education personnel. All professional education programs are organized, unified, coordinated, monitored, and governed by the unit. The Dean of the College of Education and Counseling, who also serves as Director of Teacher Education, reports directly to the Vice President for Academic Affairs and is officially recognized as having decision-making responsibility and authority for the overall administration and operation of the unit. In this governance, the Dean is assisted by three departments and the Teacher Education Faculty which consists of SDSU faculty across campus who teach professional education courses.

Mission

The mission of the College of Education and Counseling is to help its students construct knowledge, skills, and attitudes fundamental to becoming competent and developing professionals in a pluralistic and democratic society.

The Constructivist Framework

Faculty from the College of Education and Counseling have established Constructivism as a unifying framework. Constructivism holds that:

- Knowledge is constructed. Individuals and groups construct their understandings of the world about them.
- Learning is an active process of constructing knowledge. A learner's past knowledge and experiences strongly influence the construction of new knowledge.
- Teaching well demands learner-centered instruction compatible with the learning process. Students need active involvement with ideas so they can construct "generative" knowledge useful throughout life.

Objectives

1. Prepare students to teach in middle and secondary schools.
2. Provide for the continuing growth of teachers, school administrators, counselors, and other school service personnel through summer school sessions and off-campus courses.
3. Provide course work at the graduate level designed for school administrators, counselors, classroom teachers, specialized school workers, and related occupations.
4. Cooperate with the South Dakota Division of Education in public school curriculum revision, in-service education, and educational research.
5. Cooperate with professional education, administration, and counseling organizations in advancing the welfare of education in the state.
6. Organize and conduct conferences and workshops for the improvement of education, administration, and counseling in South Dakota.
7. Provide consultant services to schools and agencies of the state.

Preparation for Teaching

Individuals considering a career in education should have personal attributes and interpersonal skills appropriate for working with people. It is also essential that you have an adequate general education background, usually attained in the first two years of college, along with a specialized background gained through at least one major in the subject you expect to teach.

In addition, you should consider taking coursework in subjects outside of your major. Because of the nature of the curricula in small and medium sized high schools, a more general preparation of teachers is desirable. Since teachers may expect to teach in more than one area of specialization, additional coursework, along with the major, can enhance their preparation.

For example, in science, teachers should plan their preparation for all typical subjects taught in science in middle or secondary schools, rather than in just one specific science area such as biology or chemistry. In social studies, teachers should plan their preparations for various areas in social studies rather than just one special area such as history or sociology. It is also advisable for teachers to acquire expertise in directing one or several extra-curricular activities.

It is important that you see your education advisers early in order to plan the necessary coursework.

Departments

Counseling and Human Resource Development
Educational Leadership
Undergraduate Teacher Education

Degrees Offered

Bachelor of Science in Education
Vocational Technical Education
Master of Education*
Master of Science*

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

Teacher preparation is also available at the baccalaureate level. The degree is earned in a subject matter discipline with teacher education as second field.

Accreditations

National Council for the Accreditation of Teacher Education Programs (NCATE)
Council for Accreditation of Counseling and Related Educational Programs (CACREP)
South Dakota Department of Education and Cultural Affairs

Programs

The College of Education and Counseling's chief undergraduate purpose is teacher education in the following areas: Agriculture, Art, Biology, Chemistry, Computer Science, Economics, English, Family and Consumer Sciences Education, Journalism, Foreign Language – German and Spanish, Geography, Health and Physical Education, Coaching, History, Mathematics, Music – Instrumental and Vocal, Physics, Political Science, Psychology, Sociology, Speech, and Vocational Technical Education.

The Graduate Programs in Education are designed to provide professional preparation beyond the Bachelor's degree. The programs include the following options:

1. M.Ed. – Curriculum and Instruction
2. M.Ed. – Educational Administration
3. M.S. – Counseling and Human Resource Development

For further information consult the graduate bulletin.

For a statement of specific requirements for the different administrator's certificates, the student should write the South Dakota Department of Education - Cultural Affairs or consult with the Dean of the College of Education and Counseling.

SDSU provides **Agricultural Education** teacher training that meets the requirements of the State Board of Education. Graduates are certified as vocational educators.

Vocational Teacher Education:

The Bachelor of Science in **Vocational 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 or have occupational experience are eligible for this program. To attain certification, students must meet the certification requirement of the State Department of Education and Cultural Affairs.

The majority of students enrolling 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, telecommunications and via the Rural Development Telecommunications Network (RDTN). For more information please contact the undergraduate department of teacher education.

Admission to K-12 Teacher Education
(In 22 various subjects)

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

Admittance into Professional Semester I:

In order to register for the two courses of Professional Semester I, a student must be at least a sophomore either at the beginning or end of the semester in which he or she is taking the Professional Semester I courses.

Admittance into Professional Semester II:

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

1. achieved a sophomore status (32 credit hours) at the University,
2. completed Professional Semester I with grades of "C" or better and be recommended by PSI faculty,
3. an overall GPA of 2.5 or higher,
4. completed Psyc 101 or Soc 100,
5. met competency requirements:
   English: a grade of "C" or above in Freshman Composition 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 a higher level math course or credit by examination (or a national percentile rating of 50 or above on the ACT Assessment "Mathematics Usage")
   Speech: A grade of "C" or above in SpCm 101, Fundamentals of Speech or credit by examination,
6. completed an application for Admission to Teacher Education which includes appropriate biographical information, **and**
7. a current transcript on file in the Education Office.

Admittance into Professional Semester III:

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

1. achieved senior standing at the University,
2. been admitted to the Teacher Education program and successfully completed all standard requirements therein (or alternatives decided by the Admissions and Scholastic Standards Committee),
3. successfully completed all prerequisite coursework for the professional education program, including special methods courses* in one's major field, the Indian Studies requirement, and the computer requirement,
4. have the following minimum GPA's:
   a. Education courses 2.6
   b. Courses in the major 2.6
   c. Overall Cumulative 2.5
   or
   completed all competency plans and/or other activities prescribed by the Admissions and Scholastic Standards Committee,
5. recommendations on file in the Education Office from both the major adviser and the content methods instructor (these recommendations must include the student's GPA in their major),
6. met with the "Supervisor of Field Experiences" before October 1 (for those student teaching in Spring) or February 1 (for those student teaching in Fall) and completed an Application for Student Teaching (Rather than wait for these deadlines, it is advisable to complete this application at least the semester before Professional Semester III),
   and
7. non-probationary status.

* See major department section for special methods courses.

Recommendation for Certification

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

1. an approved bachelor's degree,
2. receive satisfactory student teaching recommendations from both the cooperating teacher(s) and university supervisor,
3. maintained the following minimum GPA's:
   a. Education courses 2.6
   b. Courses in the major 2.6
   c. 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), **and**
5. applied for certification through the Certification Officer in the College of Education and Counseling.

Education Curriculum for Teachers of Academic Subjects

Professional Semester I

(Sophomore or Junior Year)	**F**	**S**
EdFn 375, Human Relations	3	or 3
SeEd 287, Practicum/Professional Laboratory Experience	2	or 2
*Psyc 101,General Psychology **or**	2	or 2
*Soc 100, Introduction to Sociology	3	or 3

Professional Semester II

(Junior or Senior)	**F**	**S**
EdFn 365, Integrating Computers into the Curriculum	2	or 2
EPsy 302, Educational Psychology	2	or 2
SeEd 314, Supervised Clinical/Field Experience	1	or 1
SeEd 450, The Teaching of Reading	3	or 3
Hist 368, History of the American Indians, **or**		
Anth 421, Indians of North America	3	or 3
Special Methods (depending on student's major)	3	or 3
Electives:		
EPsy 303, The Exceptional Child	3	
EdFn 338, Foundations of American Education	3	or 3

Professional Semester III

(Senior Year)	**F**	**S**
SeEd 400, Curriculum & Instruction in Secondary Schools	3	or 3
SeEd 410, Social Foundations, Management, and Law	2	or 2
SeEd 420, Teaching Special Needs Students	1	or 1
SeEd 488, Supervised Teaching Internship	10	or 10

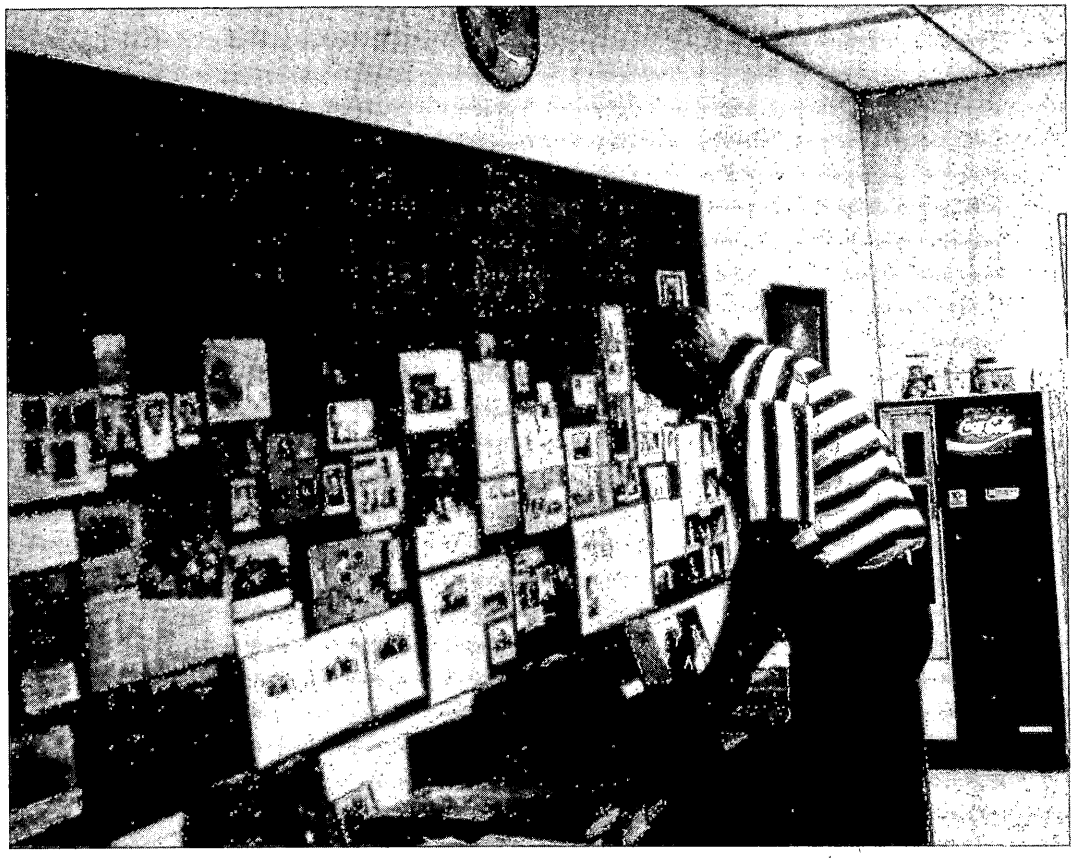
* Psyc 101 or Soc 100 is a prerequisite to education courses but does not count as education credit for the teaching certificate. In order to complete the Education Curriculum as outlined above, the prospective teacher should take Psyc 101 or Soc 100 in the freshman or sophomore year.

Teaching Certificates

Teaching certificates in South Dakota are issued by the South Dakota Department of Education - Cultural Affairs. The secondary certificate qualifies the holder to teach subjects in secondary and middle school/junior high grades, and in some cases elementary grades. The certificate states the subjects or subject groups in which the individual may teach.

Placement Service

Placement for graduates and former students of the university who are prepared to teach is provided by the Placement Service. The Placement Service also serves local school officials by helping them contact qualified teachers. There is an enrollment fee.



Engineering

Duane E. Sander, Dean
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Introduction

The College of Engineering offers a variety of courses with a faculty characterized by high academic attainment and significant accomplishments in engineering practice, science, and technology. Undergraduate professional programs are offered leading to baccalaureate degrees in Agricultural Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Engineering Physics, Computer Science, Electronics Engineering Technology, Construction Management, and Manufacturing Engineering Technology. In addition to the undergraduate degree programs, course selections are available from the broad offering of undergraduate courses for specializations in each program. Graduate programs are available in engineering, the sciences, mathematics and industrial management.

Goals for Science Engineering and Technology

The college programs endeavor to develop the ability to apply logical thought and practical actions to the identification, description, and solution of problems. If you are a mature student who aspires to contribute to the solution of society's problems, you are invited to consider the wide range of engineering, science, and technology programs.

The Students

Students in the College of Engineering are interested in solving problems through logical and creative design. They possess an interest in having things work, enjoy topics in mathematics, technology and the sciences, and they have a strong desire to help improve the standard of living for all people.

Academic Advising

Each student in the College of Engineering works closely with an academic adviser to develop the proper course of study for a chosen field and corresponding curriculum. The adviser assists in course selection, program plans, choosing elective courses, discussing employment opportunities, evaluation of transfer credits and general student questions regarding the profession. The adviser is a student's most important resource during progression to graduation.

A student interested in Civil Engineering, Electrical Engineering or Mechanical Engineering initially enrolls as a pre-engineering major in the College of Engineering. These three programs have enrollment limits and a student may apply for admission into Civil Engineering, Electrical Engineering or Mechanical Engineering after completing a 1-year pre-engineering program. Selection for the professional programs in these departments is competitive and the control is based on quality.

A student's acceptance into CE, EE or ME is based on prerequisite preparation, the cumulative grade point average (CGPA) and class standing after completion of the 1-year program. The number of students accepted into these majors will also depend on regional and national needs and the resources of the College of Engineering. You must contact the department head for the application details.

Graduates of the Engineering College

Engineering college graduates are professionals sought after by firms throughout the state, region, nation, and world. They hold positions in areas of design, manufacturing, technical sales, as well as management at all levels, from project managers to executive officers. Our graduates are also successful in graduate schools and the professions of law and medicine. Many also seek and attain professional registration, certification and other licensure throughout the United States and the world.

Departments/Units

Agricultural Engineering
Civil and Environmental Engineering
Computer Science
Electrical Engineering
General Engineering and Techonology (Electronics Engineering Technology, Construction Management, Manufacturing Engineering Technology)
Mathematics and Statistics
Mechanical Engineering
Physics
Engineering Resource Center
Northern Great Plains Water Resources Research Center

Degrees Offered

Bachelor of Science
Bachelor of Science in Technology
Master of Science*
Doctor of Philosophy*

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

Accreditations

The programs in Agricultural 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).

Programs

The College of Engineering offers the following degrees: Bachelor of Science in Agricultural Engineering, Civil Engineering, Computer Science, Electrical Engineering, Mechanical Engineering, Engineering Physics; Bachelor of Science in Technology in Construction Management, Electronics Engineering Technology, and Manufacturing Engineering Technology; Bachelor of Science in Arts and Science with majors in Physics and Mathematics; Master of Science in Engineering and Master of Science in Industrial Management; the Doctor of Philosophy in Atmospheric, Environmental, and Water Resources (cooperative with South Dakota School of Mines and Technology); and the Doctor of Philosophy in Agricultural Engineering (cooperatively with Iowa State University).

Family and Consumer Sciences

Laurie Stenberg Nichols, Dean
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Introduction

The College of Family and Consumer Sciences prepares people for a variety of professional roles which are interdisciplinary in nature. Some majors within the College are directly related to the family and its traditional functions, such as human development and family studies. With this major, graduates are primarily prepared for careers in social service, community or government agencies, or business. Other majors are derived from functions that were traditionally performed by the family but now are often carried out by business and industry. Hotel, restaurant and institution management, apparel merchandising and interior design are examples of these majors. General programs in the College of Family and Consumer Sciences prepare graduates for employment in formal and non-formal education, and community service.

The College of Family and Consumer Sciences works within the structure of the University's goals to:

1. prepare professionals to enter the field of Family and Consumer Sciences as generalists or as specialists in areas of food, shelter, clothing and human development.
2. contribute to the general education of all students at South Dakota State University.
3. provide services to families, non-professional and professional groups throughout South Dakota.
4. perform research to benefit families and further the economy of the state.
5. provide a viable graduate program that leads to a Master of Science degree in Family and Consumer Sciences with concentrations in Human Development, Consumer and Family Sciences, or Nutrition and Food Science.

Departments

Apparel Merchandising and Interior Design
Human Development, Consumer and Family Sciences
Nutrition and Food Science

Degrees Offered

Bachelor of Science
Master of Science*

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

Accreditations

American Dietetic Association (ADA)
American Association of Family and Consumer Sciences (AAFCS)
National Association for Education of Young Children (NAEYC)
National Council for Accreditation of Teacher Education (NCATE)

Programs

All programs in Family and Consumer Sciences focus on the interactions of family and their environment: 1) the study of the inter-relationships of food, shelter, clothing and interpersonal relations as they affect the individual and the family; and 2) the interaction of the family with other social systems and with the physical environment. All students in family and consumer sciences complete 6 credits of core courses which provide content and experiences for understanding these inter-relationships and interactions.

The College is organized into three departments offering 8 majors and several options.

Family and Consumer Sciences Curricula

Department	Major Field	Options
Apparel Merchandising and Interior Design	Apparel Merchandising Interior Design	
Human Development, Consumer and Family Sciences	Human Development and Family Studies Family and Consumer Sciences Education Consumer Affairs Early Childhood Education	 Cooperative Elementary Education Certification – BHSU, DSU
Nutrition and Food Science	Nutrition and Food Science Hotel, Restaurant and Institution Management	Dietetics Food Science

Curriculum

Students enrolled in the College of Family and Consumer Sciences must meet the University Core requirements and the College of Family and Consumer Sciences Core requirements to qualify for the Bachelor of Science degree. Students must also successfully complete at least 32 hours at SDSU with a minimum of 20 credit hours of junior and senior (300-400) level courses.

In addition, each major area of study has specific required courses pertinent to the respective major area.

Minor changes occurring in programs are reflected in program guide sheets issued once a 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.

Exploratory courses for those interested in specific majors offered through the College of Family and Consumer Sciences are:

AM 121, Apparel in Popular Culture
CA 130, Coping Skills for Consumers
HDCF 141, Individual and the Family
HDCF 327, Human Development and Personality I:Childhood
ID 211, Design in the American Home
ID 221, Introduction to Interiors and Housing
NFS 111, Food and People
NFS 171, Introduction to the Hospitality Industry
NFS 221, Survey of Nutrition

Minors

Minors can be earned in each of the three departments in the college. The minors are Nutrition, Interior Design, Consumer Affairs, Apparel Merchandising, and Human Development and Family Studies. Combining one of these minors with a major in one of the other departments in the college or with majors in other colleges at SDSU can strengthen preparation and employment opportunities. Also, an interdisciplinary minor in Gerontology, the study of the elderly, is available.

Experiential Education

All majors in the College of Family and Consumer 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 Program in Family and Consumer Sciences

Those pursuing the M.S. degree in Family and Consumer Sciences 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 Bulletin obtained from the Dean of the Graduate School, South Dakota State University, Box 2201 Brookings, South Dakota, 57007-1998.

General Registration

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Introduction

Students enrolling in the College of General Registration have elected to explore their abilities, interests and educational alternatives before declaring a major. Through General Registration, a student will receive assistance that helps them make wise major/career choices. Most undeclared major students who enroll in General Registration will transfer to a degree granting college before they reach sophomore status. Pre-professional General Registration students usually transfer to degree programs in their sophomore year and maintain their pre-professional status as a secondary designation.

Departments/Units

The College of General Registration does not have a departmental administrative structure. Student service programs are organized and delivered with the following programmatic emphasis: Academic Development, Career Development, and Employment Development.

Degrees Offered

The College of General Registration does not offer a degree program, it is designed for undeclared pre-majors, pre-professional students and those who simply want to take a variety of courses.

Accreditations

The College of General Registration activities are covered by the institutional accreditation through the North Central Association.

Programs

Undeclared Majors

General Registration allows you to begin college work without declaring a major.

If you enroll under this classification you are assisted in planning a basic college program and are encouraged to explore various fields of study. Academic advisers help you explore your interests, aptitudes and abilities. The College of General Registration offers a one credit course titled "CHRD 101, Academic and Career Exploration" which assists with career decision making strategies. New undeclared freshmen at SDSU are encouraged to enroll in this course.

A suggested freshman year schedule follows. You would work with your academic adviser to plan a program to meet your own interests and needs. General Registration enrollment is normally for the freshman year. In order to gain acceptance to a degree granting college students should maintain at least a "C" grade average.

Suggested Undeclared Major Program

Freshman Year	F		S
CHRD 101, Academic and Career Exploration	1	or	1
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra (or prescribed math course)	3	or	3
SpCm 101, Fundamentals of Speech	3	or	3
Wel 100, Skills for Healthy Living and Lab	2	or	2
Humanities Core Courses	3	or	3
Social Sciences Core Courses	3		3
Biological or Physical Science Core Courses	3-4		3-4
Career Exploration and Interest Area Courses	3		3

Pre-Professional (http://www.sdstate.edu/preprof)

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

If you wish to qualify for admission to the professional schools of medicine, dentistry, optometry, law or others that require pre-professional education, you may wish to start in the College of General Registration. While enrolled in General Registration, 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. Consult the catalog of the professional institution you plan to attend for adjustments in these programs. Nearly all of the professional school exams are now administered on campus.

Pre-Chiropractic Program

Adviser: Ms. Katherine Erdman

Candidates for admission to chiropractic colleges accredited by the Council on Chiropractic Education are required to have a thorough grounding in the basic sciences–biology, chemistry, physics–as well as a general education in the humanities and social sciences.

You must complete at least 60 undergraduate credits to be considered for admission to chiropractic college. Approximately half of those accepted have baccalaureate degrees. Pre-professional training and academic standing of the applicants must meet the standards of the school selected.

A suggested curriculum includes:

Recommended Course Schedule: (assuming a 4-year degree plan)

Freshman Year Courses	Credits
College Algebra (Math 102) or higher	3-5
General Chemistry I (Chem 112) prerequisite to Chem 114	4
General Chemistry II (Chem 114)	4
General Biology (Bio 151)	4
General Psychology (Psych 101)	3
Freshman Composition (Engl 101)	3
Fundamentals of Speech (SpCm 101)	3
Wellness (Wel 100 plus lab)	2
Social Science/Humanities/Major courses	4-6

Sophomore Year Courses	Credits
Organic Chemistry (Chem 326) prerequisite to Chem 328	4
Organic Chemistry (Chem 328)	4
Introduction to Physics I (Phys 111)	4
Introduction to Physics II (Phys 113)	4
Social Science/Humanities/Major/Minor courses	15-17

Junior Year Courses	Credits
Advanced Composition (Engl 301)	3
Anatomy (Zool 221)	3
Mammalian Physiology (Zool 325)	4
Human Nutrition (NFS 321)	3
Social Science/Humanities/Major/Minor courses	15-17

Senior Year Courses	Credits
Remaining courses for Major, Minor	30-34
Social Science & Humanities requirements	

Make application to chiropractic college early fall semester.

Your adviser can provide assistance in selecting a major or electives to meet your goals. Students who are not planning to pursue a degree should meet with the adviser to prepare a plan of study.

Pre-Dental

Adviser: Dr. Nels Granholm

Candidates for admission to dental schools usually have a rigorous undergraduate preparation. Subjects developing scientific curiosity and knowledge, such as chemistry, physics, biology and mathematics, should be taken, as well as those that develop understanding of human relations and general social awareness.

Dental schools in the U.S. require three years of college education, and most prefer baccalaureate degree candidates. The Council on Dental Education supports the trend in admission policies which encourages the acquisition of a baccalaureate degree prior to dental school enrollment.

There are basic pre-dental education subjects that must be completed prior to gaining admission to a dental school. Since dental schools vary as to the required pre-dental education subjects, it is recommended that the pre-dental student consult two or three dental college catalogs to determine specific entrance requirements. Many dental school catalogs are available in The Career and Academic Planning Center. If you specify a pre-dental program choice you will be assigned to a pre-dental adviser who will help secure additional information on the requirements for admission to a dental school of your choice.

Admission to dental college is selective. You should prepare to meet the requirements of two or three colleges of your choice. Above average grades are required in pre-dental courses. Students who fail to maintain a B average should be prepared to make alternate career choices.

Requirements for admission to all accredited schools of dentistry include credit for one full year of English, biology, physics, general chemistry, and organic chemistry. These are minimum basic requirements.

The outlined program for pre-dental students is intended to serve as a guideline to meet the requirements of most of the dental colleges in the U.S. Variations in the program may be arranged with the pre-dental adviser to meet the requirements of a particular school of the student's choice.

Freshman Year	F	S
Chem 112-114, General Chemistry I-II	4	4
Engl 101, Freshman Composition **and** SpCm 101, Fundamentals of Speech	3	3
Math 102, College Algebra and Math 120, Trigonometry; **or** Math 113, Algebra and Trigonometry **and** Math 123, Calculus I	3-5	3-5
Wel 100, Skills for Healthy Living and Lab	2	or 2
Social Science Electives	3	5
Humanities Electives	3	or 3

Sophomore Year	F	S
Bio 151-153, General Biology I-II	4	4
Chem 326-328, Organic Chemistry	4	4
Phys 111-113, Introduction to Physics I-II	4	4
Psyc 101, General Psychology	3	3
Electives	2-3	2-3

Junior Year and/or Senior Year

Plan courses according to your SDSU College and major requirements and the dental college catalog of your choice. Enroll in English 301 in Junior year to complete English requirements.

Pre-Law

Adviser: Dr. Robert Burns

The formal academic training for law includes, with few exceptions, four years as an undergraduate leading to a bachelor's degree and three years in law school. Entering students who are undecided as to major choice and desire to prepare for law school may enroll in the College of General Registration. However, you will be required to declare an academic major during your freshman or sophomore year. If you enroll under this classification you are assisted by a Pre-Law adviser in planning your courses of study. Entering students who have chosen a major and desire also to prepare for law school enroll in the college at SDSU that offers this particular major. They may request pre-law as an emphasis and be assigned to a pre-law adviser who will assist them in planning course schedules.

The pre-law student should be involved in an undergraduate program which is intellectually challenging and which requires rigorous academic discipline. No specific subjects are prescribed for law school admission. You may select any undergraduate major available at SDSU. Law schools welcome and encourage a variety of educational backgrounds among their students. Breadth and intellectual maturity are more important than particular subject matter. However, law schools do recommend that the pre-law curriculum be carefully selected.

A reasonable exposure to such subjects as political science, history, literature, English composition, economics, sociology, and philosophy will provide a good background for the full appreciation of the law. An important skill in law school is writing ability so undergraduate courses that develop this skill should be stressed. Electives such as drama and theatre arts, debate, creative writing, and speech can help in sharpening those skills needed by a member of the legal profession. Finally, the discipline used in the study of science will help prepare the student for the rigors of the law curriculum. Moreover, a basic knowledge of the physical and biological sciences will often help in the cases the lawyer pleads. Many law schools expect the student to have completed at least one accounting course.

The attorney must be a well-rounded individual with knowledge in more than law. Understanding the basic psychology of people and the philosophy behind the law, and to use the logic necessary to present a case are important.

All law schools require the Law School Admissions Test, and most pre-law students take it in June between the junior and senior year or during the undergraduate senior year. It is a nationwide, half-day test of general aptitude for undertaking law studies and for writing ability. The Pre-Law adviser has application forms and sample tests. The adviser also has general information on law schools and an extensive file of law school catalogs is available in the Career and Academic Planning Center.

Pre-Medicine

Advisers: Dr. John Grove, Dr. Michael Hildreth, Ms. JoAnn Willgohs, Dr. Charles McMullen

Your 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 you 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).

Students preparing for medical careers should recognize the desirability of 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 is 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 curriculum outlined below is designed to be compatible with many different majors at South Dakota State University. It includes the following typical medical school admission requirements: one year each of biology and physics with laboratory; mathematics, preferably 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.

Freshman Year	**F**	**S**
Bio 151-153, General Biology I-II	4	4
Chem 112-114, General Chemistry I-II	4	4
Engl 101, Freshman Composition **and** SpCm 101, Fundamentals of Speech	3	3
Math 102, College Algebra, **or** Math 113, Algebra and Trigonometry, Math 222, Calculus for Non-Math Majors	3-5	3-5
Wel 100, Skills for Healthy Living and Lab	2	or 2
Electives	0-2	0-2

Sophomore Year	**F**	**S**
Phys 111-113, Introduction to Physics I-II	4	4
Requirements for Major and Electives; Humanities, Social Sciences, Biological Sciences	12	12

Junior Year	**F**	**S**
Chem 326-328, Organic Chemistry	4	4
Chem 361, Biochemistry	4	
Engl 301, Advanced Composition	3	
Electives and Major Requirements	9	12

Senior Year

Complete Major Requirements

Pre-Physician Assistant

Students interested in pursuing a Physician Assistant (PA) program may complete their first two years of study at SDSU. PAs work wherever physicians and health care organizations employ them in every conceivable specialty and practice setting. In South Dakota most PAs provide primary medical care and many practice in small, rural communities.

Required prerequisites include 64 semester hours of academic work at an accredited college or university with a minimum cumulative GPA of 2.0. Recommended courses:

General Biology:	8 hours
General Chemistry:	10 hours
Human Anatomy:	3 hours
Human Physiology:	3 hours

General psychology, organic chemistry, and biochemistry are additional courses students are encouraged to complete. Contact any of the pre-medicine advisers or the CAP Center for additional information about physician assistant programs.

Pre-Ministerial

Adviser: Mr. Mark Binkley

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 General Studies degree in Arts and Science 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.

Pre-Mortuary

Adviser: Mr. Mark Binkley

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 Bachelors of Science (BS) degree at one of 40 accredited schools which offer programs in mortuary science. One or possibly two years of study may be taken at SDSU. Certification usually 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 educating the total person. Because the funeral director's work is diverse, you 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.

The curriculum listed below is a GUIDE ONLY and may be altered to meet the licensing requirements of the mortuary science school you plan to attend. Students interested in completing a bachelors degree should work closely with the pre-mortuary adviser and will need additional courses to meet university core requirements.

Freshman Year

Bio 101, Biology Survey I **or**
Bio 105, Human Biology 3
Math 102, College Algebra **or**
Math 143, Finite Mathematics 3
Engl 101, Freshman Composition 3
Psyc 101, General Psychology 3
Social Science Elective 3
Zool 221, Anatomy 3
Chem 106, Survey of Chemistry 4
SpCm 101, Fundamentals of Speech 3
Soc 100, Introduction to Sociology 3
Acct 210, Principles of Accounting I 3

Sophomore Year

Bio 383, Bioethics 4
Micro 231, General Microbiology 4
SpCm 201, Interpersonal Communication 3
Rel 360, Death and Dying 3
Social Science Elective 3
BAdm 334, Small Business Management 3
BAdm 350, Legal Environment of Business and Contracts 3
Electives* 9 credits (to meet mortuary school or state requirements, suggest Rel 213 Intro to Religion, Engl 301 Advanced Composition)

Pre-Optometry

Adviser: Dr. Bob Rowland

There are 12 American colleges of optometry accredited by the Council of Optometric Education of the American Optometric Association. Students usually have completed three years of college work, and about 60 percent of all students entering professional schools of optometry have completed their work for the bachelor's degree. You are encouraged to do this if at all possible.

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. You may transfer from pre-optometry to the professional college spending at least three to four years in the optometric school or college.

The average GPA for successful applicants is now 3.0 (B average) or above for most colleges of optometry. Required courses include physics, mathematics, English, biological science, comparative anatomy, chemistry and psychology. The program outlined below will meet the general requirements of most professional schools of optometry and provide a good background for the Optometry College Admissions Test. Certain optometry colleges may also require more credits in the humanities and social sciences.

Most of the accredited colleges of optometry, now require an Optometry College Admission Test, prepared and given by the Psychological Corporation at least three times each year. Your Pre-Optometry adviser can give you information on the Optometry College Admission Test, when it is given, and assist you in making the necessary application.

Students graduating from SDSU with above average grades and optometry test scores have been very competitive in the Admissions process.

Freshman Year	**F**	**S**
Bio 151-153, General Biology I-II	4	4
Chem 112-114, General Chemistry I-II	4	4
Engl 101, Freshman Composition **and** SpCm 101, Fundamentals of Speech	3	3
Math 102, College Algebra; Math 120, Trigonometry; **or** Math 113, Algebra & Trigonometry; **or** Math 222, Calculus for Non-Math Majors; **or** Math 123, Calculus I	3-5	3-5
Psyc 101, General Psychology	3	
Wel 100, Skills for Healthy Living and Lab	2	or 2
Zool 221, Anatomy		3
Humanities Elective	3-4	3-4

Sophomore Year	**F**	**S**
Chem 120, Elementary Organic Chemistry **or** Chem 326-328, Organic Chemistry	3-4	3-4
Phys 111-113, Introduction to Physics I-II **or** Phys 211-213, University Physics I-II	4-5	4-5
Engl 301, Advanced Composition		3
Stat 341, Statistical Methods I		3
Electives chosen from: Bio 371, Genetics; Chem 361, Biochemistry; Zool 325, Mammalian Physiology; Micr 231, General Microbiology; Bio 383, Bioethics; SpCm 201, Interpersonal Communication; Social Science Core electives	4-6	4-6

Junior-Senior Year

Complete requirements for your major.

Graduate School

David Hilderbrand, Dean
Ad 130, 605-688-4181
Box 2201, Brookings, SD 57007-1998
e-mail: davisd@adm.sdstate.edu

Introduction

SDSU granted its first Master's degree in 1891. In 1957 the Graduate School was established. The Graduate Faculty is composed of the President, Vice President for Academic Affairs, Vice President for Administration, Graduate Dean, 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 within a climate of freedom of inquiry.

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.

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 Bulletin or call the Graduate School Office (605) 688-4181.

Departments

The Graduate School operates as one unit.

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; Atmospheric, Environmental, and Water Resources (cooperative with South Dakota School of Mines and Technology); Biological Sciences; Chemistry; and Sociology. A cooperative Ph.D. program with Iowa State University is available in Agricultural Engineering.

Accreditations

None specific to the Graduate School. Individual programs may be accredited within their disciplines.

Programs

See the separate Graduate Bulletin. This may be obtained by writing to the Graduate School, South Dakota State University, Box 2201, Brookings, SD 57007-1998, or by calling (605) 688-4181.

Nursing

Roberta K. Olson, Dean
NFA 255, 605-688-5178
Box 2275, Brookings, SD 57007-0098
e-mail: olsonr@mg.sdstate.edu

Introduction

The College of Nursing has the broad goal of improving health care and the overall quality of life in the state, the region and the nation. It strives to reach this goal through the education of health care professionals, through provision of expertise and consultative service to the health care system of the state and through research to impact the health and well being of individuals, families, and communities.

Non-majors are encouraged to select courses in the College of Nursing. Courses contributing to general education include: Nurs 201 and all Health Science courses.

Departments

Graduate Nursing
Nursing Student Services
Undergraduate Nursing
West River Nursing

Degrees Offered

Bachelor of Science
Master of Science*

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

Accreditations

South Dakota Board of Nursing (approval)
National League for Nursing

Programs

Through the College of Nursing, students can earn a Bachelor of Science or a Master of Science 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.

Both the undergraduate and graduate nursing programs at SDSU are approved by the South Dakota Board of Nursing and are accredited by the National League for Nursing. The College is a member agency in the National League for Nursing Council of Baccalaureate and Higher Degree Programs, American Association of Colleges of Nursing, and the Midwest Alliance in Nursing.

Candidates for graduation in the basic 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

Two types of undergraduate curricula leading to the Bachelor of Science with a major in Nursing are offered – one for basic students and one for RN's who are academically prepared at the associate degree or diploma level and now seek a bachelor's degree. 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 basic program 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 program are already registered nurses and are prepared to expand their practice in the areas of community health, health promotion and leadership and also have the foundation for advanced study in nursing.

Master of Science Degree in Nursing

Graduate programs in adult or parent-child nursing lead to a Master of Science degree in Nursing. The graduate program in nursing consists of advanced theoretical and clinical study in nursing and advanced work in selected supportive fields. It also provides role options in teaching of nursing, in patient care management, and in advanced clinical practice (clinical nurse specialist and nurse practitioner). A gerontological emphasis is also offered.

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

Danny L. Lattin, Dean
Pha 125, 605-688-6197
Box 2202C, Brookings, SD 57007-0099
e-mail: eighmym@mg.sdstate.edu

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 life-long learners who express a caring professional attitude and seek to be agents of change within the profession. As the needs of society change, the problems of providing pharmaceutical 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 an entry level professional 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
Clinical Pharmacy

Degrees Offered

Bachelor's Degree in Pharmaceutical Sciences
Doctor of Pharmacy (Pharm.D.)

Accreditations

American Council on Pharmaceutical Education (ACPE)

Programs

Doctor of Pharmacy (Pharm.D.)

The College of Pharmacy offers a six year course of study leading to an entry level Doctor of Pharmacy (Pharm.D.) degree. The Pharm.D. degree 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 course work 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 degree 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 pharmaceutical care principles to pharmacy practice situations in a 44-week series of clerkships 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.

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. 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 clinical sites make it necessary to limit the class size in the Professional Programs. Selection will be competitive and based upon several factors including pre-pharmacy course work, ACT scores, written and oral communication skills, letters of recommendation, residency status and other factors. Any student who anticipates successful completion of the pre-pharmacy mathematics, science and communication requirements prior to Fall Semester is eligible to apply. Notification of acceptance into the Professional Program 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:

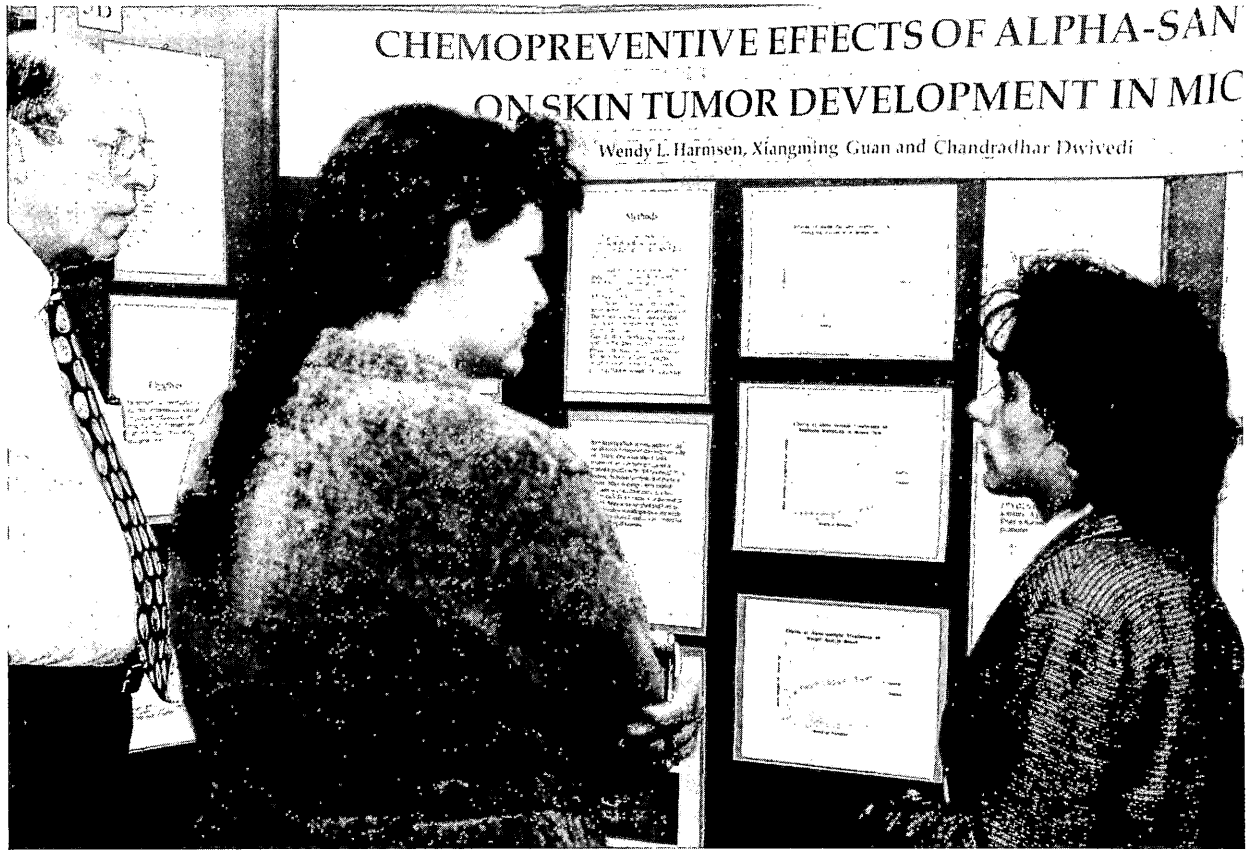
1. A student must earn at least two grade points for each credit hour in pharmacy courses to qualify for graduation.
2. A student will be placed on pharmacy probation when the student's pharmacy GPA (Pha prefix courses) for a semester falls below 2.0. Each subsequent semester while on pharmacy probation 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 prefix) and will remain on pharmacy probation until the student's cumulative pharmacy GPA is 2.0 or greater.
3. If a student repeats a pharmacy course, both grades will appear on the student's record and be used to calculate the cumulative pharmacy GPA.
4. Grades earned in Pha prefix courses taken at other colleges/schools of pharmacy cannot be used to calculate pharmacy probation or refused status.
5. Students enrolled in the professional program may transfer a maximum of six credits of Pha prefix courses.
6. Students must receive a grade of "C" or better to meet the requirement of each 700 level course.

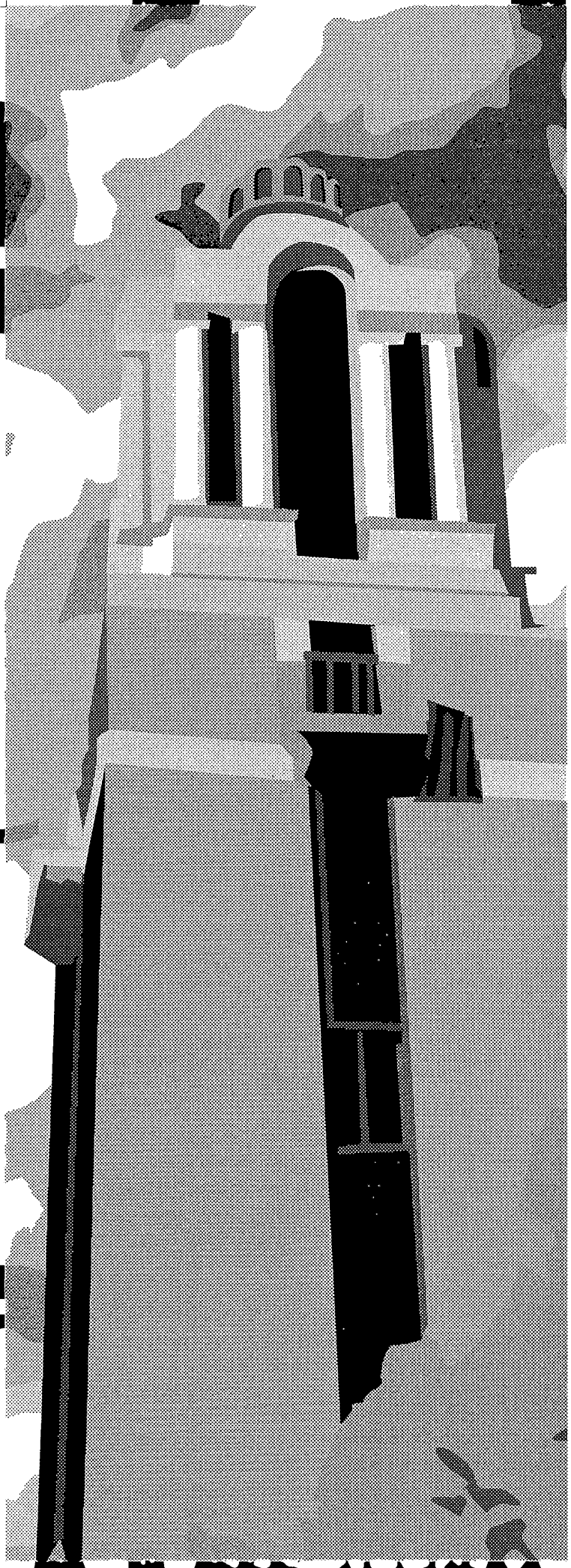
Career Opportunities

Demand for pharmacists is high, and SDSU students enjoy an excellent placement rate. There is a diverse range of career opportunities in pharmacy. These include community pharmacy, hospital pharmacy, clinical pharmacy, pharmaceutical sales, military pharmacy, clinical and laboratory research, 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 Students of Pharmacy is open to all students in the College. Kappa Psi and Kappa Epsilon are pharmacy fraternities for men and women, respectively. Rho Chi and Phi Lambda Sigma are scholastic and leadership organizations. 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.





Department and *Program Descriptions*

Department and Program Descriptions

Aerospace Studies (Air)

Colonel Jeffrey S. Boulware
Department of Aerospace Studies
DePuy Military Hall 004
605-688-6106
e-mail: lueckeb@ur.sdstate.edu

Faculty

Colonel Boulware, Professor of Aerospace Studies, Head; Assistant Professors, Captain Fier, Johnson.

Programs

The Air Force Reserve Officer's Training Corps (AFROTC) program is conducted by the Department of Aerospace Studies. The purpose of this program is to enable qualified undergraduate and graduate students to become commissioned officers in the US Air Force. The learning experiences received will be of long range value in either a military or civilian career. Upon graduation and completion of the AFROTC curriculum the student is commissioned a Second Lieutenant, incurs a four-year active-duty service commitment, and enters the Air Force.

The following programs are open to qualified male and female full-time students.

Four Year Program

Designed for students completing a four-year college degree; however, it is easily modified to accommodate students with 3 to 5 years of academic studies remaining before graduation. Consists of: four semesters of General Military Courses (freshman and sophomore years), a four week Field Training Unit, and four semesters of Professional Officer Courses (junior and senior years).

Two Year Program

Designed primarily for transfer and graduate students with 2 years of academic studies remaining before graduation. However, other students who did not participate in Air Force ROTC during Freshman and Sophomore years may also participate. The two-year student must contact the Aerospace Studies Department late in the Fall Semester before entering the program to allow time for selection, medical examination and scheduling for Field Training during the summer. Successful completion of the Field Training Unit is mandatory before entering the two-year program. The program consists of a six week Field Training session and four semesters of Professional Officer Courses.

Field Training. Summer Field Training Units (FTUs) are conducted at operational Air Force bases and give the cadets an in-depth look at Air Force life and activities without incurring a commitment. It also gives the Air Force ROTC instructors a look at the students outside the university environment before they are accepted in the Professional Officer Course. Both the 4-week and the 6-week FTU include cadet orientation, junior officer training, survival training indoctrination, physical conditioning, career orientation, small arms familiarization, and a look at the organization and functions of an Air Force base. At the 6-week FTU, the additional two weeks are used to complete the course material and leadership laboratory training missed by not participating in the General Military Courses on campus. Students are provided transportation. At camp they receive free room, food, medical care, and $18.60 pay per day.

Financial Assistance

All AFROTC cadets who are South Dakota residents and who are not on an Air Force scholarship receive a 50% tuition reduction for four semesters of their junior and senior years.

Scholarships. Qualified students can compete for 3-year, 2-year, and 1-year scholarships, which cover full tuition, books, laboratory expenses, incidental fees and $150 per month tax free subsistence allowance. Scholarship competitions are also held at intermediate times to fill vacancies in the nationwide scholarship program. Awards are based upon officer potential. Applicants are nominated on the basis of: Air Force Officer Qualifying Test Scores, ACT or SAT college aptitude scores, academic major, grade point average, and personal evaluation by the Professor of Aerospace Studies.

Final selection is made by Air Force ROTC Headquarters.

NOTE: High school students should contact their high school counselor or any Air Force Recruiter for a 4-year AFROTC Scholarship Application, to be completed following the junior year or early in the fall of the senior year.

- Air Force ROTC courses are tuition free.
- Military uniforms, textbooks and equipment are furnished for all AFROTC classes.
- Cadets enrolled in the Professional Officer Course receive the same $150 per month tax free subsistence allowance that scholarship students receive.

Agricultural Business

(See Economics)

Agricultural Economics

(See Economics)

Agricultural Engineering (AE)

Darrell W. DeBoer
Department of Agricultural Engineering
Agricultural Engineering 107
605-688-5141
http://www.abs.sdstate.edu/ae/index.htm

Faculty

Professor DeBoer, Acting Head; Professors Chu, Hellickson, Ullery, Werner; Professors Emeriti Durland, Wiersma; Associate Professors Adelaine, Anderson, Humburg; Associate Professor Emeriti Lytle; Assistant Professors Bender, Bischoff, Campbell. Julson, Kelley, Muthukumarappan, Pohl, Schipull, Stange; Assistant Professor Emeriti Pahl.

Programs

Agricultural and Biosystems Engineering is the science of engineering applied to the facilities and processes of agriculture and related industries. You are given foundation courses in mathematics, physics, and chemistry with engineering emphasis in a wide variety of technical areas: natural resource management, irrigation and drainage,

water resources development, machine dynamics and design, machine vision, agricultural power, electrical power utilization, properties and processing of biological materials, environmental control for livestock, control and disposal of agricultural wastes, agricultural structures, computers, and instrumentation. Courses are also offered in the fields of meteorology, climatology, and micro-climatology to interested engineers and students in other colleges.

Bachelor of Science graduates from the Agricultural and Biosystems Engineering major should possess the following attributes at the time of their graduation:

1. Understanding of engineering concepts associated with three (3) of the four (4) following areas of study: food and biological materials engineering, power and machinery engineering, water and natural resources engineering, and structures and environment engineering.
2. Ability to apply engineering design principles and practices to solve problems associated with three (3) of the four (4) following areas of study: food and biological materials engineering, power and machinery engineering, water and natural resources engineering, and structures and environment engineering.
3. Strong background in mathematics, natural sciences and engineering design.
4. Excellent critical thinking and problem solving skills.
5. Competency in computer technologies and instrumentation.
6. Excellent communication skills.
7. Capability to be effective and productive team members.
8. Ability to perform "hands-on" tasks.
9. Appreciation for the benefits of professional (including ethical) behavior.
10. Appreciation for the arts and humanities.

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

To earn the Bachelor of Science Degree in Agricultural Engineering, a student must have an average grade of C or better in courses taken and required in the Agricultural and Biosystems Engineering Curriculum.

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

Agricultural Extension (AgEx)

Ralph Matz
Extension Program Coordinator
Agricultural Hall 130
605-688-5132

Programs

The Cooperative Extension Service is the off-campus educational function of the College of Agriculture and Biological Sciences. The Service extends the SDSU campus to every community and the advantages of higher education to all people. Through its Extension Agents, and supporting statewide Specialists, the Cooperative Extension Service disseminates the findings of research and encourages the application of knowledge to solution of problems encountered in everyday living.

SDSU does not offer a major in Agricultural Extension; however, students can prepare for a career in Agricultural Extension by completing any major in the B.S. in Agriculture degree with appropriate selection of courses from electives.

Agricultural Journalism

(See Journalism and Mass Communication)

Agricultural Systems Technology (AST)

Darrell W. DeBoer, Acting
Department of Agricultural Engineering
Agricultural Engineering 107
605-688-5141
http://www.abs.sdstate.edu/ae/index.htm

Faculty

Professor DeBoer, Acting Head; Professors Chu, Hellickson, Ullery, Werner; Professors Emeriti Durland, Wiersma; Associate Professors Adelaine, Anderson, Humburg; Associate Professor Emeriti Lytle; Assistant Professors Bender, Bischoff, Campbell, Julson, Kelley, Muthukumarappan, Pohl, Schipull, Stange; Assistant Professor Emeriti Pahl.

Programs

Agricultural Systems Technology is a four-year major developed around the General Agriculture core curriculum. It is designed to give broad training in the agricultural sciences and the technologies appropriate to agriculture and its associated industries. This major prepares you for careers in industries that support agriculture, such as technical sales, electric utilities in rural areas, distribution of commodities, work with federal agencies such as the Natural Resources Conservation Service, agricultural loan officers, food processing, farming and ranching, and vocational agriculture teaching. Cooperative Education and Industry Cooperative Programs are available in the department. Students are encouraged to supplement their formal instruction with internships (can receive graduation credit) and extracurricular activities.

Agronomy

(See Plant Science)

American Indian Studies Program

Donna Hess
Department of Rural Sociology
Scobey Hall 216
605-688-4892

An inter-college program of American Indian culture studies. Course work in various departments of the University provides a broad base for understanding the past, present, and possible futures of American Indian people. The program recognizes the historical and contemporary significance of American Indian experiences. Study of these experiences promotes understanding of the pluralist nature of the U.S. and responds to the growing need for multicultural sensitivity and awareness.

Students desiring more information or interested in minoring in the program should consult with the coordinator no later than the beginning of the junior year.

Animal and Range Sciences (AS, Rang)

Department of Animal and Range Sciences
Animal Science Complex 103A
605-688-5166

Faculty

Distinguished Professor Costello; Distinguished Professors Emeriti Briggs, Wahlstrom; Professors Boggs, Gee, J. Johnson, P. Johnson, Larson, Libal, McFarland, Marshall, Pritchard, Pruitt, Slyter; Professors Emeriti Bailey, Carlson, Dearborn, Dinkel, Gartner, Kohler, Kortan, Lewis, Luther, Minyard, Morgan, O'Connell, Plumart, Romans; Associate Professors Held, Insley, Kronberg, Miller, Thaler, Zalesky; Associate Professors Emeriti Bonzer, Bush, McCarty, McCone; Instructor Bruns, Nold; Adjunct Professor Sieg.

Programs

The department offers instruction leading to the Bachelor of Science degree with majors in Animal Science or Range Science. The curricula are designed to prepare students for careers in livestock production, related agriculture business enterprises, farming and ranching, natural resource management on both private and public lands, or graduate study. Students are encouraged to supplement their class and laboratory instruction with internships and extracurricular activities.

Animal Science Major. Majors receive instruction in animal breeding, feeding and nutrition, management, selection and evaluation, marketing, meats, and wool. Courses pertain to beef cattle, horses, sheep, and swine. Students choose one of two emphases: (a) Business and Production, or (b) Science. The applications of various disciplines to the breeding, feeding, management, and marketing of livestock and livestock products are stressed. Emphasis is placed on developing an understanding of the basic principles of genetics, nutrition, physiology, range, and meats as they affect production and management of livestock.

Range Science Major. The Range Science program offers a diverse curriculum which prepares students for careers in the management of rangelands, the nation's largest natural resource. Both the practical and theoretical aspects of rangeland management are stressed, with emphasis placed on livestock grazing, forage production, ecology, soil conservation, wildlife habitat, watershed values, and outdoor recreation. Each student selects one of three options which allows specialization in a major area of the field: (a) Technical, (b) Science, or (c) Business.

Apparel Merchandising and Interior Design (AM, ID)

Sandra Evers
Department of Apparel Merchandising and Interior Design
NFA 229
605-688-5196
e-mail: everss@ur.sdstate.edu

Faculty

Professor Evers, Head; Professors Emeriti Kamstra, Lund, Semeniuk, Stoflet, Associate Professor Emeriti Yost; Assistant Professors Isham, Lyons, Strickler; Instructor Nussbaumer.

Programs

The department offers instruction leading to a Bachelor of Science degree with majors in Apparel Merchandising (AM) and Interior Design (ID).

Some courses are offered alternate years while others are offered once a year. Work experience is recommended before the Professional Practicum. To enroll in the Professional Practicum (AM 497 and ID 497) a student must have 90 semester credits and a 2.2 GPA. A double major in both majors requires careful and early planning. Consult your adviser for assistance and current information.

Apparel Merchandising (AM)

Courses in apparel merchandising provide knowledge applicable to careers in the fashion industry including production, wholesaling and retailing, and for consumer acquisition and use of apparel and household textiles. The cultural and scientific aspects of apparel and textiles are examined with emphasis on aesthetic, economic, historical, sociological, and psychological factors.

Fashion Institute of Technology

The Apparel Merchandising and Interior Design Department is affiliated with the Fashion Institute of Technology (FIT) in New York City. Students may enroll in a 1-2 semester "visiting scholar" program at FIT. The emphasis can be in Fashion Design, Fashion Buying and Merchandising, or several others. FIT courses transfer into SDSU and substitute for program requirements if approved prior to taking them. Upon graduation from SDSU the student receives the associate degree from FIT. Upper division status and a minimum 2.5 GPA (on 4.0 scale) is required for FIT consideration. Planning should begin in the sophomore year. See AMID Department Head for further information.

Minor in Apparel Merchandising

Sixteen credit hours are required for a minor in Apparel Merchandising. Plan your minor with an AM adviser early in your program.

Interior Design (ID)

The curriculum in interior design prepares students to enter the profession of residential and commercial design through course work in technical, material, historical, cultural and aesthetic aspects of design with studios emphasizing the design problem-solving process. A 280 hour practicum is a program requirement.

Minor in Interior Design

Seventeen credit hours are required for a minor in Interior Design. Plan your minor with an ID adviser early in your program.

Army ROTC

(See Military Science)

Art

(See Visual Arts)

Athletic Coaching Certification

Jason Liles
Department of Health, Physical Education and Recreation
Physical Education Center 273
605-688-5026
e-mail: booherj@mg.sdstate.edu

Some states, among them 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.

Athletic Training (AT) Major

Jim Booher
Department of Health, Physical Education and Recreation
Physical Education Center 265
605-688-5824
e-mail: booherj@mg.sdstate.edu

There are two options available in the Athletic Training Major.

Athletic Training Major – Clinical Experience

The athletic training major is accredited by the Commission of Accreditation of Allied Health Education Programs. It is designed to prepare students to become athletic trainers and take the national certifying examination.

Courses required for completion of this major are listed in the Requirements section of this bulletin. In addition to these courses, students must complete a minimum of 800 hours of clinical experience under the supervision of clinical instructors.

Application for admittance into the athletic training major can begin during a students sophomore year and upon completion of AT 164 and Zool 221. The number of students accepted into the program each semester is based upon the availability of clinical opportunities. Students are encouraged to supplement their education with an additional area of study to become more marketable.

Athletic Training Major – Non Clinical Experience

The non clinical experience major is designed for students in a pre-professional curriculum. This major requires the athletic training course work with the exception that students cannot participate in the clinical experience portion of the curriculum. Students completing the Athletic Training Major - Non Clinical Experience, are not eligible to work as an athletic trainer or take the national certifying examination.

Aviation Education (Avia)

Gary Egeberg
College of Education and Counseling
Wenona Hall 108B
605-688-6291 (airport)

Program

Aviation Education at South Dakota State University offers both traditional classroom instruction and individual flight training courses. The 200 level aviation courses are specifically designed to be an introduction to the world of flying for the beginning aviator. This course can be used to earn the Federal Aviation Administration (FAA) Student, Recreational, and/or Private Pilot Certification, or simply to learn more about the skills and knowledge required of a pilot. Instructor consent is required for registration in flight courses, and special fees are assessed for the cost of aircraft operations.

Note: Aviation courses are undergoing revision. Please check with instructors as to course credit(s) and content.

Biology (Bio)

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 306
605-688-6141
http://www.abs.sdstate.edu/bio

Faculty

Professor McMullen, Head; Professors Gibbons, Granholm, J. Haertel, L. Haertel, Hildreth, Hutcheson, Kayongo-Male, Larson, Peterson, Westby, Whalen; Professors Emeriti Baker, Chen, Hartwig, Hugghins, Morgan, Myers, Pengra, Taylor; Associate Professors Bleakley, Duvall, Cheesbrough, Hurley, Reese, Sutton, Troelstrup; Associate Professor Emeritus Morrill; Assistant Professors Dieter, Erickson, Gibson, Gilmanov, Rowland, Yen; Adjunct/Joint faculty Benfield (Vet.Sci.), Chase (Vet.Sci.), Diggins (Augustana), Evenson (Chem.), Fennell (HFLP), Francis (Vet.Sci.), Franklin (DS), German (WRI), Henning (DS), Jackson (NGIRL-USDA), Johnson (PS), McFarland (ARS), Reidel (NGIRL-USDA), Rietz (Brookings Medical Clinic), Sieg (USFS), Tieszen (Augustana), West (Chem.), Woodson (NGIRL-USDA).

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 Biological Sciences, College of Agriculture and Biological Sciences; or the curriculum in Arts and Science. The two programs are identical except for the individual college's requirements. Students majoring in Biology will select among four areas of emphasis depending upon their particular interest and needs: (1) Biology, (2) Botany, (3) Zoology, and (4) Pre-professional. A minimum GPA of 2.0 must be maintained in the major and chemistry courses.

The **Biology emphasis** prepares a student to work in a large variety of areas of the biological sciences.

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.

The **Zoology emphasis** highlights the scientific study of animal life. Zoology provides the basis for many related disciplines such as medicine and health sciences, veterinary science, and oceanography.

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

Botany (Bot)

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 306
605-688-6141
http://www.abs.sdstate.edu/bio

The Department of Biology and Microbiology offers a Biology major with an emphasis in Botany. 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. See Biology Requirements section for curriculum.

Business Area Studies

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

There are numerous courses particularly useful as adjuncts to majors in agribusiness; agricultural economics; agricultural systems technology; agronomy; animal science; apparel merchandising; dairy manufacturing; dairy production; economics; horticulture; hotel, restaurant, and institution management; interior design; park management; printing management; pharmacy; range science; and various engineering majors. See the listing of courses in Requirements section of this bulletin.

Chemistry/Biochemistry (Chem)

Harry G. Hecht
Department of Chemistry and Biochemistry
Shepard Hall 121
605-688-5151

Including the areas of Biochemistry and Clinical Laboratory Technology (MEDT) also known as Medical Technology

Faculty

Professor Hecht, Acting Head; Professors Evenson, Fitzgerald, Grove, Hilderbrand, Houglum, Jensen, Kayongo-Male, Matthees, McFarland, Rice, Utecht, West; Professors Emeriti Emerick, Gehrke, Halverson, Klug, Olson, Palmer, Rue, Spinar, Wadsworth, Webster, Whitehead; Associate Professors, Majerle, Sellers, Thiex; Associate Professor Emeriti McRoberts; Assistant Professors Elbert, Shore; Instructor Pravecek.

Programs

The Chemistry department is approved by the American Chemical Society for training professional chemists. 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.

Department courses serve three general purposes. First, since chemistry is so closely related to other fields of study, a number of courses are offered to provide sufficient chemical background to meet professional needs. Second, a minor can be obtained by students wanting more extensive chemistry without majoring in chemistry. Third, you can major in chemistry by choosing one of the following curricula. Note: No grade below "C" in chemistry courses will be accepted toward a major in chemistry or biochemistry.

Chemistry

The American Chemical Society approved curriculum is intended for students planning to pursue graduate work in chemistry or for positions in research, industrial or governmental laboratories. The department also offers a B.S. degree program for persons wishing to emphasize applications of chemistry to agriculture, business, quality control, environmental regulation, education or preparation for professional schools of medicine, dentistry or optometry. Those considering teaching should consult with the College of Education and Counseling by their sophomore year. SeEd 416 Strategies in Science Teaching is a requirement to be certified to teach high school chemistry.

Minor in Chemistry

A minor in chemistry is offered for students wanting extensive chemistry course work without majoring in chemistry. A graduation ratio of 2.0 in chemistry courses is required. At least 50% of chemistry courses applied toward a minor must be completed at SDSU.

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.

Clinical Laboratory Technology (MEDT) also known as **Medical Technology**
Professor J. A. Grove, Coordinator

Medical Directors of Affiliated Schools of Medical Technology: **Qalbani A. Ali,** M.D., Marian Health Center, Sioux City, IA; **John Barlow,** M.D., Rapid City Regional Hospital, Rapid City, SD; **Bruce Hyde,** M.D., St. Paul Ramsey Medical Center, St. Paul, MN; **David W. Ohrt,** M.D., Sioux Valley Hospital, Sioux Falls, SD; **Gene N. Herbek,** M.D., St. Luke's Medical Center, Sioux City, IA.
Program Directors/Education Coordinators of Affiliated Schools of Medical Technology: **Marilyn Barnett,** MT(ASCP), Sioux Valley Hospital, Sioux Falls, SD; **Etta Bassinger,** MT(ASCP), St. Luke's-Midland Regional Medical Center, Aberdeen, SD; **Consoline Brugler,** MT(ASCP), St. Paul Ramsey Medical Center, St. Paul, MN; **Sharon Collier,** MT(ASCP), St. Luke's Medical Center, Sioux City, IA; **Pam Keiffer,** MT(ASCP), Rapid City Regional Hospital, Rapid City, SD; **Amy Kapanka,** MT(ASCP), Marian Health Center, Sioux City, IA.; Sr. Rose V. Brown, MT (ASCP) Penrose - St. Francis Health Services, Colorado Springs, CO.

The medical technologist is an indispensable member of the modern health team. He or she makes use of hundreds of scientific procedures devised to disclose the subtle changes that diseases produce in the body. By studying cells under the microscope, analyzing the chemical composition of body fluids and secretions, he or she can pinpoint clues to illness that might not be detected any other way. Conclusive evidence for the presence of disease as well as monitoring the success of treatment depends on laboratory findings. The medical technologist also needs to be competent in areas such as personnel and resource management, administration, teaching and research.

Clinical Laboratory Technology at SDSU

The university offers the first three years of education experience that provides scientific background in chemistry and the biological sciences required for entrance into the clinical training program. The professional internship program, usually 12 months long, at an approved hospital laboratory school, qualifies a student for the Bachelor of Science degree. The Clinical training can be obtained at the affiliated hospitals listed above or at other approved schools. Internships are awarded on the basis of academic performance, recommendations and interviews. A minimum

2.50 GPA is recommended by most hospitals. SDSU cannot guarantee every student an intern position. The university has affiliation agreements with the hospitals listed above to assist you in finding an internship.

Civil and Environmental Engineering (CEE)

Dwayne Rollag
Department of Civil and Environmental Engineering
Crothers Engineering Hall 118
605-688-5427

Faculty

Professor Rollag, Head; Professors DeBoer, Hassoun, Schaefer, Selim, Sigl; Professors Emeriti Dornbush, Koepsell, Larson; Associate Professors Johnson (adjunct), Tiltrum, Ting; Assistant Professors Burckhard, Reid, Schmit, Wehbe.

Programs

Civil Engineering includes the location, design, construction, 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 facilities essential in modern life.

The civil engineering program at South Dakota State University is accredited by the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET).

A student's acceptance into civil engineering is based on prerequisite preparation, the cumulative grade point average (CGPA) and class standing after completion of the 1-year pre-engineering program in the College of Engineering. The number of students accepted into these majors will also depend on regional and national needs and the resources of the College of Engineering. You must contact the department head for the application details.

The overall goal of this program is to develop competent professionals capable of applying the current principles of science and engineering to the solution of problems related to civil engineering. This goal is accomplished by providing undergraduate students with an educational program that will develop their abilities to:

1. make engineering measurements and evaluate the accuracy and reliability of these measurements;
2. use sketches and diagrams in the presentation of data, problems and solutions to problems;
3. define and solve practical engineering problems;
4. solve engineering problems through the use of
   a) the principles of mathematics, physics, chemistry and the engineering sciences,
   b) good judgment and common sense,
   c) independent, creative and critical thinking, and
   d) computer assistance;
5. recognize the engineer's obligations to
   a) protect public health and safety, and
   b) evaluate the social-humanistic impacts of their projects on society;
6. write engineering reports and make oral presentations of technical data effectively;
7. work cooperatively with others in a group or team; and
8. use equipment and resources available to practicing engineers.

A second goal of the program is to assist students in developing a commitment to high standards of professional conduct by:

1. including discussions of job expectations in terms of professional development and ethics in all upper level engineering courses;
2. maintaining a strong, active ASCE Student Chapter Program;
3. encouraging seniors to take the Fundamentals of Engineering (FE) exam and strive toward becoming a licensed professional engineer;
4. promoting summer and coop employment experiences in civil engineering; and
5. stressing the importance of continued up-dating of engineering skills and knowledge after graduation.

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 that such work is expected of engineers and stimulate interest and enthusiasm for design. As the 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, Senior Design Project I and II where design teams work on comprehensive, open-ended projects involving scope definition, evaluation of alternatives on the basis of economics, safety, ethical implications, and other factors, and preparation of a functional design, plans, specifications and final cost estimates

Certain electives are provided to broaden knowledge in the social-humanistic area and to provide some technical specialization. The non-technical, and technical electives must be approved by the department head. Humanistic and social science electives must be chosen to satisfy the University Core and the more rigorous EAC/ABET requirements. To gain "in-depth" exposure in the socio-humanistic area, students must take at least two courses in the same subject area. The Civil and Environmental Engineering Department office will provide you with several social science-humanities plans of study from which you may select or you may prepare your own plan. The plan you adopt must be approved by your adviser.

To earn the B.S. degree in Civil Engineering you must have an average grade of C or better in courses taken in engineering mechanics (EM) and civil and environmental engineering (CEE).

The department will assist those interested to arrange cooperative work-study programs, after the freshman year, with consulting and testing firms, governmental agencies and industry. Credit may be obtained for the work experiences by registering for CEE 494 Cooperative Education, CEE 495 Internship or CEE 496 Field Experience. These credits will not apply toward the B.S. degree in civil engineering but will be part of your academic records. Students are encouraged to purchase their own microcomputer by the time they achieve junior standing.

Clinical Laboratory Technology

(See Chemistry)

Clinical Pharmacy

Brian Kaatz
Department of Clinical Pharmacy
Pharmacy 136
605-688-6197

Faculty

Professor Kaatz, Head; Professor Fischer, Mort, Powers; Associate Professors Clem, Farver, Fiechtner, Hedge; Assistant Professors Creekmore, Heins, Jensen, Lemon, Marchiando, Menke, Messerschmidt, Price; Instructor Hendricks.

Programs

The Department provides classroom and clerkship instruction for the last two years of the Doctor of Pharmacy (Pharm.D.) degree program and also contributes classroom instruction for the pharmaceutical sciences phase of the Pharm.D. degree. 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.

Communication Studies and Theatre (CST)

Michael Schliessmann
Department of Communication Studies and Theatre
Pugsley Center 115
605-688-6131

Faculty

Professor Schliessmann, Head; Professors Emeriti Denton, Hoogestraat, Meyer, Stine, Widvey; Professors Ferguson, Johnson, Jorgensen; Associate Professors Ackman, Haleta, Tallmon; Assistant Professors Hefling, Lampson, Peterson, Roybal, Wheeler.

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 options; Radio, Television, and Film (RTVF); 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
Professor Johnson, Director of Theatre

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 graduate and undergraduate credit through Prairie Repertory Theatre.

Forensics
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.

Radio, Television, and Film

Opportunities are provided to perform and assist in production in broadcast facilities. University credit may be earned.

Speech-Language-Hearing Clinic
Professor Lampson, Supervisor

Clinical speech, language, and hearing services are available under the supervision of American Speech-Language-Hearing Association certified personnel.

Computer Science (CSc)

Gerald Bergum
Department of Computer Science
Administration Building 133C
605-688-5719

Faculty

Professor Bergum, Head; Professor Salehnia; Associate Professor Emeritus Lundberg; Associate Professor Shin; Assistant Professor Hamer; Instructor Krebsbach.

Programs

The Department is structured to serve the students in three ways:

1. To provide educational opportunities so that all students on campus can receive educational literacy in computers.
2. The department offers a Bachelor of Science degree in Computer Science as well as a degree for Secondary Computer Science teachers. A Certificate Program in Microcomputer Applications sponsored by the department can be obtained through Capital University Center, Pierre. Students interested in the Computer Science degree will be accepted into the Department as pre-computer science majors. Only those students who have a 2.75 GPA following 30 credits of acceptable coursework will be considered for acceptance into the degree program.

   Formal application is required for acceptance into the major. Application forms for admission into the program can be picked up at the Department. Failure to meet the application deadline of November 1, or March 1, may disqualify you from enrollment in Computer Science degree courses.

   Computer Science majors must earn at least a "C" in all computer courses. Applied electives should be chosen so as to provide the student with a strong background for students planning on 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.

   Fulfillment of the GPA requirement for admission into Computer Science does not assure admission. Applicants, when necessary, will be selected competitively. Total enrollment in the major may vary but will be no more than 35 per graduating class. Enrollment will depend on availability of faculty and funding with the selection made from among those students best qualified for a career in computer science. Students interested in the Certificate Program in Microcomputer Applications should visit with the Director of Academic Affairs Outreach on the SDSU campus or with the Director of the Certificate Program in Microcomputer Applications at Capital University Center in Pierre.
3. For those students who need more support courses, a Computer Science minor is offered. The minor requires three programming courses which permit the 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 Department 2 semesters before graduation. Failure to meet the deadline may disqualify you from getting a minor.

Counseling and Human Resource Development

Richard Roberts
Department of Counseling and Human Resource Development
Wenona Hall 115
605-688-4190
e-mail: robertsr@ur.sdstate.edu.

Faculty

Associate Professor Roberts, Head; Associate Professors Muxen; Assistant Professors Baumberger, Harper, Hopponen, Jones, Wilson; WRGC Associate Professors Coll and Freeman.

Programs

The department offers a M.S. in Counseling and Human Resource Development. Three (3) options are available to earn the M.S. degree in CHRD, all requiring a minimum of 48 credit hours and the successful completion of both written and oral comprehensive examinations. See the Graduate Bulletin for descriptions of available options.

Emphasis

There is a set of core courses that you are required to take. These

courses constitute the basic essentials that are required of everyone who enters the counseling profession. In addition to the core, additional courses are required for the three (3) areas of emphasis currently available in CHRD. They are counseling in a School Setting, counseling in an Agency Setting, and counseling in a Student Affairs Setting.

Criminal Justice (CJus)

James Satterlee
Department of Rural Sociology
Scobey Hall 224
605-688-4132
e-mail: satterlj@mg.sdstate.edu.

This inter-college program administered by the Department of Sociology is available to students majoring in any field at SDSU. The purposes of this program are 1) to provide new 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 CJus a student must have a cumulative GPA of at least 2.2 and take a total of 18 credit hours from courses offered in CJus and others available in Sociology, Political Science or Wildlife/Fisheries. Nine of these 18 hours consist of 3 required courses (CJus 201, 335, and Soc 351). The remaining 9 hours may be selected from the list of CJus electives. An internship (Soc 495) 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 minoring in Criminal Justice should consult with the coordinator of the program no later than the beginning of their junior year.

Dairy Manufacturing

(See Dairy Science)

Dairy Production

(See Dairy Science)

Dairy Science (DS)

John Parsons
Department of Dairy Science
Dairy-Microbiology 109A
605-688-4116
e-mail: parsonsj@ur.sdstate.edu.
fax: 605-688-6276

Faculty

Professor Parsons, Head; Professors Baer, Cassel, Mistry, Schingoethe; Professors Emeriti Baker, Spurgeon; Associate Professors Henning, Assistant Professors Franklin, Hippen, Jayarao; Instructors Bonnemann, Stegeman.

Programs

Dairy Science students may choose a major in Dairy Manufacturing or Dairy Production. Under the curriculum in agriculture, each of the majors offers a general technical program, with several electives. In addition, an option in Science, Business or Ag Education is available with either of the majors. Faculty welcome the opportunity to discuss these options and job opportunities with students.

A well-equipped dairy processing plant and sales room make it possible for you to obtain practical experience while learning the principles of dairy processing. Several students work part-time in the processing plant and earn part of their university expenses. The dairy research and production unit houses a herd of 400 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 student training in dairy cattle evaluation and other aspects of dairy farming. The milk produced is processed as milk, ice cream, butter or cheese and used in campus eating facilities. Like the processing plant, the research and production unit offers opportunities for students to work part-time and gain practical experience while earning money for expenses. Leadership opportunities are available through participation in the Dairy Science Club, Dairy Cattle Judging, and Dairy Products Evaluation Teams.

Economics (Econ) and Business

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

Faculty

Professor Shane, Head; Professors Beutler, Dobbs, Gilbert, Janssen, Kim, Lamberton, Lyons, O'Brien, Peterson, Pflueger, Professors Emeriti Aanderud, Allen, Anderson, Greenbaum, Hsia, Kamps, Lundeen, Murra, Taylor, Thompson; Associate Professors Adamson, Fausti, Franklin, Sondey; Associate Professors Emeriti Kelsey, Sogn; Assistant Professors Cumber, Klein, Qasmi, Santos, VanderSluis; Instructors Danielson, Ellingson, Fredrickson, Gustafson, Rasmussen; Marketing Specialist May.

Programs

The Economics Department teaching objectives are to:

1. present the general economic principles necessary to understand the complexities of the economic and business world;
2. train the student to apply economic concepts and techniques for decision-making in fields such as agricultural business, agricultural economics, economics, and business; and,
3. provide a foundation for graduate work in economics, agricultural economics, business administration, management, finance, law and other related areas of study.

The Department of Economics offers majors leading to a Bachelor of Science Degree in either Agricultural Business or Agricultural Economics from the College of Agriculture and Biological Sciences. The Department also offers a major in Economics leading to a Bachelor of Science Degree from the College of Arts and Science. Within the Economics Major, a student can choose an option in Business.

The following minors are available through the Department of Economics: Accounting, Agricultural Business, Agricultural Marketing, Economics, and Business.

The programs provide students with a background to pursue careers in farm and ranch management, agricultural finance, agribusiness, banking, business finance, business management, sales and marketing, public service, research, and related fields.

Entry Requirement

Formal application is required for admission into one of the departmental programs. To be admitted, the student must have completed at least 64 semester credits toward graduation, have a cumulative grade point average of at least 2.1 for all courses taken, and have earned at least a 2.1 grade point average for the following courses: Econ 201, Econ 202, Acct 210, Engl 101, and Math 222 (or Math 123).

Courses in the Department of Economics are offered in the following areas: Accounting (Acct), Agricultural Economics (AgEc), Business Administration (BAdm), and Economics (Econ). See the Course Descriptions section of this bulletin.

Educational Leadership

R.L. Erion
Department of Educational Leadership
Wenona Hall 107
605-688-6365
e-mail: erionr@ur.sdstate.edu

Faculty

Professor Erion, Head; Professors Edeburn, Hanson, Kluckman, Lingren, Marshall, Romereim-Holmes; Associate Professors Amiotte, Johnson.

Programs

The department provides a Masters of Education (M.Ed.) in Curriculum and Instruction and Educational Administration. Requirements for Masters programs can be completed at either the campus in Brookings or at the West River Graduate Center on the Ellsworth Air Force Base. Many of the courses are also offered through the SDSU Sioux Falls program.

Curriculum and Instruction (C&I)

This major is appropriate for K-12 classroom teachers, recreation program staff, adult and community educators, Cooperative Extension Service personnel, and junior and 4-year college instructors.

Within the major, the following emphases are available: Vocational Technical Education, Adult and Higher Education, Computer Education, Content Areas (English, mathematics, social studies, etc.), Diversity in the Classroom, Gifted Education, Middle School Education, and Reading Education. The department also offers an M.Ed. in Curriculum and Instruction in Sioux Falls in cooperation with the University of South Dakota, Dakota State University, and Black Hills State University. Much of the Vocational Technical Education emphasis is available through distance education.

Educational Administration (EdAd)

This major is designed to provide the basic professional preparation for those who expect to become qualified administrators in schools where certification is required, and for other institutions, businesses, industries and service-oriented agencies where an administrative program is of value. The South Dakota Board of Education requires four years of teaching experience for administrator certification.

Within the Educational Administration major, the following emphases are presently available: Elementary Administration, Secondary Administration, and Adult and Higher Education.

Electrical Engineering (EE)

Lewis Brown
Department of Electrical Engineering
Harding Hall 201
605-688-4526

Faculty

Associate Professor Brown, Head; Professors Ellerbruch, Finch, Sander; Professors Emeriti Dracy, Knabach, Storry; Associate Professors A. Andrawis, M. Andrawis, Galipeau, Helder, Associate Professors Emeriti Bruce, Moore, Petersen; Assistant Professor Hietpas.

Programs

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, and power and control systems.

The mission of the Department of Electrical Engineering, in support of the mission of the College of Engineering, is to provide a highly respected, rigorous and practical education in electrical engineering so that our graduates may assume engineering positions of responsibility and leadership; to conduct meaningful research and scholarly activities, with regional emphasis, which broadens the base of engineering and scientific knowledge; and to provide technical assistance in the field of electrical engineering to existing and emerging industries and businesses in South Dakota and to our regional and global communities.

Specific program objectives for the Department of Electrical Engineering include:

1. To integrate engineering computer tools throughout the EE curriculum.
2. To provide students with real-world team design experience.
3. To provide students with enhanced experience in both written and oral communications.
4. To assist those students who wish to secure technical employment while completing their degrees.
5. To assist graduating students in their employment placement.

A 2-semester 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.

Academic and Graduation Requirements

Realizing that each student is an individual, the degree program is arranged to include 30 credits of elective course work. This elective flexibility allows a student to pick a technical and non-technical course program that best suits his/her needs and interests.

A student's acceptance into the Electrical Engineering program is based on prerequisite preparation, the cumulative grade point average (CGPA) and class standing after completion of the one-year pre-engineering major in the College of Engineering program. The number of students accepted in this major depends on regional and national needs and the resources of the College of Engineering. The department head should be contacted for application details.

Students will be admitted into junior level EE courses only after they have completed EE 220, 221, 222, and 223 with minimum grades of "C." Students will not be permitted to enroll in subsequent courses for which either EE 220 or EE 221 is a prerequisite until the above requirement has been met. A graduation ratio of 2.0 or better is required for all Electrical Engineering courses taken.

The non-technical (17), technical (13), and required (106) credits comprise the 136 credit degree. You have flexibility in choosing when elective courses are taken.

Humanistic and social science non-technical electives must be chosen to satisfy the University Core. The humanistic and social science electives must include in-depth course work to meet the rigorous EAC/ABET requirements. Six humanities credits from at least two areas and nine social sciences credits from at least two areas must be taken for graduation. An additional two credits must be taken for a total of 17. The Department of Electrical Engineering can provide the student with an approved list of courses that shows how the depth requirement can be met with a two course sequence where one course is the prerequisite for the second higher level course.

The 13 required technical electives must satisfy the following requirements:

1. Three credits must be taken from 300 level or higher math or basic science courses and must 1) be selected from an approved Electrical Engineering Department course list, 2) support a coherent technical program, and 3) be approved by the Electrical Engineering Department.
2. At least 10 credits must be from Electrical Engineering courses, including at least 6 credits from 400 level.

Electronics Engineering Technology (ET)

(See General Engineering and Technology)

Engineering Graphics (EG)

(See General Engineering and Technology)

Engineering Mechanics (EM)

(See General Engineering and Technology)

Engineering Physics

(See Physics)

Engineering Shops (ES)

(See General Engineering and Technology)

English (Engl)

George West
Department of English
Scobey Hall 014
605-688-5191

Faculty

Professor West, Head; Distinguished Professor Woodard; Professors Brandt, Duggan, Evans, Kildahl, Ryder, Taylor, Williams; Professors Emeriti Alexander, Brown, Foreman, Marken, Witherington, Yarbrough; Associate Professors Danker, Flynn, Keller, O'Connor; Assistant Professors Donovan, Haug, Marie-Peterson; Instructor Brown.

Programs

Courses in the English Department are divided into two areas: English (Engl) and Linguistics (Ling); see the Course Descriptions section of this bulletin. 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 technical communications. An 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 or minor in English. The English Major leads to a Bachelor of Arts (B.A.) degree in one of two programs: **Option A: English major, 39 credits in courses prefixed Engl and Ling** (not counting Engl 101, 301, and non "Honors" 210); **Option B: English Education major, 36 credits in courses prefixed Engl and Ling** (not counting Engl 101, 301, and non "Honors" 210) together with the courses required by the College of Education. Option B students must register with the College of Education and Counseling before beginning Education courses, usually in the sophomore year.

English majors in both options must take Hist 121 and 122, as well as foreign language courses required for the B.A. Minimum college and university requirements are given in the appropriate sections of this bulletin 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 301), of which 9 hours must be in British literature, and 6 hours in American literature. Minors must also take one of the following courses: Engl 379, 383, Ling 203, 425, 420, 443 ,452.

The Master of Arts (M.A.) Degree. The Department offers the Master of Arts in English. For details consult the Graduate Bulletin.

Entomology (Ent)

(See Plant Science)

Environmental Management (EnvM)

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 306
605-688-6141
http://www.abs.sdstate.edu/bio

Faculty

Professor McMullen, Head; Professors Gibbons, Granholm, J. Haertel, L. Haertel, Hildreth, Hutcheson, Kayongo-Male, Larson, Peterson, Westby, Whalen; Professors Emeriti Baker, Chen, Hartwig, Hugghins, Morgan, Myers, Pengra, Taylor; Associate Professors Bleakley, Duvall, Cheesbrough, Hurley, Reese, Sutton; Troelstrup; Associate Professor Emeritus Morrill; Assistant Professors Dieter, Erickson, Gibson, Gilmanov, Rowland, Yen; Adjunct/Joint faculty Benfield (Vet.Sci.), Chase (Vet.Sci.), Diggins (Augustana), Evenson (Chem.), Fennell (HFLP), Francis (Vet.Sci.), Franklin (DS), German (WRI), Henning (DS), Jackson (NGIRL-USDA), Johnson (PS), McFarland (ARS), Reidel (NGIRL-USDA), Rietz (Brookings Medical Clinic), Sieg (USFS), Tieszen (Augustana), West (Chem.), Woodson (NGIRL-USDA).

Program

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 relationship with prospective employers throughout their program. A minimum GPA of 2.0 must be maintained in the major and chemistry courses.

European Studies Program (EurS)

Gordon Tolle
Department of Political Science
Scobey Hall 304
605-688-4912
e-mail: tolleg@mg.sdstate.edu

A faculty committee appointed from many related disciplines advises the Coordinator.

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.

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., French 101 fulfills part of a language requirement. EurS 301 fulfills part of the social science requirement.). In addition, students may use up to a maximum of eight credits from their majors. 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. Upon completion of the program and graduation , a notation will be entered on your transcript.

Family and Consumer Sciences

(See Human Development, Consumer and Family Sciences)

Family and Consumer Sciences Education

(See Human Development, Consumer and Family Sciences)

Food and Biological Materials Engineering

Darrell W. DeBoer
Department of Agricultural Engineering
Agricultural Engineering 105
605-688-5141
http://www.abs.sdstate.edu/ae/index.htm

Faculty

Professor DeBoer, Acting Head; Professors Chu, Hellickson, Ullery, Werner; Professors Emeriti Durland, Wiersma; Associate Professors Adelaine, Anderson, Humburg; Associate Professor Emeriti Lytle; Assistant Professors Bender, Bischoff, Campbell, Julson, Kelley, Muthukumarappan, Pohl, Schipull, Stange, Assistant Professor Emeriti Pahl.

Programs

Food and Biological Materials Engineering is a unique educational option in Agricultural and Biosystems Engineering that provides students with an exceptional opportunity to serve the food and fiber processing industry. The processing of biological materials adds value to agricultural commodities and provides additional capacity for economic growth in the region. Graduates will have the capability to design, install and maintain the new technology that is used in the food and fiber industry.

Students are given foundation courses in mathematics, physics, chemistry and microbiology. Additional course work stresses communication skills, engineering mechanics, food science, food safety, and engineering design. This program of study will prepare you for entry-level positions with fruit and vegetable processors, grain millers and bakers, beverage companies, oil processors, chemical companies, pharmaceutical companies and meat processors. Food and Biological Materials Engineering offers an outstanding career opportunity to the student who has an interest in the biological and physical sciences.

Bachelor of Science graduates from the Food and Biological Materials option in the Agricultural and Biosystems Engineering major should possess the following attributes at the time of their graduation:

1. Understanding of engineering concepts associated with food and biological materials engineering and food processing.
2. Ability to apply engineering design principles and practices to solve problems associated with food and biological materials engineering and food processing.

3. Strong background in mathematics, natural sciences and engineering design.
4. Excellent critical thinking and problem solving skills.
5. Competency in computer technologies and instrumentation.
6. Excellent communication skills.
7. Capability to be effective and productive team members.
8. Ability to perform "hands-on" tasks.
9. Appreciation for the benefits of professional (including ethical) behavior.
10. Appreciation for the arts and humanities.

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

See Agricultural and Biosystems Engineering for courses and curriculum.

Foreign Language Business-Economics Specialization

Karen Cárdenas
Department of Foreign Languages
NFA 121
605-688-5101

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. They are required to submit a letter of intent to the Departments of Economics and Foreign Languages no less than three months prior to the date of graduation.

Foreign Languages (FL)

Karen Cárdenas
Department of Foreign Languages
NFA 121
605-688-5101

Faculty

Professor Cárdenas, Head; Regental Professor Emeritus/Dean Emeritus Barnes; Distinguished Professor Emerita Redhead; Professor Emeritus Bates; Professors Baker, Beattie, Richter, Sunde; Associate Professor Emeritus Iden; Instructors Cecil, Dykstra, Garst, Stocke-Yamada; Adjunct Instructor Green.

Programs

The Department of Foreign Languages provides proficiency-oriented instruction in second languages, literatures, civilizations and cultures. 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 foreign languages (101, 102, 201, 201) may do so in any one of four languages: French, German, Lakota, or Spanish.

Students entering the university with a background in foreign 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) may apply to receive credit for all previous courses. Even if the student's career goals do not center on a foreign language, a strong background in a language may make a second major or a minor feasible.

The faculty of the Department of Foreign Languages works with students to determine the program of study which will best prepare them for the career they have chosen. The department encourages students to investigate programs in other academic areas which will complete or enhance their preparation for a specific career. Such programs include, but are not limited to: Economics (see the requirements for the Foreign Language Business-Economics Specialization), Education (see "Education Curriculum for Teachers of Academic Subjects"), European Studies (see European Studies), and Latin American Area Studies (see Latin American Area Studies). Students are also encouraged to plan a summer/semester experience travelling and/or studying abroad.

Additional information on the department's programs is found elsewhere in this Bulletin. The department also has placement information as well as specific information on all of its programs available in the main office of the Department of Foreign Languages.

French

(See Foreign Languages)

General Agriculture

Eugene Arnold
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133

Programs

The General Agriculture curriculum is designed for the student undecided as to a major field of study within the area of agriculture or for the individual planning to return to the farm or ranch after college. A large number of free electives are available allowing you to search for a major or take courses in the different disciplines needed to manage a production unit. Two options are included in this curriculum: a two-year Associate of Science degree and a four-year Bachelor of Science degree.

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 returning to the farm or ranch.

All major field of concentration courses must be from departments within the College of Agriculture and Biological Sciences and be related to agriculture. All courses in the major field of concentration need not be in one department, although this may be a possibility. Consult your adviser when selecting major field of concentration courses. These courses should relate to your career interests.

General electives may be selected from any area. Electives are offered so students may develop special talents or interests in General Agriculture. The choices of courses are left to the student, providing the selections made are consistent with the academic standards of the University and of the College of Agriculture and Biological Sciences.

The **B.S. program** consists of approximately one-fourth agriculture; one-fourth basic science; one-fourth social science, communications, and humanities; and one-fourth elective subjects. When qualifying for a Bachelor of Science degree a student may, through a choice of electives, complete courses in business, prepare for graduate study, or enroll in special areas of study such as plant and/or animal science.

General Engineering and Technology (GE&T)

Jerry Sorensen
Department of General Engineering and Technology
Wenona Hall 310
605-688-6417
e-mail: sorensej@mg.sdstate.edu
fax: 605-688-5041

Faculty

Professor Sorensen, Acting Head; Professors Emeriti Heusinkveld, Skubic, Associate Professor Reposa, Assistant Professors Garry, Kreyger; Assistant Professors Emeriti H. Svec, Wakeman; Instructors J. Froehlich, Haug, Mattson, Peters, Sternhagen, H. Svec, R. Svec, M. Tolle; Lecturer Thue.

Programs

The General Engineering and Technology Department offers courses in introductory engineering topics, interdisciplinary engineering topics, and technical laboratory experiences. In addition, the degree Bachelor of Science in Technology (BST) is offered in Electronics Engineering Technology (EET), Construction Management (CM), and Manufacturing Engineering Technology (MET). The number of credits required to satisfy the BST degree is 128.

The Master of Science in Industrial Management (MSIM) degree is offered by the Department of General Engineering and coordinated through the College of Engineering and other colleges on the SDSU campus. (See the Graduate Bulletin for more information.)

General Engineering (GE)

Through academic advising, the department provides to the students who are undecided in their choice of a specific engineering or technology discipline, an opportunity to consider many options while taking the fundamental courses required in most technical majors. Guidance is also provided for those students who are not pursuing professional engineering degree programs but wish to establish a fundamental understanding in a technical area.

Construction Management (CM)

The Bachelor of Science in Technology Degree with a major in Construction Management prepares graduates for employment in the construction industry to manage technical construction projects and middle management process as well as providing the diversity of a baccalaureate degree. The construction management technologist must be well versed in engineering practice, construction processes, and management skills. (Information Sheet available from Department)

Engineering Graphics (EG)

The Engineering and Architectural Graphics courses are provided to satisfy the visualization and graphics communication requirements of the accredited engineering departments in the College of Engineering.

Engineering Mechanics (EM)

Course objectives in Engineering Mechanics are to develop an educational background by a 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 Shop (ES)

Courses in Engineering Shops concentrate on the various industrial processes closely associated with practical engineering principles. Working with machine tools and other equipment the student will acquire an understanding of properties of materials and various treatments of materials for specific operations and purposes.

Facilities for computer aided manufacturing (CAM), computer integrated manufacturing (CIM), computer numerical control (CNC), and computer aided design and drafting (CADD) and for research are also provided for metal processing and for construction of experimental equipment for other university departments.

Electronics Engineering Technology (ET)

The Bachelor of Science in Technology program with a major in Electronics Engineering Technology prepares graduates for employment in business and industry with an in-depth competence in Electronics Technology as well as providing the diversity of a baccalaureate degree.

An Electronics Engineering Technologist serves to support the engineer in a manner requiring application of both theoretical knowledge and related technical skills. Working with information supplied by the engineer, the engineering technologist builds prototype models, troubleshoots, modifies, and supervises production of electronic products. (Information Sheet available from Department)

Manufacturing Engineering Technology (MET)

The Bachelor of Science in Technology program with a major in Manufacturing Engineering Technology prepares graduates for employment in the manufacturing industry with in-depth competencies in manufacturing engineering applications, manufacturing equipment and processes, and manufacturing management.

Within the breadth of the four year degree program, strong communication skills, quality management, and continuous improvement along with liberal studies and computer applications will permeate all aspects of the curriculum. The marriage of theory and application will be the cornerstone of such categories of study as Production Design, Manufacturing Materials, Processes, Systems, Automation, Controls, Productivity and Quality.

General Studies

Allen Branum
College of Arts and Science
NFA 251
605-688-6619

Programs

The General Studies major is designed for students who have a personal and/or a professional goal that cannot be met by an established major on campus. In addition to completing the core requirements of the College of Arts and Science, the student must complete 40 credits of courses which accomplish the attainment of the uniquely defined goal. These 40 credits should be from two or more disciplines and should include both lower and upper division courses. A Plan of Study form must be completed identifying the personal and/or professional goals, the courses to be taken, and an explanation of how the courses contribute to the goals. This form must be approved by the student's adviser and the Assistant Dean of the College of Arts and Science. The General Studies major can be obtained with a Bachelor of Science degree.

Genetics

Eugene Arnold
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133

Though there is no separate instructional department, a student wishing to specialize in Genetics can obtain an excellent program by selecting the following courses:

AS 332, Principles of Animal Breeding 4
Bio 343, Cell Biology 3
Bio 371, Genetics 3
Bio 372, Genetics Laboratory 1
Bio 453-553, Advanced Genetics 3
Bio 462-562, Molecular Biology I 2
Bio 463-563, Molecular Microbial Genetics Lab 2
Bio 464-564, Molecular Biology II 2
Bio 465-565, Molecular Biology II Lab 2
Micr 436, Molecular & Microbial Genetics 4
Micr 492-592, Advances in Microbiology: Gene Engineering 2
PS 383, Principles of Crop Improvement 3

Geographic Information Systems

(See Geography)

Geography (Geog)

Roger Sandness
Department of Geography
Scobey Hall 232
605-688-4511

Faculty

Professor Sandness, Head; Distinguished Professor C. Gritzner; Professors, J. Gritzner, Hogan, Opheim; Associate Professor Berg, Napton; Assistant Professors Gab, Samuelson; Adjunct Faculty Bliss.

Programs

Geography is the science that studies the distribution of both physical and human features of the Earth's surface. Geographers seek to describe, relate and explain the natural and cultural phenomena that distinguish places around the world. Geographers focus upon "where" and "why" questions concerning the global environment. The process of change and an examination of how humans modify the Earth is a continual emphasis.

The Department of Geography provides coursework leading to the Bachelor of Science degree. The major requires 35 credit hours which includes Geog 131, 132, 200, 382, a Regional course, and 18 credits of upper division credit. In addition to the standard degree programs, there are two options available in the Geography Major: Technical Geography–Science and Environmental Planning and Management. The Technical Geography–Science Option stresses research techniques and is oriented toward future employment in governmental, industrial, military, or planning positions. The Environmental Planning and Management Option is designed to prepare students for careers in governmental, industrial, managerial, recreational areas, and commercial corporations. Minors in Geography and Geographic Information Systems are also offered by the Department.

German

(See Foreign Languages)

Gerontology

Renee Oscarson
Department of Human Development, Consumer and Family Sciences
NFA 369
605-688-6418
e-mail: oscarsor@ur.sdstate.edu

Minors in Gerontology are available at the undergraduate and graduate levels. Contact the Coordinator of Gerontology, College of Family and Consumer Sciences, for further information on these minors.

Health, Physical Education, and Recreation (HPER)

Fred Oien
Department of Health, Physical Education, and Recreation
Physical Education Center 251
605-688-5625

Faculty

Professor Oien, Head; Professor Booher; Professors Emeriti Forsyth, Huether, Williamson; Associate Professor Hacker; Associate Professor Emeriti Crabbs; Assistant Professors Erickson, Finn, Haensel, Riggen-Santiago, Sandness; Instructors Barrios, Bohn, Doyle, Ekeland, Ericksen, Etter, Fish, Hauschild-Mork, Henderson, Janicki, Kirby, Liles, Margenthaler, Menage, Nagy, Neiber, Russow, Stiegelmeier, Lecturers Bayer, Byrne; Adjunct Professors Ramsay, Reynen, Warren.

Programs

Professional Preparation in Health, Physical Education, and Recreation

Four undergraduate majors are offered within the department. These include Athletic Training, Health Promotion, HPER, and Public Recreation. Three undergraduate minors are offered including Health Education, Physical Education, and Public Recreation. Additional programs include Physical Education Teacher Education, Pre-Physical Therapy and Pre-Occupational Therapy.

The Department of Health, Physical Education and Recreation offers courses leading to a Master of Science in HPER. See Graduate School Bulletin for details.

WEL 100 – Skills for Healthy Living

WEL 100 is a university core requirement. This two credit requirement consists of one hour of lecture and two hours of lab each week. WEL 100 is an interdisciplinary survey of topics pertaining to health and wellness. Lecture topics cover a wide variety of health-oriented information. Laboratories are activity oriented and include several self-assessment surveys. Students must register for a WEL 101-119 section when registering for WEL 100.

PE 100 – Fitness and Lifetime Activities

Two credits of fitness and lifetime activities may be taken as electives. The courses are designed to develop intellectual inquiry as to the need of physical activity and to present the opportunity to learn skills in carry-over activities promoting physical, social and emotional well

being. No activities may be repeated. Examples include: Aerobics, Archery, Camping Skills, Dance, Golf, Racquetball, Swimming, Tennis, Volleyball, and Weight Training.

Course Cross Referencing

The department cross references some courses with other consenting departments within the university. Students may use the prefix they desire.

Health Promotion

Katherine Riggen-Santiago
Department of HPER
PEC 119
605-688-6580
e-mail: santiagk@ur.sdstate.edu

Program

Students interested in adult fitness, cardiac rehabilitation, stress management, nutrition, etc. are candidates for this major. Admission requirements include: Sophomore standing with a 2.5 GPA or higher, completion of HPER 180, and a "C" or better in all courses taken within the core requirements. Students are required to choose classes from seven career orientations to complete course work for the major. Individuals graduating with a Health Promotion Degree will be prepared to enhance awareness, modify behavior, and create environments that promote positive health practices/behaviors.

Health Science (HSc)

Roberta Olson
College of Nursing
NFA 255
605-688-5178
e-mail: olsonr@mg.sdstate.edu

A Health Science minor is available for students who wish to gain knowledge in the areas of health, health care programs, health education, epidemiology, and occupational health.

History (Hist)

Rodney Bell
Department of History
Scobey Hall 322
605-688-4311
bellr@mgmail.sdstate.edu

Faculty

Professor Bell, Head; Professors Crain, Funchion, Miller, Sweeney; Professor Emerita Volstorff; Associate Professors Berg, Brooks.

Programs

The goals and objectives of the history program are to:

1. preserve, communicate, and interpret the human past;
2. prepare students for careers in history and related fields;
3. promote historical knowledge through research and other scholarly endeavors;
4. provide courses in history that meet the general education needs of the University community;
5. encourage the social, intellectual, and ethical growth of students;
6. foster multi-cultural awareness among students;
7. serve the university and society through various history activities.

The courses offered by the Department of History are intended to prepare majors for careers in teaching, government, and service oriented occupations, and to provide a necessary background for graduate work or other specialized training.

Degrees

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, 151, 152, and 380.

The Department also offers a History Minor. See the Major and Minor Requirements section of this bulletin.

Core Curriculum

In addition to departmental requirements, a student must complete the University and College of Arts and Science core curriculum appropriate to his or her degree. See separate sections of this bulletin for these requirements.

Teaching Option

Majors who intend to teach in the secondary schools must enroll in the teacher preparation program; for details, contact the College of Education and Counseling.

Honors Program (HON)

Harriet Swedlund
Director of Honors Program
Administration 315
605-688-4706

Faculty

Harriet Swedlund, Director; Honors Program Committee Members: Michael Brown, Chandradhar, Dwivedi, Micky Flynn, Marge Hegge, Oren Quist, Barry Thompson, Joseph White.

Program

Graduation with "Honors Program Distinction" is earned by completing the requirements listed in the curriculum plan given below. It is a set of courses and independent study that provide students with the opportunity to develop their unique personal potential for excellence. Qualified students are encouraged to participate in the Honors Program by taking selected courses whether or not full completion of the program is an objective.

Purpose of the Honors Program

1. To promote excellence in scholarship.
2. To promote intellectual self-reliance, self motivation, initiative, and creativity.
3. To develop the unique personal potential of highly capable individual students.
4. To enable students to develop in-depth understanding of the human experience through interdisciplinary study and independent investigation.

Participation in the Honors Program is to be included within a student's regular program of study in a chosen major. Most Honors courses will fulfill selected general education core requirements for the bachelor's degree. Students completing the Honors Program will graduate with special Honors Program Distinction, an honor recorded on the student's transcript.

Enrollment Requirements for Honors Courses

Qualified students may enroll in Honors Courses (Departmental Honors Courses or Honors Colloquia) without making formal application to the Honors Program Committee. To qualify for enrollment in an Honors Course, 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 on the composite ACT or combined SAT at the 90th percentile.

Application for Honors Program Distinction

Students wishing to graduate with Honors Program Distinction must submit an application to the Honors Program committee. This should be done during the junior year. The application must outline the student's proposed Honors independent study project. The application should be approved by the Honors Program Committee before the student registers for the independent study.

Graduation with Honors Program Distinction

To graduate with Honors Program Distinction, a student must have a cumulative GPA of 3.25 or higher as of the beginning of the semester of graduation. A minimum of 25 credits of honors coursework is required including Hist 121 and 122, Phil 100, at least one Honors Colloquium, and at least 3 credits of Honors Independent Study.

Honors Courses

Courses in the Honors Program are divided into three categories as follows:

1. **Departmental Honors Courses.** Departmental Honors Courses are departmental courses or special sections of departmental courses that have received approval for the Honors course designation. Most will fulfill general education core requirements.
2. **Honors Colloquia**. The Honors Colloquia are semester-long interdisciplinary seminars with reading lists, lectures, discussions, examinations, and/or papers. The colloquia may be used to satisfy core requirement 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 Program students are encouraged to take more than the one required colloquium.
3. **Honors Independent Study**. In the junior year, Honors Program students should propose their independent study projects. This proposal is submitted as part of the application to graduate with Honors Program Distinction. The project shall be evaluated by a three-member committee consisting of one member from the Honors Program Committee and at least one of the remaining members from the area of study. The student will work out in conference with the evaluation committee a program related to his or her particular intellectual interests and professional goals. An undergraduate thesis, oral or written examinations, demonstrations, performances, publications, etc., may provide the basis for evaluation.

Horticulture, Forestry, Landscape and Parks (Ho, La, PR)

Peter Schaefer
Department of Horticulture, Forestry, Landscape, and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
fax: 605-688-4713
e-mail: hflp@mg.sdstate.edu

Faculty

Professor Schaefer, Head; Professor Johnson; Professors Emeriti Collins, Peterson, Prashar; Associate Professors Ball, Fennell, Gilbertson, Graper, Harbage, Maca, Stubbles; Associate Professors Emeriti Johnson, Martin; Assistant Professor Schleicher; Instructors Evers, Healy.

Programs

The department offers instruction leading to the Bachelor of Science in Agriculture degree with majors in Horticulture, Landscape Design, and Park Management. Courses are offered in Horticulture (Ho), Landscape Design (La), and Park Management (PR). See the Course Descriptions section of this bulletin.

Horticulture (Ho)

The Horticulture major is designed to prepare students for careers in nursery production, landscape and turf maintenance, garden center operation or greenhouse production, or for entry into research and graduate study in horticulture. Greenhouse facilities and extensive field plots in woody and herbaceous ornamentals, fruit, and vegetables provide students with the opportunity to experience all aspects of plant production and management.

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 Emphasis curriculum. Students interested in pursuing careers in managing nurseries, landscape maintenance, garden center, or greenhouse businesses should follow the Business Option curriculum. Students interested in graduate study should follow the Science Option curriculum.

Landscape Design (La)

Landscape Design 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 Management (PR)

The curriculum in Park Management is designed to prepare students for professional positions in parks and outdoor recreation. Employment opportunities exist with federal, state, county, and municipal parks and recreation agencies and with private recreation and tourism enterprises. A 2.0 GPA or better is required to transfer into the curriculum and to graduate in park management.

Hotel, Restaurant, and Institution Management

(See Nutrition and Food Science)

Human Development and Family Studies (HDFS)

(See Human Development, Consumer and Family Sciences)

Human Development, Consumer and Family Sciences (CA, HDCF, FCS, FCSE)

Mary Kay Helling
Department of Human Development, Consumer and Family Sciences
NFA 371
605-688-6418

Faculty

Associate Professor Helling, Head; Professors Aamot, Nichols; Professors Emeriti Gilbert, Kranzler, Richardson; Associate Professors Enevoldson, Gilkerson, Good, Kluckman, Tidemann; Assistant Professors Bell, Branum, Ceglian, Cutler, Farris, Gardner, Godfrey, Kurtz, Oscarson, Porter, White.

Programs

The Department offers majors in Consumer Affairs, 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 or Dakota State University. Minimum college and university requirements are given in the appropriate sections of this bulletin and are incorporated into curriculum plans for each major. Advisers assist students in personalizing their curriculum plans and ensuring all requirements are met.

Consumer Affairs Major

Students develop abilities in management, planning, organizing, problem solving, and communication. Graduates work for business, government, and nonprofit organizations. Students develop a program focus in both Family and Consumer Sciences and business and/or media. Students participate in an internship experience in a business or organization compatible with their career goals.

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, 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 course work at BHSU or DSU.

Family and Consumer Sciences Education Major

Graduates meet certification requirements to teach Vocational 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. Course work, 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 course work in graduate school.

Minors

Minors are available in Gerontology, Consumer Affairs, and Human Development, Child and Family Studies.

Interior Design (ID)

(See Apparel Merchandising and Interior Design)

Journalism and Mass Communication (MCom)

Richard Lee
Department of Journalism and Mass Communication
Printing and Journalism 209
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Faculty

Professor Lee, Head; Professor Olson; Professor Emeritus Markland; Associate Professors Lucchesi, Perpich; Associate Professors Emeriti Cline, Laird; Assistant Professors Getz, Giago, Hinde, Paulson; Instructor Klock.

Programs

The four-year journalism program awards either a bachelor of arts or bachelor of science degree. Students select one of the following sequences within journalism: advertising, broadcast journalism, or news-editorial.

The department cooperates with the College of Agriculture and Biological Sciences to offer a four-year bachelor of science degree in agricultural journalism.

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. It is one of 105 schools of journalism so accredited. The department has been accredited continuously since accrediting began in 1948. The department subscribes to the accrediting body's philosophy of one-quarter of the student's work in journalism and three-quarters of the student's work in liberal arts courses. Journalism students take a minimum of 30 credit hours in journalism, but may take no more than 36 credit hours without extending the 128-hour requirement for graduation. Journalism students must have a "C" or better in Freshman Composition; must have a graduation average of 2.5 in journalism courses; and must have grades of "C" or better in all major courses.

News-Editorial Sequence. Students who want to be reporters or editors for newspapers, magazines, wire services or who want to work in public relations or government information agencies usually take this sequence.

Broadcast Journalism Sequence. Students who want to work in news in radio and television take this sequence.

Advertising Sequence. Students who want to work in newspaper, broadcast, or magazine advertising sales or production or who want to work in advertising agencies or with advertising departments take this sequence.

Agricultural Journalism. Students may major in both agriculture and journalism thus preparing themselves for careers in many areas that draw upon mass communication skills and a knowledge of agriculture. Those careers include reporting and editing for agriculture magazines and newspapers, for agriculture sections of general newspapers, for public relations or advertising in agribusiness, and for farm broadcast.

Minor in Journalism. Available for students majoring in other fields. Courses required are newswriting and reporting, and other journalism courses to total 16 credits.

Graduate Work in Journalism. An M.S. degree is offered. (See the Graduate School Bulletin for details.)

Facilities. The newswriting lab has 15 Macintosh LC III workstations for reporting classes. The editing and advertising lab has ten Power Macintosh terminals in a network that receives the Associated

Press wire news and has a photo scanner and supporting software. The photographic darkroom has ten individual darkrooms for film, a central printing room with new Besler enlargers, and digital photo capabilities. Broadcast facilities include an off-air studio, portable video cameras and recorders, an SVHS video editing system.

Lakota (Lak)

(See Foreign Languages)

Landscape Design

(See Horticulture, Forestry, Landscape, and Parks)

Latin American Area Studies Program (LAAS)

Allen Branum
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NFA 251
605-688-6619

Program

The student 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 program is primarily vocational. 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 and sociology, 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 LAAS program. This program 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. It should also facilitate improved communication and understanding between the peoples of these countries and the U.S. Courses should be integrated with the student's vocational major. The student should see a faculty adviser and the coordinator of the program.

Mathematics and Statistics (Math, Stat)

Kenneth Yocom
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Faculty

Mathematics: Professor Yocom, Head; Professors Ayers, Kemp, Kindermann, Lacher, Monahan, Nielsen, Schmidt, Vandever; Professors Emeriti Bryn, Kranzler, Associate Professor Clever; Associate Professor Emeritus Broschat, Nelson; Assistant Professors Abraham, Cogswell, C. Larson, Roe, Schaal, Struck; Assistant Professor Emeriti Trapp; Instructors Brost, Knofcczynski, Krieger, Werner; Lecturer B. Larson.

Statistics: Professors Evenson, Gilbert, Kim, Kindermann, Lacher, Monahan, Nielsen, Vandever, Wicks; Associate Professor Adamson, Fausti; Assistant Professors Roe, Struck, Wittig; Instructors Brost, Ellingson, Knofczynski.

Programs

Mathematics Major (B.S.)

The department offers the Bachelor of Science in Mathematics through the College of Arts and Science. These major programs provide rigorous preparation for the technically oriented student, the prospective mathematics teacher, or the student preparing for graduate school.

Beginning with Math 123, the B.S. program requires 39 of the 128 total credits required for graduation. Mathematics 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. Most of these requirements are incorporated into the curriculum plans found in the section on Major and Minor Requirements, but students should read the Arts and Science 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

Students interested in teaching mathematics at the secondary/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.

Minor

The minor in mathematics consists of 23 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.

Math Placement

All entering students, except for those with transfer credit in a college mathematics course, must take the mathematics placement test. Credit may be earned in Math 102 or 113 through sufficiently high scores on the placement tests.

Mechanical Engineering (ME)

Don Froehlich
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http://www.sdstate.edu/^me20/http/mecheng.htm

Faculty

Professor Froehlich, Head; Professors Ghazi, Hamidzadeh, Moutsoglou, Remund; Associate Professors Bassett, Delfanian; Instructor 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 utilize, economically, the materials and forces of nature for the benefit of mankind.

Included are the development of:

1) a capability to delineate and solve in a practical way the problems of society that are susceptible to engineering treatment,
2) a sensitivity to the socially-related technical problems,
3) an understanding of the ethical characteristics of the engineering professions and practice,
4) an understanding of the engineer's responsibility to protect both occupational and public health and safety, and
5) an ability to maintain professional competence through life-long learning. These goals are introduced through a curriculum of course work progression where fundamental scientific and other training of the earlier years is applied in later engineering courses.

Mechanical Engineers have a remarkable range of career directions from which to choose. Work is in research, development, design, testing, manufacturing, operations and maintenance, marketing and sales, or in management and administration. ME's 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, aircraft/aerospace, power, petroleum, computer, machinery (industrial, farm, office), plastics, electronic, textile, pharmaceutical, paper products, 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 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, systems and controls, materials, electrical fields and others. In the Design category, which is integrated throughout the curriculum, the student deals with the systems approach of solving problems where ideas, imagination, modeling and analysis are joined together to create a new component or a new product. Communications courses include English, speech, graphics and computer languages. Courses from the Socio-Humanistic areas are also required in our curriculum. Some of these are: sociology, history, psychology, economics, religion and others. These courses provide a rounded education which will enable Mechanical Engineers to understand their culture and society.

In the senior year, opportunity is given for specialization in various technical-option areas according to the student's interest and abilities. These include aerospace engineering, thermal engineering, industrial engineering, machine design, nuclear engineering, and environmental engineering. Elective courses are provided to allow this flexibility in the curriculum. Technical electives must be approved by the department head, and must total at least 11 credits, including one elective design course.

A minimum 16 credits of Humanities and Social Sciences are required. Of the 16, a minimum of 6 credits have to be Humanities where credits are from at least two different disciplines or departments. Of the 16, a minimum of 9 credits have to be Social Sciences. Within the group of courses taken toward the Humanities and Social Sciences requirement, at least 2 courses, where one is an advanced course, need to be from the same discipline to insure in-depth study. The approved courses and restrictions are listed in the Humanities and Social Sciences sections under the Graduation Requirements in this catalog. The laboratory program supports and supplements the classroom lectures with experimental work. Here, students learn to perform tests, collect and analyze data, compare with theory and arrive at conclusions. Also students develop a report writing capability which will be very valuable to them in their future careers.

The department helps interested students arrange cooperative or work/study programs 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, 495, or 496. These credits, upon approval, will fulfill part of the technical-elective requirements.

A student interested in Mechanical Engineering initially enrolls as a pre-engineering major in the College of Engineering. A student's acceptance into ME is based on prerequisite preparation, the cumulative grade point average (CGPA) and class standing after completion of the one-year program. The number of students accepted into ME will also depend on regional and national needs and the resources of the College of Engineering. You must contact the department head for the application details. 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 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 224, Phys 211, ME 311, ME 312 and all EM designated courses. Students will not be permitted to enroll in ME 312 or EM 331 unless they have earned a minimum grade of "C" in ME 311. Students must follow course prerequisite requirements.

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.

Medical Technology

(See Chemistry)

Microbiology (Micr)

Charles McMullen
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http://www.abs.sdstate.edu/bio

Faculty

Professor McMullen, Head; Professors Gibbons, Granholm, J. Haertel, L. Haertel, Hildreth, Hutcheson, Kayongo-Male, Larson, Peterson, Westby, Whalen; Professors Emeriti Baker, Chen, Hartwig, Hugghins, Morgan, Myers, Pengra, Taylor; Associate Professors Bleakley, Duvall, Cheesbrough, Hurley, Reese, Sutton, Troelstrup; Associate Professor Emeritus Morrill; Assistant Professors Dieter, Erickson, Gibson, Gilmanov, Rowland, Yen; Adjunct/Joint faculty Benfield (Vet.Sci.), Chase (Vet.Sci.), Diggins (Augustana), Evenson (Chem.), Fennell (HFLP), Francis (Vet.Sci.), Franklin (DS), German (WRI), Henning (DS), Jackson (NGIRL-USDA), Johnson (PS), McFarland (ARS), Reidel (NGIRL-USDA), Rietz (Brookings Medical Clinic), Sieg (USFS), Tieszen (Augustana), West (Chem.), Woodson (NGIRL-USDA).

Program

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 Science. Students majoring in Microbiology will select among four areas of emphasis depending upon their particular interest and needs: (1) Microbiology, (2) Molecular Biology, (3) Infectious Disease, and (4) Environmental and Applied Microbiology.

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

The **Molecular Biology emphasis** enables students to specialize in an area that has become one of the principal tools for the modern biologist plus an expanding career area in its own right.

The **Infectious Disease emphasis** 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 emphasis** 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.

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

Military Science (Mil) (Army ROTC)

LTC Jan Griesenbrock
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Faculty

Lieutenant Colonel Griesenbrock, Professor of Military Science, Head; Professor Emeritus Adams; Assistant Professor of Military Science Major Suich, Captain Kevan, Captain Morrison; Master Sergeant Vanzandt; Sergeant First Class Jenkins.

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 and masters 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 Basic Camp 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. All necessary ROTC textbooks, uniforms and other essential materials are furnished to the student at no cost. Fifty percent tuition credit for Advanced Course Non-scholarship cadets is available.

To be eligible for commissioning, all cadets must have completed courses in the following areas: Computer Literacy, Written and Oral Communications and a Military History class. Contact the department for a list of approved courses.

Requirements for Advanced Course

All those enrolling in the Advanced Course must:

1. Have completed the Basic Course or its equivalent.
2. Be a U.S. citizen.
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 which cover full tuition, laboratory and instructional fees, university student fees, transcript, cap and gown, diploma, and selected graduation fees. A flat book rate and supplies payment and $150 a month subsistence allowance are provided each semester. Scholarship competition (4-year scholarship) is conducted by the Department of the Army in the fall semester for University bound high school students. Applications are available from high school guidance counselors or directly from SDSU Army ROTC by contacting the Department of Military Science, P. O. Box 2236, University Station, Brookings, SD 57007-1597 or call (605) 688-6151 or e-mail wosjeg@ur.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.

Minor in Military Science

A minor in Military Science is available for those who complete 12 credits offered and who enroll and complete Mil 494 Internship. This minor is compatible to fields of major studies.

Music Education

(See Music)

Music Merchandising

(See Music)

Music (Mus)

Corliss Johnson
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Lincoln Music Hall 204
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Faculty

Professor Johnson, Head; Professors Emeriti Hatfield, Royer, Walker; Professors Canaan, Colson, McKinney, Piersel; Associate Professors Lis, Spencer, Vensand; Assistant Professors Crawley, Crowe, Peterson, Ripley, Instructors Coull, Jamsa.

Programs

The Music Department offers three degree options: Bachelor of Arts, Music Major; Bachelor of Science, Music Merchandising Major; and Bachelor of Music Education.

Bachelor of Arts - Music Major (B.A.)

This program is recommended for those whose intellectual temperament is more suited to a liberal arts program rather than the professional degrees of Bachelor of Music Education or Bachelor of Science-Music Merchandising. It provides a background for those wishing to prepare for degrees that require extended work in graduate school.

Bachelor of Science - Music Merchandising (B.S.)

This program is recommended for those with a strong background in music who wish to pursue careers in one or more of the many aspects of the music industry. The B.S.-M.M. degree enables students to continue developing their musical skills along with in-depth study in Economics, Communications, Advertising, and Computer Science. The course work for this degree culminates in an on-site internship in a music business setting.

Bachelor of Music Education (B.M.E.)

This program is recommended for students wishing to become certified to teach elementary and secondary school music. An emphasis in choral or instrumental teaching may be elected, or, by adding appropriate hours, students may prepare in both areas. Those preparing in both areas must complete both choral and instrumental music education sequences, including both sets of pedagogies.

Music Minor

The Music Minor is for students wishing to undertake an in-depth study of music without majoring in it. The program requires twenty-two hours of specialized course work plus major ensemble participation.

General Student Information

Students not wishing to major or minor in music are welcome to participate in music ensembles, applied lessons, music appreciation classes, and in some music literature and history offerings. See course listings for details, requirements, and prerequisites.

Music Requirements: (All music majors)

1. Admission as a music major in any of the music degree programs requires the successful completion of an audition in the student's major area of applied instruction.
2. Music majors in all degree programs must choose one area of applied instruction in which to specialize. Further, students must meet the applied proficiency standards of the department in that area. To that end, students must:
   a. successfully complete a jury examination each semester.
   b. apply for and be granted approval to advance to upper level applied study (300-400 levels).
   c. complete a minimum of 6 hours of upper level (300-400) applied study.
3. Piano proficiency is required of all majors. Several approaches to meeting the requirements are available. See the *Student Handbook* for more specifics.
4. Fretted instrument proficiency is required of Music Education students. Proficiency may be met by successfully passing the guitar proficiency examination or by completing all requirements of the guitar class. **Note: Piano and fretted instrument proficiencies must be passed before the senior recital may be scheduled.**
5. Voice or instrumental proficiency is required of all keyboard majors.
6. Ensemble Requirements:
   a. All music majors must participate in at least one major ensemble each semester they are enrolled as a regular university student (Internship and Student Teaching semesters excepted). See the *Student Handbook* for more details.
   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. Students may wish to take six pedagogy courses to achieve a stronger preparation for teaching. 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 or 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 195) each semester they are enrolled for applied music lessons. Specifics for this and all other music requirements are delineated in the *Student Handbook.* Music majors should refer to it regularly.

Natural Resource Studies

Eugene Arnold
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133

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 eight 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 natural resource management practices essential to maintain and enhance South Dakota's, the nation's, and the world's natural resources.

The programs in the natural resources area include: Agricultural Engineering, Agricultural Systems Technology, Agronomy, Environmental Management, Landscape Design, 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 in addition to other specializations employers require. SDSU also offers courses in other areas that support the natural resource programs. The Economics Department, for example, offers courses in resource economics.

Nursing (Nurs)

Roberta Olson
College of Nursing
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Faculty

Distinguished Professor Hegge; Professors Heater, Olson, C. Peterson; Professors Emeriti Blazey, Hofland, G. Johnson, E. Peterson; Associate Professors Carson, Foland, Hendricks, Mylant, Sorenson, Wey; Associate Professors Emeritus Hanson, Holter; Assistant Professors R. Chappell, Craig, Gehrke, Iken, Joffer, Powers, Scott; Vinson; Instructors Andersen, Becker, Benedict, Birch, Boysen, Burggraff, Calhoon, Dieter, Dorn, Elverson, Fahrenwald, Fischer, Fjelland, Gibbons, Goddard, Hesson, Hobbs, Laird, Leary, Mammenga, Maurer, Melcher, Melin,

Pendo, Pickard, Potts, Roddy, Shaver, Stevens, Talley, Tschetter, Voss, Weber, C. Williams, S. Williams, Winterboer; Instructor Emeritus J. Nelson.

Pre-Nursing and Nursing Major

Any student eligible for regular admission to SDSU and who desires 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 two types of programs for students wishing to complete a nursing major. The basic program is designed to meet the educational needs of persons who are not registered nurses, and the RN Upward Mobility program is designed as a degree completion program for registered nurses who have completed academic diploma or associate degree nursing programs.

Admission to the Nursing Major

Basic students are admitted to the nursing major both fall and spring semesters on the Brookings campus, and the spring semester only at Rapid City. Students wishing to enter the nursing major are required to submit an application for admission to the major.

Students may apply to only one program site at a time. Total enrollment in the major may vary, depending upon available clinical facilities, qualified faculty and funds, with the selection made from among those best qualified for the study and practice of nursing.

Applications to the major are available through Nursing Student Services at the site for which the student is applying. Deadline for applications for the basic program for spring is the third Friday of October, or the third Friday of February to enter fall semester. The deadlines for applications for the RN Upward Mobility program may vary. Students should contact the site coordinator at the site in which they want to begin classes, by April 1 for students wishing to begin the major in summer/fall and by October 1 for students wishing to begin the major in spring. Failure to submit a completed application by the deadline may automatically disqualify the applicant from being considered for enrollment in the nursing major courses for the coming semester.

To be considered for admission, students must have a 2.5 GPA or above in all completed required nursing major support 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 Student Services Coordinator at the student's program site.

Students preparing for or seeking additional education in the field of professional nursing must demonstrate a stable personality and 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 document is available through the Student Services Coordinators.

Transfer students who have begun and not completed a nursing program in another college or university must submit a letter indicating the reason for transfer. Three letters of recommendation must also be submitted; one from the dean/director and two from faculty members.

Requirements for Continuation in the Nursing Major

Satisfactory completion of all nursing major and required support courses must be accomplished for entrance into the second and subsequent semesters of the major courses. If students drop out of a course or fail to progress as planned in the major for any reason, there is no guarantee that there will be a place for them in another semester due to the necessity to limit size of clinical classes.

After acceptance into the major, students failing to obtain a grade of "C" or above in each required course will need the recommendation of the undergraduate Admissions and Scholastic Standards sub-committee before being allowed to continue. Required nursing support courses and nursing major courses may be repeated only once to raise an unsatisfactory grade. If a student does not satisfactorily complete the course the second time, he or she will not be allowed to continue in the College.

All undergraduate and graduate nursing students are expected to adhere to the principles of the *American Nurses Association Code with Interpretive Statements (1985)*. The *Code 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 of Advanced Studies 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 for Professional Nurses.

Nutrition and Food Science (NFS)

Marilyn A. Swanson
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Faculty

Professor Swanson, Head; Professors M. Crews, Specker; Professors Emeriti Colburn, Deethardt, Wills; Associate Professors Chipman, Krishnan, Rose, Wang; Associate Professors Emeriti Guild, Shank; Assistant Professors G. Crews, Fields, Kattelmann, Krause; Instructors Henzlik, Pitts.

Programs

The Department offers the Bachelor of Science degree with majors in Hotel, Restaurant and Institution Management and Nutrition and Food Science (Dietetics and Food Science Options); and a minor in Nutrition.

Hotel, Restaurant and Institution Management

The Hotel, Restaurant and Institution Management program provides a firm foundation in both lodging and food service operational management supported by a strong background in business and economics. On-the-job work experience for practicum credit strengthens the academic program.

Students will be prepared for management careers in hotels, motels, restaurants, private clubs, airlines, and food services in various industrial, health care and school facilities. Students with up to two years general education credits will usually find that most of their credits will transfer into this program.

Nutrition and Food Science – Dietetics Option

Dietetics offers a wide variety of jobs in hospitals, 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 to the care of people, sick or well.

The dietitian is essential to the total care of the patient in a healthcare facility, giving nutritional guidance and instruction that will continue on an outpatient basis. Dietitians also work in clinical research units. The

role of the dietitian is changing with changes in health care and has become more involved in preventive health care and in community nutrition programs as an integral part of total health care.

Through the program in dietetics, students develop understanding and competency in food, nutrition, and management of a dietary department. The curriculum is approved by the American Dietetic Association (ADA). Completion of an internship at one of approximately 155 sites in the U.S. or other ADA approved experience qualifies the student to take the registration exam.

Students interested in earning a degree in the Nutrition and Food Science major (Dietetics Option) will be accepted into the Nutrition and Food Science Department as pre-majors and assigned a departmental adviser. Formal application is required for admission into the dietetic program. Application forms are available from the Nutrition and Food Science Department. To be admitted into the dietetic program, the student must have completed and received grades for at least 45 semester credits toward graduation, have a cumulative grade point average of at least 2.5 for all courses taken, and have earned at least a 2.0 grade point average in two required chemistry courses.

Nutrition and Food Science – Food Science Option

The option in Food Science prepares students for professional positions in the food processing industry or for graduate study in food science. The program of study is firmly based upon chemistry and the biological sciences.

Students find employment as entry level professionals in the food industry and various federal and state regulatory agencies. Industrial positions may involve quality assurance and new product development.

Students with a strong background in the basic sciences during the first two years in college may transfer into the program with minimal credit loss.

What is Food Science/Food Technology? 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 their deterioration, and the principles underlying food preservation. Food Technology is the application of science to the selection, preservation, processing, packaging, distribution and use of safe, nutritious and wholesome food.

(Pre-) Occupational Therapy

Jim Booher
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Physical Education Center 265
605-688-5824
e-mail: booherj@mg.sdstate.edu

The 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 counseling service to assist each student. A strong undergraduate academic record is important.

Most schools of occupational therapy offer a bachelor's degree while some offer a master's degree. Students must complete a certain number of required courses before applying to a professional occupational therapy program.

Park Management

(See Horticulture, Forestry, Landscape, and Parks)

Pest Management

(See Plant Science)

Pharmacy (Pha)

(See College of Pharmacy)

Pharmaceutical Sciences

Gary Chappell
Department of Pharmaceutical Sciences
Shepard Hall 309
605-688-6198
e-mail: lobank@mg.sdstate.edu

Faculty

Professor Chappell, Head; Professors Billow, Dwivedi, Houglum, Lattin, Singh; Associate Professor Smar; Assistant Professors Aparasu, Berg, Guan, Helgeland, Preuss, VanRiper.

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 is confirmed through the awarding of a B.S. in Pharmaceutical Sciences degree. See the College of Pharmacy section of this catalog for admission requirements for the Pharm.D. Professional Program.

Philosophy and Religion (Phil, Rel)

Robert Burns
Department of Philosophy and Religion
Scobey Hall 308
605-688-4909

Faculty

Distinguished Professor Burns, Head; Professor Nelson; Associate Professors Bahr, Glass; Assistant Professor Bielfeldt.

Programs

Philosophy may be characterized as one's attempt to find a meaningful perspective from which to view oneself, one's world and one's place in that world. Students from any major may profit from philosophy.

The academic study of religion involves the use of critical and interpretative skills in examining the vast range of ideas, practices, and writings that are reflected in religion. Present course work is designed to enrich the student's perspectives and introduce some of the important features of philosophy and religion.

A minor in Philosophy is available in either the B.A. or B.S. program. The minor requires 16 credit hours of philosophy, including Phil 100. Of these 16 hours, 6 must be in upper division courses.

A minor in Religion may be pursued in either the B.A. or the B.S. program. Completion of the minor requires 15 credit hours of religion.

Pre-ministerial students are advised to explore the pre-professional offerings. Contact the department. Students enrolled in the professional colleges may benefit from the Department's professional ethics course offering.

(Pre-) Physical Therapy

Jim Booher
Department of Health, Physical Education, and Recreation
Physical Education Center 265
605-688-5824
e-mail: booherj@mg.sdstate.edu

The 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 counseling service to assist each student in developing a plan best suited to his or her needs. Acceptance by physical therapy schools is on a competitive basis, therefore, a strong undergraduate academic record is essential.

Most schools of physical therapy now offer a master's degree program. The remaining schools continue to offer a bachelor' degree while in the process of changing to a master's degree. Students must have a basic science background and complete a certain number of required courses before applying to either type of professional physical therapy program.

Physics (Phys)

Oren Quist
Department of Physics
Crothers Engineering Hall 310A
605-688-5428
e-mail: quisto@mg.sdstate.edu
www.engineering.sdstate.edu/~physics/physics.htm

Faculty

Professor O. Quist, Head; Professors Leisure, Rauber; Professors Emeriti Duffey, Graetzer, Miller, Williams; Associate Professors Browning, Kitterman, Schiller; Assistant Professors Aaron, Kelley.

Programs

The Physics Department has three main objectives in its program offerings: (1) to serve students interested in engineering as a profession; (2) to serve students from various colleges within the university who need a basic understanding of physics; and (3) to serve students with an interest in a professional future in physics. The department is composed of appropriate professional staff, facilities, and equipment to support these objectives.

The curriculum in Engineering Physics is built around a strong core of physics courses complemented by courses from engineering departments. Students can earn an Engineering Physics degree with an emphasis in either mechanical or electrical engineering by selecting appropriate courses from one of these two areas. This major is designed to give students the ability to apply new research developments to pressing problems of society and is most attractive for those students interested in industrial employment. Students with an engineering physics degree typically enter employment immediately upon graduation as an engineer or continue graduate work in a field such as nuclear engineering, electrical engineering, mechanical engineering or aerospace engineering.

The curriculum in Physics is an option similar to the Engineering Physics curriculum that is not necessarily directed towards engineering. Not requiring the depth of engineering courses allows the Physics curriculum more flexibility to accommodate a wide range of student interests. Students interested in a professional physics career, graduate school, medical school, secondary physics education, meteorology, or a multitude of related areas can choose this option. This flexibility is achieved by building a curriculum around a core of 28 required semester credits in physics. Listings of elective courses for various technical careers are available in the Physics Department office.

A student must have a Cumulative Grade Point Average (CGPA) of 2.0 or above for all physics courses to be eligible for graduation with a major in physics. A GPA of 2.0 or above must also be obtained for the three courses Phys 211-213 (or Phys 111-113) and Phys 331. Any deviations from departmental requirements must be approved by the Head of the Physics Department. A physics minor can be earned by completing 17 credits in physics from an approved course list.

Planning (Plan)

Roger Sandness
Department of Geography
Scobey Hall 232
605-688-4511

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.

The Minor in Planning (Master's Degree Level) and teaching Planning courses are governed by a Coordinating Committee appointed by and responsible to the Vice President for Academic Affairs.

Plant Pathology

(See Plant Science)

Plant Science (PS)

Dale Gallenberg
Department of Plant Science
Agricultural Hall 219
605-688-5123
e-mail: gallend@mg.sdstate.edu

Faculty

Professor Gallenberg, Head; Distinguished Professors Malo, Wrage; Professors Arnold, Beck, Boe, Carlson, Cholick, P. Evenson, Hall, Kohl, Reeves, Rickerl, Schumacher, Smolik, Wicks; Professors Emeriti Brage, Buchenau, Carson, Derscheid, Dybing, Fine, Gardner, Horton, Kantack, Kenefick, Kinch, Mankin, McDaniel, Moore, Shank, Shubeck, Walstrom, Wells, Westin, White; Associate Professors Bleakley, Carter, Chase, D. Clay, S. Clay, Doolittle, Fuller, Gelderman, Gerwing, Haley, Johnson, Kephart, Langham, Pollmann, Rudd, Scott, Stymiest, Sutton, Turnipseed, Woodard; Associate Professors Emeriti Colburn, Williamson; Assistant Professors Berg, Draper, Grady, Jin, Owens; Assistant Professor Emeriti Bonnemann.

Courtesy Appointments. The following staff members are employed outside the Plant Science Department but work cooperatively with Department staff and carry an adjunct professor appointment in the department: (Biology/Microbiology) Reese; (Chemistry) D. Evenson; (HFLP) Schaefer; (Biogenetics Inc.) Kahler; (GAEA, Inc.) Butler; (North Central Soil and Water Conservation Research Laboratory, Morris, MN-USDA/ARS) Lindstrom, Olness, Westgate; (Northern Grain Insect Research Laboratory-USDA/ARS) Chandler, Ellsbury, Hammack, Jackson, Kieckhefer, Pikul, Riedell, Woodson; (P.P.I.) Fixen; (University of Minnesota-Morris) Lemme; (USDA/ARS, Soil & Water Cons. Soc.) Moldenhauer.

Programs

The primary goal of the department is to prepare people for leadership in business, government, and farming enterprises related to crop production, insect control, plant disease control, pest management, and soil management. In addition, you can prepare for graduate study leading to a career in research, teaching, or extension.

Graduates with training in plant science are sought by agri-business, private foundations, and federal and state agencies for employment in domestic and international agriculture. Plant Science, with its variety of disciplines, provides an excellent background for independent pursuits in farming or ranching.

The Department offers instruction leading to the Bachelor of Science Degree with a major in Agronomy. Three areas of emphasis are offered in the major: 1) Business, 2) Production, and 3) Science.

The choice of an area of emphasis need not be made until the sophomore or junior year. This enables you to become familiar with the broad field of plant science and, through consultation with faculty and advisers, to develop a program that can satisfy your needs.

The Department is equipped with modern classroom, laboratory, greenhouse, and field plot facilities. Numerous opportunities are available for part-time employment, scholarships, and work-study programs. The Agronomy and Conservation Club offers opportunities for fellowship, leadership, and career planning. The Department has three nationally recognized judging teams in crops, soils, and weeds.

Graduate study opportunities may lead to Master of Science or Doctor of Philosophy degrees.

Agronomy Major

Provides broad training in the plant sciences and in crop production technology. The integrated program is designed to provide the students with an understanding and knowledge base in crops, soils, weeds, entomology, plant pathology, and the interaction of production systems. This major is recommended for students interested in either agricultural production or the agribusiness areas of crops and soils. Individuals can prepare for careers in farming or ranching; for work with private industry producing agricultural products, such as pesticides and fertilizers; for processing grain or hybrid seed; and for work with government agencies, such as the Cooperative Extension Service, Farmers Home Administration, and Natural Resources Conservation Service.

Political Science (PolS)

Robert Burns
Department of Political Science
Scobey Hall 308
605-688-4909

Faculty

Distinguished Professor Burns, Head; Professors Cheever, Tolle; Professor Emeritus Hendrickson; Associate Professor Emerita Schwab; Associate Professor Lonowski; Instructor Jones.

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, in turn, will contribute to the student's intellectual growth and occupational pursuits.

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 or 101 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). Finally, 6 hours in Political Science comparative government and/or international courses, either upper division or lower division, are required. Students who complete Math 123 or Math 222 may apply a total of 6 credits from CSc 312, Stat 341, Soc 309, and Soc 310 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 Science requirements. Finite Math (Math 143) may be used to satisfy BA and BS requirements in Political Science.

Teaching Emphasis

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 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.

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 business, journalism, planning, or the international area.

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.

Psychology (Psyc)

Allen Branum
Department of Psychology
Scobey Hall 338
605-688-4322

Faculty

Professor Hillner, Head; Professors Branum, Burke; Associate Professors Norris, Phelps; Assistant Professors King, Spear, Woldt.

Programs

The Department offers a Bachelor of Science degree with a major in Psychology. Within the Psychology major, students may pursue a preprofessional curriculum, an applied curriculum, a teaching option (preparation for secondary school teaching), or a psychological services option.

The minimum departmental requirement for a psychology degree (applied curriculum) is 30 credits prefixed Psyc which include 101 or 102, 302 or 315, and 490. Minimum college and university requirements are given in the appropriate sections of this bulletin and are incorporated in the curriculum plans listed later. Advisers assist students to personalize curriculum plans and ensure that all requirements are met.

Psychology Major, Preprofessional Curriculum

The preprofessional curriculum is for those students who intend to become fully qualified psychologists. It 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.

Psychology Major, Applied Curriculum

The applied curriculum is intended for those to whom an education in psychology will provide a foundation of knowledge of the principles of behavior that may be applied to any career or occupation that requires working with people. Flexibility is maximized to meet individual student needs.

Psychology Major, Teaching Option

The teaching option in psychology prepares students to qualify for certification to teach in secondary schools. Students pursuing this option should contact the College of Education and Counseling and the Department Teaching Coordinator before their junior year to obtain complete teacher education information and guidance.

Psychology Major, Psychological Services Option

The Psychological Services option is designed for those persons interested in working as diagnostic and therapeutic aides in clinical facilities. The program for this option includes familiarization with standard tests and techniques of therapy, as well as a supervised senior internship at a treatment facility.

Minor

The minor in Psychology consists of the following courses: Psyc 101 or 102, 202, 409, and 6 or 7 additional credits of 300-400 level courses for a total of 16 credits.

Public Recreation

Linda Sandness
Department of Health, Physical Education, and Recreation
Physical Education Center 251
605-688-6163
e-mail: sandnesl@mg.sdstate.edu

Programs

The HPER Department offers a Bachelor of Science degree with a major in Public Recreation. The Public Recreation major is excellent for those seeking to work in agencies such as YMCA/YWCAs, municipal recreation, business, and therapeutic recreation in clinical as well as community settings. A minor in Public Recreation is also offered.

Public Recreation Major

The requirements for the major include courses in the freshman and sophomore years which help students learn introductory information in a broad spectrum of courses and to gain a background in several areas of recreation such as dance, music, sport, and aquatics. During the junior and senior years the focus changes to administration and management courses.

Minor

Students earning a minor in Public Recreation take seven required courses and an additional seven credits from a selected list of courses.

Range Science (Rang)

(See Animal and Range Sciences)

Religion (Rel)

(See Philosophy and Religion)

Reserve Officer Training Program

(See Aerospace Studies, Military Science)

Restaurant Management

(See Nutrition and Food Science)

Rural Sociology (Soc, Anth)

James Satterlee
Department of Rural Sociology
Scobey Hall 224
605-688-4132
e-mail: satterlj@mg.sdstate.edu

Faculty

Professor Satterlee, Head; Distinguished Professor Hess; Professors Faltemier, Kayongo-Male, Mendelsohn, Stover, Professor Emeritus Sauer, R. Wagner; Associate Professors Arwood, Grant; Assistant Professors DuBois; Assistant Professor Emeritus M. Wagner.

Programs

The courses offered by the department have been organized with three definite objectives in mind: a sequence for those who may wish to earn an undergraduate major or minor in sociology; basic service courses that will be of interest and practical help to students in any college; and courses to fulfill requirements of a Master's degree or Doctor of Philosophy degree in Sociology. (Students interested in Graduate Program – see University Graduate Bulletin and department graduate guide.)

The department offers the B.A. and B.S. degrees in Arts and Science with a major in Sociology. An undergraduate may select from any of the following options in the Arts and Science curriculum. Each student is assigned to an adviser based on choice of option. Majors will be furnished with a department undergraduate handbook outlining specific requirements and recommended courses in each option.

General Sociology Option. Incoming freshmen and transfer student majors 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 Option Advisers, students may select any of the following options. Those desiring to gain a broad orientation to all areas of Sociology with anticipation of other career interests or graduate school may remain in this option.

Teaching Option. Prepares for entrance into junior or senior high level teaching. These students in consultation with departmental Teaching Option Adviser and the College of Education and Counseling plan their program to accomplish other teaching minors to maximize employment opportunities. One semester is set aside for a teaching-block and off-campus teaching assignment. (Minimum GPA of 2.2)

Social Work Option. The department cooperates with the Department of Social Behavior at USD, to offer an accredited degree in Social Work for those seeking a specialized career in private or public social welfare. Students need to work closely with the Coordinator of Social Work. They need to select this option early in their sophomore year to complete all requirements. The final portion of the program is completed at USD. Students seeking more general social service type careers should select the Human Services Option. (Minimum GPA of 2.2)

Human Services Option. Designed for those interested in "working with people" in a variety of social service type agencies. Students are encouraged to take social work, criminal justice, and child development type courses and complete an internship placement in a social service agency. This option differs from the Social Work Option in that students are working toward a B.A. or B.S. degree in Sociology; whereas those in the Social Work Option are seeking a B.A. or B.S. in Social Work. (Minimum GPA of 2.2)

Criminal Justice Option. Students seeking careers in probation, parole, court services, pre-law, private security, or general law enforcement should select this option. Those selecting this option will 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.) (Minimum GPA of 2.2)

Personnel Services Option. Those students seeking careers in business, related to human resources in public and private agencies and businesses, are encouraged to select this option. Academic programs are individually tailored with the Personnel Option Coordinator in areas such as employee relations, conflict management, labor relations, aptitude testing, and Affirmative Action. Supportive coursework in economics, guidance, accounting and psychology are incorporated in this option. (Minimum GPA of 2.2)

Minor

Includes Soc 100, and 15 additional (Soc or Anth) credits. Six credits must be numbered 300 or above. (Recommended that students declare minor prior to junior year. Register with department.)

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. Students anticipating graduate school should enroll in Stat 341, Statistical Methods I; Phil 331, Philosophy of Science; and Engl 379, Technical Communications, as a part of their general electives.

Students must accomplish a total of 40 hours of upper level courses (300 or above).

Russian (Russ)

(See Foreign Languages)

Sociology (Soc)

(See Rural Sociology)

Soils

(See Plant Science)

Spanish

(See Foreign Languages)

Speech

(See Communication Studies and Theatre)

Statistics (Stat)

(See Mathematics and Statistics)

Teacher Education, Undergraduate

Kathryn Penrod
Department of Undergraduate Teacher Education
Wenona Hall 201
605-688-4376
e-mail: penrodk@ur.sdstate.edu

Faculty

Associate Professor Penrod, Head; Professors Moeller, Steinley; Assistant Professors Husmann, Reisetter, Rogers, Thompson; Instructor Russow.

Programs

7-12 and K-12 teacher education:

Based on population trends and the average age of teachers in this state and region there is a continuing need for teachers in all areas. There is an increased need for science, English, world language, agriculture, family consumer science, and math teachers. The undergraduate teacher education program prepares students to teach in an academic major or in other areas they have appropriately studied.

The program is a certification program. That is, students choose a major and seek a B.S. or B.A. degree first in the academic subject or subjects of their choice; then, once they're accepted into the teacher education program, they progress through a sequence of professional courses to acquire knowledge and skills necessary for teaching that subject. Students need to inform their major adviser of their interest in teaching and follow guidelines which are outlined for a teaching emphasis. Advisers in teacher education also work with admitted students.

Many students complete their majors while completing their professional training; others complete their majors, perhaps even earn their degrees, 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 22 different subject areas
- K-12 teaching in art, world languages, music, or physical education

(the general elementary education program is a cooperative program with Black Hills State University and/or Dakota State University)

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 36 credits which includes student teaching.

Approximately one third of all teacher education programs in the United States are accredited by the National Council for Accreditation of Teacher Education (NCATE). This undergraduate teacher education program is nationally accredited. For more information regarding teacher education please see the section on the College of Education and Counseling in this bulletin.

Vocational Teacher Education:

The Bachelor of Science in Vocational 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 or have occupational experience are eligible for this program. To attain certification, students must meet the certification requirement of the State Department of Education and Cultural Affairs.

The majority of students enrolling 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, telecommunications and via the Rural Development Telecommunications Network (RDTN).

Agricultural Education (AgEd):

The Undergraduate Teacher Education Department provides professional education for the agricultural education 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 students' total program is designed so that he/she receives supportive instruction in technical agriculture, basic science, and communication skills. The professional education requirement is 36 semester credits in education. These 36 credits include student teaching which is done in a designated agricultural education program in South Dakota, western Minnesota, or northwest Iowa.

Students must file an application to be admitted to this program just as all students participating in the teacher education program (see above). Membership and participation in the Agricultural Education Clubs are strongly encouraged.

Endorsement Programs:

The middle level endorsement is offered by the department. Many states and formally organized middle schools require that teachers are endorsed to teach at 5-8 grade levels. The department has an eight credit sequence which is an approved endorsement program. Coaching endorsements can also be added to a teacher's certificate. For more information contact the secretary of the undergraduate teacher education program at 688-4376.

Textiles, Clothing and Interior Design

(see Apparel Merchandising and Interior Design)

Veterinary Science (Vet)

David Zeman
Department of Veterinary Science
Animal Disease Research 105
605-688-5172
www.vetsci.sdstate.edu

Faculty

Professor Zeman, Acting Head; Professors Benfield, Francis, Hildreth, Johnson, D. Nelson, Associate Professors Chase, Hamilton, Hurley, Miskimins, Neiger, Assistant Professors Christopher-Hennings, Epperson, Erickson, Holler, Leslie-Steen, Rossow, E. Nelson; Instructor Stotz.

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. The department also offers several graduate research assistantship positions in microbiology, virology, and molecular biology for students majoring in other departments. Graduate training is supported by active research programs in diseases of food-producing animals.

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 two or three years of pre-veterinary study. Many students complete a major for the Bachelor of Science Degree before entering the professional curriculum of Veterinary Medicine.

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 experience. The applicant should be aware of the difficulties involved in being accepted to a College of Veterinary Medicine. Keen competition should be anticipated.

Visual Arts (Art)

Norman Gambill
Department of Visual Arts
Solberg Hall 102A
605-688-4103
fax: 605-688-6769
e-mail: vanderd@ur.sdstate.edu
http://www.sdstate.edu/~wvar/http/webpgbeg.html>

Faculty

Professor Gambill, Head; Professors Morgan, Spinar, Steele; Professor Emeritus Edie; Associate Professor French, Kruse; Assistant Professors Nowosielski, Wallace.

Programs

Art Department courses are designed to provide students with studio and lecture experiences in art regardless of their major. For students wishing to pursue careers as artists, art educators, or designers, our programs offer the background for careers after graduation or further advanced study. **A minor in Visual Arts consists of 24 credit hours.**

Students may pursue a Visual Arts degree with concentrations in Art Education, Graphic Design, or Fine Arts-painting/printmaking, sculpture/ceramics, and general art. To complete a program, the art major must meet the University and College of Arts and Science requirements, a 30-hour Visual Arts Core, plus 18 to 24 or more additional hours in their chosen area. The art major presents to the faculty examples of his or her work in a Progress Review and also a Senior Review that involves either an exhibition or a portfolio presentation.

The 30-hour Visual Arts Core.

Basic studio courses of 18 hours should be completed during the freshman and sophomore years: Art 111, 112, 121, 123, 212 or ArtD 255, and Art 222. This Core also includes 12 hours of art history: ArtH 211, 212, plus 6 hours of art history electives.

Art Education (B.A. or B.S.)

Prepares the student to be certified to teach art programs in the public schools of South Dakota (K-12). Our Department cooperates with the College of Education's Undergraduate Teacher Education program to provide the degree requirements.

Graphic Design (B.A. or B.S.)

Emphasizes the applied study of art and technology. Students develop a portfolio in preparing for professional experience in graphic design or further graduate study. Areas of design study may include but are not limited to logo designs, computer graphics, publication design, illustration, advertising design, poster design, and multi media.

Fine Arts – Painting/Printmaking (B.A. or B.S.)

Introduction to both painting and printmaking through a variety of traditional and contemporary approaches. Students choose to complete one of the advanced four-semester sequences, including either Painting or Printmaking IV, and at least two semesters of the complementary area. Students are prepared for future careers as artists, educators, and for graduate studies.

Fine Arts – Ceramics/Sculpture (B.A. or B.S.)

Introduction to both ceramics and sculpture through a variety of traditional and contemporary approaches. Students choose to complete one of the advanced four-semester sequences, including either Ceramics or Sculpture IV, and at least two semesters of the complementary area.

Students are prepared for future careers as artists, educators, and for graduate studies.

Fine Arts – General Art (B.A. or B.S.)

Designed for the student desiring a double major or a major-with-minors in other departments in the university. It also accommodates the student who wishes to develop a self-directed program in various emphasis areas in the Department as well as the option of additional elective credits.

Requirements for Art Minor: 24 cr

To include 6 credits in art history.

The Ritz Gallery

Art and design works by students, faculty, and visiting artists/designers are exhibited throughout the year in The Ritz Gallery.

Water Management

(See Plant Science)

Weed Science

(See Plant Science)

Wildlife and Fisheries Sciences (WL)

Charles Scalet
Department of Wildlife and Fisheries Sciences
Northern Plains Biostress Laboratory 138C
605-688-6121
e-mail: longielj@mg.sdstate.edu
http://www.sdstate.edu/~wwfs/http/wfsci.htm

Faculty

Professor Scalet, Head; Professors Berry, Flake, Higgins, Linder (Emeritus), Rockwell (Adjunct) Willis; Associate Professors Euliss (Adjunct), Hamilton (Adjunct), Hubbard, Jenks, Uresk (Adjunct); Assistant Professors Austin (Adjunct), Brown, Brundige (Adjunct), Gigliotti (Adjunct), Rumble (Adjunct).

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 student is assigned an academic adviser in the Department to assist with curriculum planning. Students can, with our undergraduate curriculum, meet the academic requirements for certification by both the American Fisheries Society and The Wildlife Society. Requirements for the undergraduate degree are provided in the appropriate section of this bulletin.

Wildlife and Fisheries Sciences Major (B.S.)

This degree is intended to educate students in preparation for entry-level positions with state and federal agencies, private companies, and for the pursuit of higher academic degrees. It is our goal to prepare students pursuing this degree with basic technical expertise concerning the biota, habitat, and human dimensions aspects of wildlife and fisheries resources. In addition, because this degree is one that is also directed at producing well-rounded citizens, subjects such as communications, social sciences, humanities, mathematics and statistics, chemistry, physics, and wellness are also addressed.

Wildlife and Fisheries Sciences Major (M.S.)

This degree is intended to educate students for management-level positions with state and federal agencies, private companies, and for the pursuit of higher academic degrees. It is our goal to build on the foundation that students obtain during their undergraduate education, primarily directing them into some more specific area of wildlife or fisheries. By using specifically identified coursework areas and mentoring we strive to assist students in developing their intellectual capabilities in working with natural resources and people. In addition, each student must propose and conduct an original scientific investigation.

Biological Sciences (Wildlife and Fisheries Sciences) (Ph.D.)

This degree is intended to educate students for upper-level management and administrative positions with state and federal agencies, and private companies. It is also intended to prepare students in the teaching, research, and service component responsibilities needed for faculty positions with universities and colleges. By building on the educational foundation that students obtained from bachelors and masters degree work, we endeavor to raise them to a higher intellectual plateau. While coursework is involved, this is primarily a research and mentoring educational experience. This degree requires original thought and research contributions, synthesis and development of information, and contributions to the world and its resources. We strive to help these students become more operationally and conceptually creative.

Women's Studies (WmSt)

Virginia Norris
Department of Psychology
Scobey Hall 325
605-688-4322
e-mail: norrisv@mg.sdstate.edu

Program

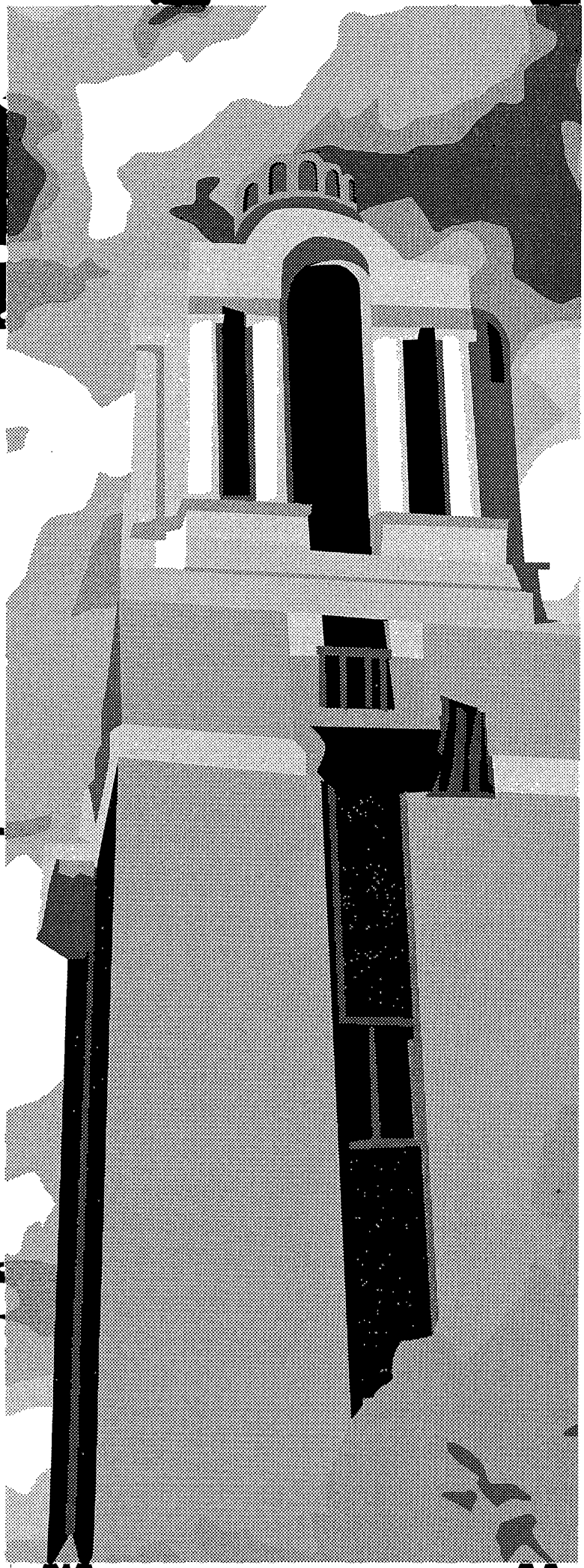
An interdisciplinary program enabling the student to select courses dealing directly or indirectly with women, including the development of feminism, women's changing roles in the family, religion, the labor force, and politics. The minor is particularly useful for students expecting to work with women in social work, counseling, nursing, business, or education. 18 hours with a "C" or better in each course are required for the minor. The Women's Studies Coordinator assists students to personalize their curriculum plans.

Zoology (Zool) Minor

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 306
605-688-6141
http://www.abs.sdstate.edu/bio

Requirements for Zoology Minor: 16 cr

The minor in Zoology consists of Bio 101 or 151, and additional courses with a Zool prefix for a total of at least 16 credits. Two courses must be at the 300 level or above.



Extended Programs

Summer Term

Edward P. Hogan
Assistant Vice President for Academic Affairs
Box 2201, Brookings, SD 57007-2098
e-mail: hogane@adm.sdstate.edu

SDSU offers a wide range of courses and degree programs during the summer months as well as numerous special workshops, short courses, 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.

For further information and to receive the schedule of offerings, contact the Academic Affairs Office, Ad 230, (605) 688-5193.

Outreach Programming

Edward P. Hogan
Assistant Vice President for Academic Affairs
Box 2201, Brookings, SD 57007-2098
e-mail: hogane@adm.sdstate.edu

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 the Sioux Falls Center for Public Higher Education, 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.

Outreach Programming provides coordinative support for off-campus educational programs and as such serves as a conduit for the University's service mission to citizens of South Dakota, the region and world. Outreach Programming is 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. Additional locations are added as need and enrollment indicate. Ask for a copy of the current *Showcase* for details and locations.

Sioux Falls Center for Public Higher Education, see SDSU Sioux Falls Programs on the next page.

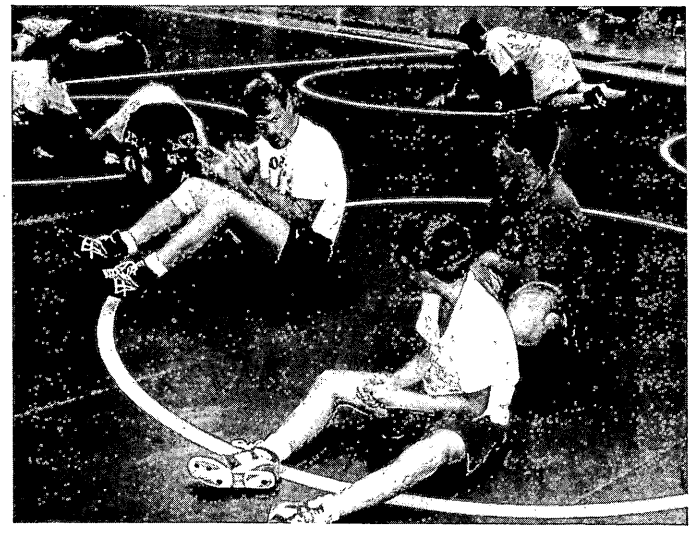
Capital University Center in Pierre was established by the people of Central South Dakota in 1982 to provide opportunities in higher education for the people of the region. In 1983, CUC and South Dakota State University entered into an agreement to enhance educational opportunities for residents of Central South Dakota through the offering of courses designed to transfer to degree-granting institutions of higher education. SDSU now offers at CUC the Bachelor of Science degree with majors in General Studies and Nursing, and the Master of Science degrees in Industrial Management and Nursing.

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.

The **Nursing Upward Mobility Program** deepens, enhances, and enriches the knowledge and capabilities of registered nurses across the state and region who are already licensed. 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 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 at Brookings and Sioux Falls and alternates at various other sites across the state including Aberdeen, Huron, Mitchell, Pine Ridge, and Pierre. The Master of Science in Nursing is also offered cyclically to various off-campus sites as programming allows. Please contact the Dean of Nursing at (605) 688-5178 for information on nursing programs.

Distance Education offerings include an array of classes and programs directed to specific educational needs of SDSU's off-campus students. These offerings include classes and degree work offered via the Rural Development Telecommunications Network, ISDN, dual credit satellite courses to high schools, videotape, Internet, and a variety of internship, clinical and related experiences. Special credit and non-credit classes are also offered to assist agriculture and industry with the



upgrading of skill levels. The Cattleman's Satellite Course is a good example. This non-credit program was offered to over 2,500 participants in the United States and Canada. Special offerings in cooperation with the missions of the Tribal Colleges also occur.

Conferences and Institutes. The University encourages involvement of its faculty and professional staff with groups sharing common interests and expertise. Individuals and groups interested in holding conferences or meetings at the University should contact Conferences and Institutes. This office provides services ranging from simple logistics either on campus or at other locations throughout South Dakota, to program planning, staffing, financing, and evaluation.

Consulting and technical assistance to organizations is another contribution of the University to the social and economic development of the state. Conferences and Institutes will be happy to assist in matching needs with expertise within the University upon request.

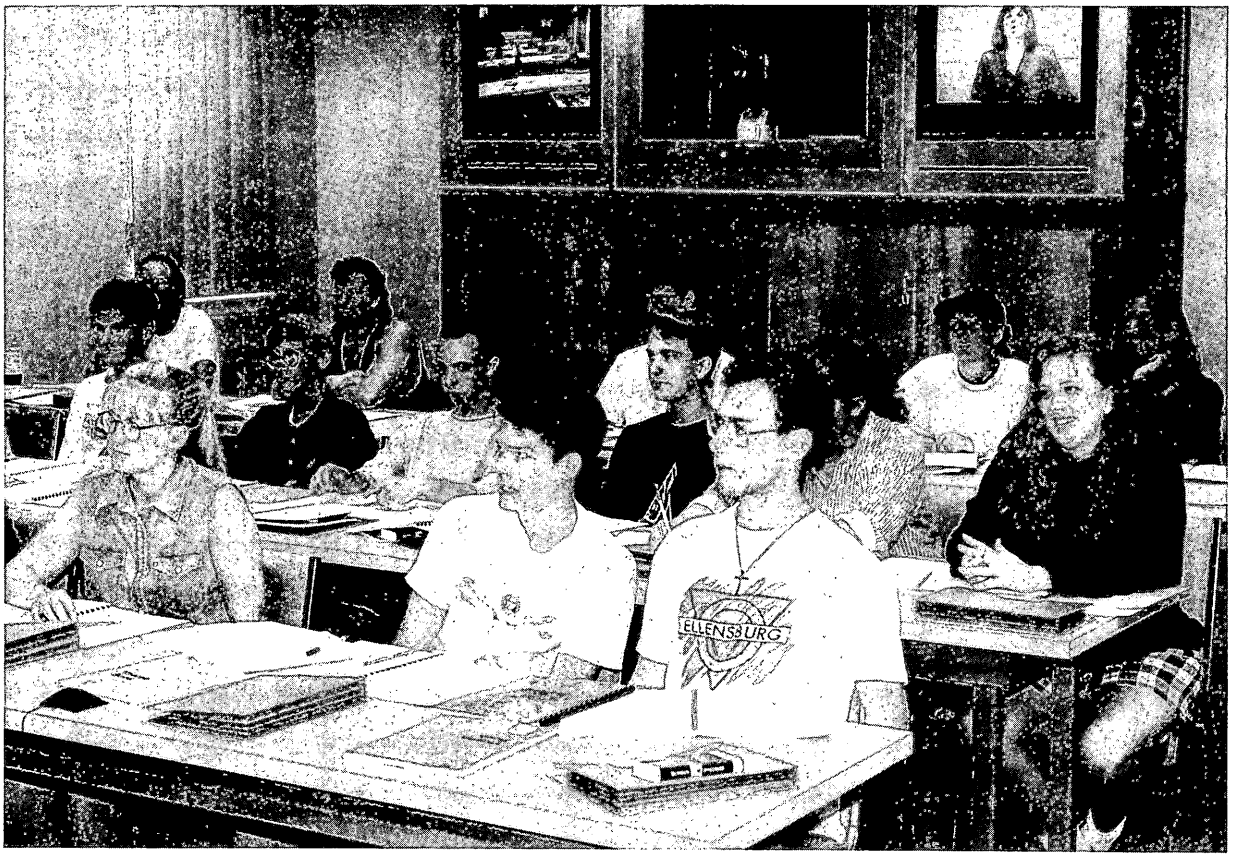
For further information and copies of publications, either for credit programming or conferences and institutes, please contact the Outreach Programming Office, Ad 315, South Dakota State University, Box 2201, Brookings, SD 57007-2098, (605) 688-4431.

Evening College

Edward P. Hogan
Assistant Vice President for Academic Affairs
Box 2201, Brookings, SD 57007-2098
e-mail: hogane@adm.sdstate.edu

South Dakota State University established Evening College for part-time, non-traditional students. Evening College offers college credit courses and programs that are provided at times that are convenient for working adults. All courses taught in the Evening College are the same with regard to course number and content as those taught in the regular day courses.

More information on Evening College may be obtained through the Academic Affairs Office, Ad 230, South Dakota State University, Box 2201, Brookings, SD 57007-2098, (605) 688-5193.



SDSU Sioux Falls Programs

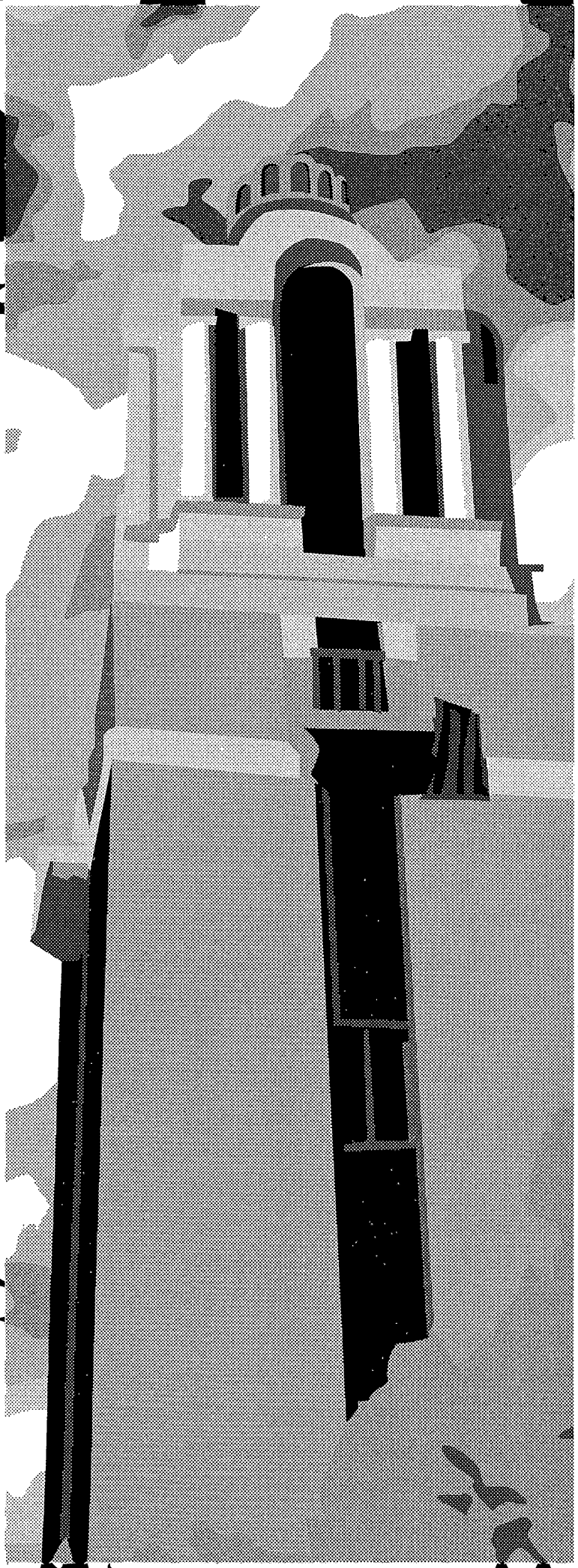
vacant at time of publication
132 S. Dakota Avenue
Sioux Falls, SD 57104

South Dakota State University, through the South Dakota Board of Regents Center for Public Higher Education, provides college course work and degree programs in Sioux Falls. The Center for Public Higher Education is designed to serve the needs of non-traditional students in the Sioux Falls area. Most courses taught through the Center are taught after 5:00 p.m. or on weekends. The course content, number and contact hours are the same as when the identical course is 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. Course work is offered during the fall, spring, and summer terms.

The majors offered in Sioux Falls include engineering, family and consumer sciences, general studies, nursing, and electronics engineering technology at the undergraduate level. Master's degrees are offered in industrial management, education, geography, and nursing. 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.

For more information about these programs contact: SDSU Sioux Falls Programs, 132 S. Dakota Avenue, Sioux Falls, SD 57104, or call (605) 367-5641.



Major and Minor *Requirements*

Major and Minor Requirements

All authorized majors and minors are listed here in alphabetical order. A contact person, his or her campus address, and phone number is included with each major or minor. The curriculum plans shown are examples only. A student should work out a personalized plan with his or her adviser.

Accounting (Acct) Minor

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

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, Microeconomics Principles **or** Econ 202, Macroeconomics Principles	3

Aerospace Studies (Air) Minor

Colonel Jeffrey Boulware
Department of Aerospace Studies
DePuy Military Hall 004
605-688-6106

Requirements for Aerospace Studies Minor: 16 cr

A minor in Aerospace Studies requires 16 semester hours, including all AFROTC courses and Field Training.

Air 101-101A, Aerospace Studies 100 and Lab	1
Air 102-102A, Aerospace Studies 100 and Lab	1
Air 201-201A, Aerospace Studies 200 and Lab	1
Air 202-202A, Aerospace Studies 200 and Lab	1
Air 301-301A, Aerospace Studies 300 and Lab	3
Air 302-302A, Aerospace Studies 300 and Lab	3
Air 401-401A, Aerospace Studies 400 and Lab	3
Air 402-402A, Aerospace Studies 400 and Lab	3

Agricultural and Biosystems Engineering (AE) Major

Darrell W. DeBoer
Department of Agricultural Engineering
Agricultural Engineering 107
605-688-5141
http://www.abs.sdstate.edu/ae/index.htm

Requirements for Agricultural and Biosystems Engineering Major
Bachelor of Science in Agricultural Engineering

(Accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology)

Freshman Year	**F**	**S**
AE 122, Introduction to Agricultural and Biological Engineering	2	
Chem 112-113, General Chemistry I and Lab	4	
Chem 114, General Chemistry II **or** Chem 120, Elementary Organic Chemistry		3
EG 121, Engineering Design Graphics I **and** EG 122, Engineering Design Graphics II	1	1
Engl 101, Freshman Composition **and** SpCm 101-101A, Fundamentals of Speech and Lab	3	3
GE 101, Introduction to Engineering and Technology		2
Math 123, Calculus I **and** Math 224, Calculus II	5	4
WEL 100, Skills for Healthy Living & Lab	2	
Electives***		3

Sophomore Year	**F**	**S**
AE 343-343A, Engineering Properties of Biological Materials and Lab	3	
Bio 101-102, Biology Survey I and Lab **or** Micr 231-232, General Microbiology and Lab **or** PS 213-213A Soils and Lab		3-4
CSc 218, Introduction to C/C++/UNIX for Engineers	3	
EG 123, Computer Aided Design and Graphics	1	
EM 221, Statics	3	
EM 222, Dynamics		3
Math 225, Calculus III	3	
Math 321, Differential Equations		3
Phys 211-212, University Physics I and Lab **and** Phys 213-214, University Physics II and Lab	4	4
Electives***		3

Junior Year	**F**	**S**
AE 314-314A, Ag Power & Machines and Lab**	4	
AE 324-324A, Ag Structures and Indoor Environment and Lab**		4
AE 372-372A, Microcomputer Applications in Agricultural Engineering and Lab		2
EE 300-301, Basic Electrical Engineering I and Lab	3	
EM 321, Mechanics of Materials	3	
EM 331, Fluid Mechanics		3
Engl 379, Technical Communications*		3
ME 314, Thermodynamics	3	
Electives***	3	3

Senior Year	**F**	**S**
AE 411, Design Project III	2	
AE 422, Design Project IV		2
AE 434-434A, Soil & Water Engineering and Lab**	4	
AE 444-444A, Unit Operations of Biological Materials Processing and Lab**		4
AE 463-463A, Applied Instrumentation and Lab	3	
AE 490, Seminar & Inspection Trip	1	
Math 373, Introduction to Numerical Analysis **or** Math 331, Advanced Engineering Math **or** Math 381, Mathematical Statistics **or** Stat 341, Statistical Methods I	3	
Electives***	3	9

* You must receive a "C" or better in Engl 379.
** You must take at least three of these courses.
*** Elective courses permit the student to concentrate on the applied technical area of his or her particular interest, and to provide for further cultural growth and education in the humanities/social sciences area.

Accordingly, the elective program for each student must be approved by his/her adviser. This will include at least 8 credit hours of technical electives of which at least 5 credits are 300 or above level courses in the College of Engineering. In addition, the student's program must include at least 16 social science/ humanities credits. The social science/humanities credits must include at least 6 credits of humanities from at least two disciplines and at least 9 semester hours of social science credits from at least two disciplines. At least one social science/humanities course must be taken at the advanced level.

Technical Electives

Electives in all options:

AE 353, Physical Climatology & Meteorology	3
AE 492, Special Problems in AE	1-3
AE 493, Special Topics	1-4
AE 494, 495, 496, Cooperative Education/ Internship/Field Experience	1-6
All 500 level courses listed in Agricultural Engineering	
Bio 103-104, Biology Survey II and Lab	3
CSc 314, Assembly Language	3
CSc 316, PL/1 Programming	3
CSc 426, Computer Architecture & Organization	3
CSc 493, Special Topics in Computer Science	1-3
EE 422, Engineering Economy*	2
Math 331, Advanced Engineering Math	3
PS 213-213A Soils and Lab **or**	3
CEE 446, Geotechnical Engineering	4
Stat 341, Statistical Methods I **or**	3
Math 381, Mathematical Statistics	4

Structures & Environment

CEE 353, Structural Theory	3
CEE 446-446A, Geotechnical Engineering and Lab	4
CEE 455-455A, Steel Design and Lab	3
CEE 456-456A, Concrete Theory & Design and Lab	3
CEE 475, Engineering Administration*	3
ME 411, Environmental Engineering	3
ME 415, Heat Transfer	3
ME 419, Heating and Air Conditioning Design	3
ME 451, Automatic Controls	3

* Technical elective credit not given for both CEE 475 & EE 422.

Power and Machinery

ME 321, Fundamentals of Machine Design	3
ME 322, Vibrations	3
ME 341-341A, 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 428-428A, Machine Design–Case Studies and Lab	3
PS 362-362A, Environmental Soil Management and Lab	3

Water Resources Engineering

CEE 106-106A, Elementary Surveying and Lab	3
CEE 327-327A, Water Supply Engineering and Lab	4
CEE 333-333A, Hydrology and Lab	3
CEE 433, Hydraulic Engineering	3
CEE 446-446A, Geotechnical Engineering and Lab	4
PS 213-213A Soils and Lab	3
PS 362-362A, Environmental Soil Management and Lab	3
PS 483, Irrigation–Crop & Soil Practices	3

Requirements for Agricultural and Biosystems Engineering Major – Food and Biological Materials Engineering Option Bachelor of Science in Agricultural Engineering

Freshman Year	**F**	**S**
AE 122, Introduction to Agricultural and Biological Engineering	2	
Chem 112-113 & 120-121, General Chemistry I and Lab **and** Elementary Organic Chemistry	4	3
EG 121 & 122, Engineering Design Graphics I & II	1	1
Engl 101, Freshman Composition **and** SpCm 101-101A, Fundamentals of Speech and Lab	3	3
GE 101, Introduction to Engineering and Technology		2
Math 123 & 224, Calculus I & II	5	4
Micr 231-232, General Microbiology and Lab		4
WEL 100, Skills for Healthy Living and Lab	2	

Sophomore Year	**F**	**S**
AE 343-343A, Engineering Properties of Biological Materials and Lab	3	
CSc 218, Intro to C/C++/UNIX for Engineers	3	
EG 123, Computer Aided Design and Graphics	1	
EM 221, Statics	3	
EM 222, Dynamics		3
Math 225, Calculus III	3	
Math 321, Differential Equations		3
Phys 211-212 & 213-214, University Physics I & II and Labs	4	4
Electives***		6

Junior Year	**F**	**S**
AE 372-372A, Microcomputer Applications in Agriculture Engineering and Lab		2
Chem 361-361A, Biochemistry and Lab		4
EE 300-301, Basic Electrical Engineering I and Lab	3	
EM 321, Mechanics of Materials	3	
EM 331, Fluid Mechanics		3
Engl 379, Technical Communications*		3
ME 314, Thermodynamics	3	
Micr 311-311A, Food Microbiology and Lab	4	
NFS 351-351A, Principles of Food Processing and Lab		3
Electives***	4	3

Senior Year	**F**	**S**
AE 411, Design Project III	2	
AE 422, Design Project IV		2
AE 444-444A, Unit Operations of Biological Materials Processing and Lab		4
AE 463-463A, Applied Instrumentation and Lab	3	
AE 490, Seminar and Inspection Trip	1	
NFS 360-360A, Food Chemistry and Lab		4
Electives***	10	7

* You must receive a "C" or better in Engl 379.

*** Elective courses permit the student to concentrate on the applied technical area of his or her particular interest, and to provide for further cultural growth and education in the humanities/social sciences area.

Accordingly, the elective program for each student must be approved by his/her adviser. This will include at least 14 credit hours of technical electives of which at least 9 credits are 300 or above level courses in the College of Engineering and 5 additional credits are from the suggested Technical Elective Courses. In addition, the student's program must include at least 16 social science/ humanities credits. The social science/humanities credits must include at least 6 credits of humanities from at least two disciplines and at least 9 semester hours of social science credits from at least two disciplines. At least one social science/humanities course must be taken at the advanced level.

Suggested Technical Elective Courses

AE 314-314A, Ag Power & Machines and Lab	4
AE 324-324A, Ag Structures and Indoor Environment and Lab	4
AE 353-353A, Physical Climatology & Meteorology and Lab	3
AE 434-434A, Soil & Water Engineering and Lab	4

AS 341, Fresh Meat Operations	3
AS 345-345A, Processed Meat Technology and Lab	3
AST 443-443A, Food Process and Engineering Fundamentals and Lab	3
AST 463, Agricultural Waste Management.	3
BAdm 360, Organization and Management	3
Bio 101-102, Biology Survey I and Lab	3
Bio 103-104, Biology Survey II and Lab	3
CEE 423-423A, Waste Water Engineering and Lab	3
CEE 424, Industrial Waste Treatment	2
Chem 380, Environmental Chemistry	4
DS 313, Technical Control of Dairy Products I	3
DS 321-321A, Dairy Product Processing I and Lab	5
DS 322-322A, Dairy Product Processing II and Lab	5
Math 381, Mathematical Statistics	3
ME 421, Design of Machine Elements	3
Micr 310-310A, Environmental Microbiology and Lab	4
NFS 341-341A, Advanced Food Science and Lab	4
PS 312, Grain & Seed Production and Processing	2
Stat 341, Statistical Methods I	3

Natural Resources and Environmental Management
Environmental systems engineering focuses on environmentally compatible design and management practices for natural resource systems. Design concepts that have application to all rural environmental settings and "open spaces" in the urban environment are emphasized. Additionally, students obtain an understanding of environmental, biological, and engineering sciences and a proficiency in computer and instrumentation technologies. Graduates will have the qualifications to make contributions to the management of natural resource systems. Contact the Agricultural Engineering Department for course listing.

Agricultural Business Major and Minor

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

Requirements for Agricultural Business Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Chem 106-107, Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab*			4
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3		
Soc 100, Introduction to Sociology	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Biological Science Elective*	3		
Group I Elective***			3
General Electives	3		4

Sophomore Year	**F**	**S**
Acct 210, Principles of Accounting I	3	
Acct 211, Principles of Accounting II		3
AgEc 271-271A, Farm and Ranch Management and Lab	4	
Econ 201, Microeconomics Principles		3
Econ 202, Macroeconomics Principles	3	
Econ 330, Money and Banking		3
Math 222, Calculus for Non-Math Majors **or** Math 123, Calculus I		5
Humanities Elective**	3	
Group I Elective***		2
General Electives	4	

Junior Year	**F**	**S**
AgEc 354, Agricultural Marketing and Prices		3
AgEc 478-478A, Agricultural Finance and Lab	3	
BAdm 350, Legal Environment of Business & Contracts		3
CSc 312, Advanced Microcomputer Applications	3	
Econ 301, Intermediate Microeconomics	3	
Econ 302, Intermediate Macroeconomics		3
Engl 301, Advanced Composition	3	
Engl 379, Technical Communications		3
Stat 341, Statistical Methods I		3
Natural Science Elective (sequence course)*	3-4	
General Elective	1-2	

Senior Year	**F**	**S**
AgEc 479, Agricultural Policy		3
BAdm 324, Operations Research	4	
BAdm 360, Organization and Management		3
Two additional courses prefixed AgEc	3	3
Communications Elective****	3	
Electives in Acct, AgEc, BAdm, or Econ	3	3
Humanities Elective**	3	
General Electives		4

* All students must complete two science courses from the same sequence, as identified in the list on pages 36-37.
** From approved list on pages 35-36.
*** Group I electives are listed on pages 49-50.
**** Communications elective must be chosen from SpCm 201, Interpersonal Communications; SpCm 315, Public Speaking; or SpCm 334, Discussion.

Requirements for Agricultural Business Minor: 21-22 cr

Econ 201, Microeconomics Principles	3
Econ 202, Macroeconomics Principles	3
Two of the following:	6-7
Acct 210, Principles of Accounting I (3)	
AgEc 271-271A, 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 & Contracts (3)	
BAdm 360, Organization and Management (3)	
Econ 370, Marketing (3)	
Nine additional credit hours of courses prefixed AgEc, numbered 300 or above	9

Agricultural Economics (AgEc) Major

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

Requirements for Agricultural Economics Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Chem 106-107 Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab*			4
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3		
Soc 100, Introduction to Sociology	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3

WEL 100, Skills for Healthy Living & Lab	2 or	2
Humanities Elective**	3	
Biological Science elective*	3	
Group I Elective***		3
General Electives		4

Sophomore Year	**F**	**S**
Acct 210, Principles of Accounting I	3	
Acct 211, Principles of Accounting II		3
AgEc 271-271A, Farm and Ranch Management & Lab	4	
Econ 201, Microeconomics Principles		3
Econ 202, Macroeconomics Principles	3	
Econ 330, Money and Banking		3
Math 222, Calculus for Non-Math Majors **or** Math 123, Calculus I		5
Humanities Elective**		3
Group I Elective***	2	
General Electives	4	

Junior Year	**F**	**S**
AgEc 354, Agricultural Marketing & Prices		3
AgEc 478-478A, Agricultural Finance and Lab	3	
CSc 312, Advanced Microcomputer Applications	3	
Econ 301, Intermediate Microeconomics	3	
Econ 302, Intermediate Macroeconomics		3
Econ 433, Public Finance		3
Engl 301, Advanced Composition	3	
Engl 379, Technical Communications		3
Stat 341, Statistical Methods I		3
Natural Science Elective (sequence course)*	3-4	
General Elective	1-2	

Senior Year	**F**	**S**
AgEc 421, Production Economics		3
AgEc 479, Agricultural Policy		3
Econ 405, Comparative Economic Systems; **or** Econ 404, History of Economic Thought; **or** Econ 440, Economics of the International Sector; or Econ 460, Economic Development; or Hist 377, Economic History of the U.S.		3
Econ 423, Statistics II	3	
Econ 428, Mathematical Economics	3	
Communications Elective****	3	
General Electives	7	7

* All students must complete two science courses from the same sequence, as identified in the list on pages 36-37.

** From approved list on pages 35-36.

*** Group I electives are listed on pages 49-50.

**** Communications elective must be chosen from SpCm 201, Interpersonal Communications; SpCm 315, Public Speaking; or SpCm 334, Discussion.

Agricultural Education (AgEd) Major

Clark Hanson
Supervisor of Agriculture Education
Department of Undergraduate Teacher Education
Wenona Hall 101
605-688-4379

Requirements for Agricultural Education Major
Bachelor of Science in Agriculture

Freshman Year	**F**	**S**
AS 101, Introduction to Animal Science		3
AST 202, Construction Techniques and Materials	2	
Bio 101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab **and** Geog 131-131A, Physical Geography I and Lab; (10 cr) **or** Bio-101-102, Biology Survey I and Lab **and** Geog 131-131A, Physical Geography I and Lab **and** Geog 132-132A, Physical Geography II and Lab (11 cr)	3-7	3-7
Engl 101, Freshman Composition	3	
Math 102, College Algebra	3	
PS 103-103A, Crop Production and Lab		3
Soc 100, Introduction to Sociology	3	
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living & Lab	2 or	2

Sophomore Year	**F**	**S**
VTE 287, Practicum in Vocational Education	1	
AS 241, Meat: Production to Consumption		3
AS 285-285A, Livestock Evaluation & Marketing and Lab	4	
Chem 106-107 Chemistry Survey and Lab	4	
Econ 202, Macroeconomics Principles **or** Econ 201, Microeconomics Principles		3
EdFn 375, Human Relations	3	
ES 131, Welding		2
Ho 111-111A, General Horticulture and Lab		3
Phys 101-102, Survey of Physics and Lab		4
PS 213-213A, Soils and Lab	3	
VTE 405, Philosophy of Vocational Technical Education	2	
WL 110, Environmental Conservation **or** WL 220, Introduction to Wildlife & Fisheries Management		2

Junior Year	**F**	**S**
AgEc 271-271A, Farm and Ranch Management and Lab	4	
AgEd 404, Program Planning in AgEd		4
Anth 421, Indians of North America **or** Hist 368, History of the American Indians	3	
AST 342-342A, Applied Electricity and Lab	3	
EdFn 365, Integrating Computers into the Curriculum		2
Engl 301, Advanced Composition	3	
EPsy 302, Psychology		2
SeEd 314, Supervised Clinical/Field Experience		1
SeEd 450, Teaching of Reading		3
Agricultural Systems Technology Elective	3	
Humanities Elective (suggest NFS 111, Food and People, 3 cr)		3

Senior Year	**F**	**S**
AgEd 434, Special Methods in AgEd	3	
AgEd 454, Teaching Mechanics	2	
AgEd 475, Supervised Teaching Internship	10	
AgEd 495/496, Internship/Field Experience		2
Humanities Elective		3
Communication Elective (see College of ABS)		2
Approved Electives (not AST)		9

Agricultural Extension (AgEx)

Ralph Matz
Extension Program Coordinator
Agricultural Hall 130
605-688-5132

Requirements for Agricultural Extension Major
Bachelor of Science in Agriculture

This program will not accept new students after July 1, 1996. Students enrolled in this program prior to July 1, 1996, will follow the plan of study outlined in the 1994-96 catalog.

Agricultural Journalism Major

Richard Lee
Department of Journalism and Mass Communication
Printing and Journalism 209
605-688-4171

Requirements for Agricultural Journalism Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Bio 101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab	3		3
Chem 106-107 Chemistry Survey and Lab	4		
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra **or** Math 120, Trigonometry	3	or	3
Phys 101-102, Survey of Physics and Lab **or** Phys 111-112, Introduction to Physics I and Lab **or** Phys 211-212, University Physics I and Lab			4
Soc 100, Introduction to Sociology			3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Agri Group I (see College of ABS listing)	3		3

Sophomore Year	**F**		**S**
Econ 202, Macroeconomics Principles	3	or	3
MCom 160-160A, Basic Photography and Studio	2	or	2
MCom 210-210A, Newswriting and Reporting and Studio	3	or	3
MCom 213-213A, Journalism Typography and Studio	2	or	2
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Second in Sequence of physics, chemistry or bio	3-4	or	3-4
Agri Group I Electives	3	or	3
Humanities Core	3	or	3
Social Science Core	3	or	3

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
MCom 310, Newspaper Editing	2	or	2
MCom 311, Editing Lab (concurrent with 310)	1	or	1
MCom 332-332A, Radio News Reporting and Studio **and/or**	3	or	3
MCom 315, Magazine Writing and Editing **and/or**	3		
MCom 410, Advanced Reporting			3
MCom 370, Principles of Advertising	3	or	3
Humanities Core	3		
Social Science Core	3	or	3
Agriculture Electives	3		3
MCom Electives			6

Senior Year	**F**		**S**
MCom 414, Mass Communication Law	3	or	3
MCom 495, Internship (summer)	2	or	2
Agriculture Electives	3		6
MCom Electives	3		3
Social Science Electives (upper division)	3		3
Electives	3		5

30 hours are required for the major, but no more than 36 hours are allowed. Ag-journalism students must have 25 credit hours of upper division courses. All requirements of the College of Agriculture and Biological Sciences curriculum must be completed. Students must take a minimum of 12 credit hours from Group I courses in agriculture and a minimum of 12 additional hours in agriculture.

Agricultural Marketing Minor

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

Requirements for Agricultural Marketing Minor: 21 cr

AgEc 354, Agricultural Marketing & Prices	3
AgEc 454, Economics of Grain & Livestock Marketing	3
BAdm 360, Organization and Management	3
Econ 201, Microeconomics Principles	3
Econ 370, Marketing	3
Two of the following:	6
AgEc 352, Agricultural Law (3)	
AgEc 479, Agricultural Policy (3)	
AS 285, Livestock Evaluation and Marketing (3)	
BAdm 474, Principles of Selling (3)	
Econ 476, Marketing Research (3)	
Econ 440, Economics of the International Sector (3)	

Agricultural Systems Technology (AST) Major and Minor

Darrell W. DeBoer
Department of Agricultural Engineering
Agricultural Engineering 107
605-688-5141
http://www.abs.sdstate.edu/ae/index.htm

Requirements for Agricultural Systems Technology Major
Bachelor of Science in Agriculture

Freshman Year	**F**	**S**
AST 202-202A, Construction Techniques and Materials and Lab	2	
Chem 106-107 Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab		4
CSc 105, Introduction to Computers	3	
Engl 101, Freshman Composition	3	
ES 131-131A, Welding and Lab **or** ES 121-121A, Machine Shop and Lab		2
Math 102, College Algebra **and** Math 120, Trigonometry; **or** Math 113, College Algebra & Trigonometry	5-6	
Soc 100, Introduction to Sociology		3
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living & Lab		2
Group I Elective	3	
Humanities Elective‡	3	3

Sophomore Year	**F**	**S**
Acct 210, Principles of Accounting I		3
AST 213-213A, Agricultural, Industrial, & Outdoor Power and Lab	3	

Econ 202, Macroeconomics Principles		3
EG 121, Engineering Design Graphics I	1	
EG 123, Computer-Aided Design & Graphics		1
Phys 111-112, Introduction to Physics I and Lab **and** Phys 113-114, Introduction to Physics II and Lab	4	4
PS 213-213A Soils and Lab		3
Chemistry Elective (Chem 114 or 120)	3	
Group I Electives*	3	3
Social Science Elective‡	3	
Junior Year	**F**	**S**
AST 313-313A, Farm Machinery Systems Management and Lab		3
AST 333-333A, Soil & Water Mechanics and Lab		3
AST 342-342A, Applied Electricity and Lab	3	
BAdm 310, Business Finance	3	
Engl 301, Advanced Composition**		3
Option Courses	6	3
Biological Science Electives†	3	
Communication Elective**		2
Senior Year	**F**	**S**
AE 353-353A, Physical Climatology & Meteorology and Lab		3
AE 490, Seminar and Inspection Trip	1	
AST 423-423A, Rural Structures and Lab		3
AST 443-443A, Food Process and Engineering Fundamentals and Lab	3	
AST 463, Agricultural Waste Management	3	
BAdm 350, Legal Environment of Business & Contracts	3	
Technical Elective***	3	
Elective		3-4
Option Courses	3	3
Humanities Elective‡		3

* Students majoring in Agricultural Systems Technology may not use Agricultural Systems Technology courses to satisfy the Group I requirements. Group I requirements include Plant Science 213 plus 9 additional credits from Group I.

** See College of Agriculture and Biological Sciences Core Curriculum Requirements. "C" grade required in Engl 301.

*** Technical electives must be selected from the approved list provided.

‡ See University Core Requirements.

† Courses must be selected from the following areas: Botany, Biology, Entomology-Zoology, Plant Science, Microbiology.

The AST major requires a minimum of 15 semester credits from one of the following options: Business, Processing, Production, or Environmental Systems. The elective program must be planned with the adviser and approved by the department head.

Business Option	
AgEc 271-271A, Farm & Ranch Management and Lab	4
AST 303, Design Management Experience	3
BAdm 360, Organization and Management	3
Econ 201, Microeconomics Principles	3
Econ 330, Money and Banking	3
Stat 341, Statistical Methods I, or equivalent	3
Business Elective	3

Processing Option	
AS 241, Meat: Production to Consumption	3
AS 341, Fresh Meat Operations	3
DS 321-321A, Dairy Product Processing I and Lab	5
DS 421, Dairy Plant Management	3
Micr 231-232, General Microbiology and Lab	4
Micr 311-311A, Food Microbiology and Lab	4
NFS 341-341A, Food Science and Lab	4
PS 312, Grain & Seed Production & Processing	2
Processing Elective	3

Production Option	
Ag Production Electives	3
Animal Science Electives	9
Horticulture Electives	6
Plant Science Electives	9

Environmental Systems Option	
Bio 311, Principles of Ecology	3
Chem 380, Environmental Chemistry	4
Micr 231, General Microbiology	4
PS 243-244, Geology and Lab	3
PS 475, Water Quality in Agriculture	3
WL 110, Environmental Conservation	2
Environmental Systems Technology Elective	3

Technical Electives	
AE 372-372A, Microcomputer Applications in Agricultural Engineering and Lab	2
AST 262, Environmental Safety and Society	2
AST 492, Special Problems	1-3
AST 494 or 495 or 496, Cooperative Education/ Internship/Field Experience	1-3
BAdm 310, Business Finance	3
BAdm 380, Personal Finance	3
Any 300 or higher level course in Animal and Range Sciences, Plant Science; excluding Group 1 courses	3

Requirements for Agricultural Systems Technology Minor: 17 cr

AST 202-202A, Construction Techniques and Materials and Lab	2
AST 213-213A, Agricultural, Industrial & Outdoor Power and Lab	3
AST 333-333A, Soil & Water Mechanics and Lab	3
AST 342, Applied Electricity	3

plus 6 hours from the following:

AST 262, Environmental Safety & Society	2
AST 273-273A, Microcomputer Applications in Agriculture and Lab	3
AST 313-313A, Farm Machinery Systems Management and Lab	3
AST 423-423A, Rural Structures and Lab	3
AST 443-443A, Food Process and Engineering Fundamentals and Lab	3
AST 463, Agricultural Waste Management	3
AST 492, Special Problems	1-3

Agronomy Major and Minor

Dale Gallenberg
Department of Plant Science
Agricultural Hall 219
605-688-5121

Requirements for Agronomy Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Bio 151-152, General Biology I and Lab	4		
Bio 153-154, General Biology II and Lab **or** Bot 201-202, General Botany and Lab			3 or 4
Engl 101, Freshman Composition	3		
PS 101, Opportunities in Plant Science	1		
PS 103-103A, Crop Production and Lab	3		
Soc 100, Introduction to Sociology			3
SpCm 101-101A, Fundamentals of Speech and Lab			3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Emphasis and Elective Courses**	4		5

Sophomore Year	F	S
AST 273-273A, Microcomputer Applications in Agriculture and Lab **or** CSc 105, Introduction to Computers	3	
Chem 120-121, Elementary Organic Chemistry and Lab		4
Econ 201, Microeconomics Principles **or** Econ 202, Macroeconomics Principles	3	
PS 213-213A, Soils and Lab		3
PS 223-223A, Principles of Plant Pathology and Lab	3	
Humanities Electives*	3	3
Social Science Elective*		3
Emphasis and Elective Courses**	4	3

Junior Year	F	S
Bio 371-372, Genetics and Lab **or** PS 383-383A, Principles of Crop Improvement and Lab	3-4	
Bot 327, Plant Physiology	4	
Engl 301, Advanced Composition	3	
Micr 231, General Microbiology		4
PS 243, Geology		3
PS 244 Geology Lab		1
PS 305-305A, General Entomology and Lab **or** PS 307-307A, Insect Pest Management and Lab	3	or 3
PS 323, Soil Fertility and Fertilizers		3
PS 494, Cooperative Education/Internship in Plant Science		1-2
Emphasis and Elective Courses**	3or6	2 or 5

Senior Year	F	S
Engl 379, Technical Communications		3
PS 343-343A, Weed Science and Lab	3	
PS 475, Water Quality in Agriculture **or** PS 446, Agroecology		3
PS 490, Undergraduate Seminar	1	or 1
Stat 341, Statistical Methods I	3	
Emphasis and Elective Courses**	6-7	9-12

* See approved list under Graduation Requirements in this bulletin.
** See selected emphasis.

Business Emphasis

ABS 475-475A, Integrated Natural Resource Management and Lab		3
Acct 210, Principles of Accounting I		3
AgEc 354, Agricultural Marketing and Prices **or** AS 285-285A, Livestock Evaluation and Marketing and Lab		3 or 4
BAdm 360, Organization and Management		3
Chem 106-107 Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab		4
Math 102, College Algebra **or** Math 113, College Algebra & Trigonometry **or** Math 120, Trigonometry		3 or 5
Phys 101-102, Survey of Physics and Lab **or** Phys 111-112, Introduction to Physics I and Lab		4
Business Electives (see list below)		6
Plant Science Electives (at least one course from each of 3 areas on list***)		10
Unrestricted Electives		1-5

*** See production emphasis for list of approved courses in crops, plant protection, and soils areas.

Business Electives

Acct 211, Principles of Accounting II	3
Acct 320, Cost Accounting	3
AgEc 271, Farm & Ranch Management	4
AgEc 352, Agricultural Law	3
+AgEc 354, Agricultural Marketing and Prices	3
+AgEc/PS 373-373A, Rural Real Estate Appraisal & Lab	3
AgEc 421, Production Economics	3
AgEc 454, Economics of Grain and Livestock Marketing	3
AgEc 478-478A, Agricultural Finance & Lab	3
AgEc 479, Agricultural Policy	3
+AS 285, Livestock Evaluation & Marketing	4
BAdm 310, Business Finance	3
BAdm 350, Legal Environment of Business & Contracts	3
BAdm 351, Business Law I	3
BAdm 380, Personal Finance	3
BAdm 474, Principles of Selling	3
+Econ 201, Microeconomics Principles	3
+Econ 202, Macroeconomics Principles	3
Econ 330, Money and Banking	3
Econ 476, Marketing Research	3

\+ Courses in Business electives cannot be used to meet other Agronomy major or emphasis requirements.

Production Emphasis

ABS 475-475A, Integrated Natural Resource Management & Lab	3
AgEc 354, Agricultural Marketing and Prices **or** AS 285-285A, Livestock Evaluation and Marketing & Lab	4
Chem 106-107 Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab	4
Math 102, College Algebra **or** Math 113, College Algebra & Trigonometry **or** Math 120, Trigonometry	3 or 5
Phys 101-102, Survey of Physics and Lab **or** Phys 111-112, Introduction to Physics I and Lab	4

***Plant Science Electives

Crops Courses	Plant Protection Courses	Soils/Environmental Protection Courses
PS 303-303A, Seed Technology and Lab	+PS 305-305A, General Entomology and Lab	PS 244, Geology Lab
PS 308-308A, Grain Grading and Lab	+PS 307-307A, Insect Pest Management and Lab	PS 310-310A, Soil Geography & Land Use Interpretation and Studio
PS 312, Grain & Seed Production & Processing	PS 333-333A, Diseases of Field Crops and Lab	PS 362-362A, Environmental Soil Management and Lab
PS 313-313A, Forage Crops & Pasture Management and Lab	PS 334-334A Diseases of Horticultural Crops and Lab	PS 373-373A, Rural Real Estate Appraisal and Lab
+PS 383-383A, Principles of Crop Improvement & Lab	PS 415-415A, Mycology and Lab	+PS 475, Water Quality in Agriculture
PS 440-440A, Crop Management with Precision Farming & Lab	PS 420-420A, Biological Control of Arthropods and Lab	PS 412, Environmental Soil Chemistry
PS 453, Advanced Genetics	PS 431-431A, Applied Insect Ecology and Lab	PS 421-421A, Soil Microbiology and Lab
PS 462, Molecular Biology I	PS 450-450A Field Studies in Plant Disease Diagnosis and Lab	+PS 446, Agroecology
PS 464-465, Molecular Biology II and Lab		PS 483, Irrigation–Crop & Soil Practices

\+ Courses in Plant Science electives cannot be used to meet other Agronomy major or emphasis requirements.

Plant Science Electives (at least one course from each of 3 areas listed above***)	13
Unrestricted Electives	10-14

Science Emphasis

Chem 112-113, General Chemistry I and Lab **and** Chem 114-115, General Chemistry II and Lab	8
Chem 232-233, Analytical Chemistry I and Lab **or** Chem 361-361A, Biochemistry and Lab	4
Math 113, College Algebra & Trigonometry, **or** Math 102, College Algebra **and** Math 120, Trigonometry	5 or 6
Math 123, Calculus I **or** Math 222, Calculus for Non-Math Majors	5
Phys 111-112, Introduction to Physics I and Lab **and** Phys 113-114, Introduction to Physics II and Lab	8

Area of Specialization (Crop Science, Entomology, Plant Pathology, Soil Science, or Weed Science)* 13
Unrestricted Electives 2-4

* Courses are to have PS prefix or ABS 475 and are not to include courses used to fulfill the Biological Science core of the major. Maximum of 3 credits from PS 492.

Requirements for Agronomy Minor: 16 cr
PS 103-103A, Crop Production and Lab 3
PS 213-213A, Soils and Lab 3
PS 223-223A Principles of Plant Pathology and Lab 3
PS 490, Undergraduate Seminar 1
Plant Science Electives (must have PS prefix) 6

Soil Science Certification: 21 cr
The following courses are strongly recommended for students seeking certification or licensure as a professional soil scientist:
PS 213-213A, Soils and Lab 3
PS 310-310A Soil Geography & Land Use Interpretation and Studio 3
PS 323, Soil Fertility and Fertilizers 3
PS 362-362A Environmental Soil Management and Lab 3
PS 412 Environmental Soil Chemistry 3
PS 421-421A Soil Microbiology and Lab 3
PS 475 Water Quality in Agriculture 3

American Indian Studies Minor

Donna Hess
Department of Rural Sociology
Scobey Hall 216
605-688-4892

Requirements for American Indian Studies Minor: 20 cr
Required courses for the minor
Anth 421, Indians of North America **or**
Hist 368, History of the American Indians 3
Engl 351, American Indian Literature of the Past 3
Lak 101, Introductory Lakota I 4

10 credits chosen from the following elective courses
Anth 310, Cultural Anthropology 3
Anth 410, North American Ethnology 3
Anth 421, Indians of North America 3
Engl 256, Literature of the American West 3
Engl 352, American Indian Literature of the Present 3
Geog 219, Geography of South Dakota 3
Geog 467, Geography of the American Indians 3
Hist 362, History of the American West 3
Hist 368, History of the American Indians 3
Lak 102, Introductory Lakota II 4
Lak 201, Intermediate Lakota I 3
Lak 202, Intermediate Lakota II 3
Phil 100, Introduction to Philosophy 4
PolS 310, Tribal Government and Politics 3
Rel 238, Native American Religions 3
Soc 350, Ethnic and Racial Groups 3

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

Animal Science (AS) Major and Minor

Department of Animal and Range Sciences
Animal Science Complex 103A
605-688-5166

Requirements for Animal Science Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
AS 100, Opportunities in Animal Science	1		
AS 101-101A, Introduction to Animal Science and Lab	3		
Bio 101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab	3		3
Engl 101, Freshman Composition	3	or	3
Soc 100, Introduction to Sociology			3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Emphasis and elective courses	6		6

Sophomore Year	**F**		**S**
AS 233-233A, Applied Animal Nutrition and Lab			4
AS 241, Meat: Production to Consumption	3		
Bio 371-372, Genetics and Lab	4		
Econ 202, Macroeconomics Principles	3		
Emphasis and elective courses	7		10
Humanities electives	3	or	3

Junior Year	**F**		**S**
AS 332-332A, Principles of Animal Breeding and Lab	4		
AS 323, Advanced Animal Nutrition	3	or	3
AS 390, Animal Science Junior Seminar	1	or	1
Engl 301, Advanced Composition			3
Engl 379, Technical Communications **or** MCom 313, Publicity Methods	3	or	2
Humanities electives	3	or	3
Emphasis and elective courses	2-9		4-10
Social Science Elective			3

Senior Year	**F**		**S**
AS 433-433A, Livestock Reproduction and Lab	3		
AS 490, Animal Science Senior Seminar Current Issues	1	or	1
AS Production Courses (See emphases)			
Emphasis and elective courses	12		16

Business and Production Emphasis			
AS 285, Livestock Evaluation and Marketing			4
Chem 106-107 Chemistry Survey and Lab			4
Chem 120-121, Elementary Organic Chemistry and Lab			3-4
Math 102, College Algebra **or** Math 113, College Algebra and Trigonometry			3 or 5
Phys 101-102, Survey of Physics and Lab **or** Phys 111-112, Introduction to Physics I and Lab **or** Phys 211-212, University Physics I and Lab			4
Vet 223-223A, Anatomy and Physiology of Livestock and Lab			4
Animal Science Production Courses. Select two from: AS 365, 474, 477, **or** 478			6
Acct 210, Principles of Accounting I			3
Econ 201, Microeconomics Principles			3
Group I Electives			6

Business Electives 12
Select from the following:
Acct 211, Principles of Accounting II 3
AgEc 271-271A, Farm and Ranch Management and Lab..... 4
AgEc 352, Agricultural Law 3
AgEc 354, Agricultural Marketing and Prices 3
AgEc 421, Production Economics 3
AgEc 454, Economics of Grain and Livestock Marketing..... 3
AgEc 478-478A, Ag Finance and Lab 3
AgEc 479, Agricultural Policy 3
BAdm 310, Business Finance..... 3
BAdm 334, Small Business Management 3
BAdm 350, Legal Environment of Business and Contracts 3
BAdm 351, Business Law I 3
BAdm 360, Organization and Management 3
BAdm 380, Personal Finance 3
Econ 330, Money and Banking 3
Econ 370, Marketing 3
Stat 341, Statistical Methods I 3
General Electives 12-15

Science Emphasis
Chem 112-113-114-115, General Chemistry I-II and Labs 7-8
Chem 120-121, Elementary Organic Chemistry and Lab 3-4
Chem 361-361A, Biochemistry and Lab 4
Math 102, College Algebra **or**
Math 113, College Algebra and Trigonometry ..... 3 or 5
Math 222, Calculus for Non-Math Majors 5
Micr 231-232, General Microbiology and Lab 4
Phys 111-112-113-114, Introduction to Physics I-II and Labs **or**
Phys 211-212-213-214, University Physics I-II and Labs 8
Zool 221-222, Anatomy and Lab **and** Zool 325-325A, Mammalian Physiology and Lab
or
Vet 223-223A, Anatomy and Physiology of Livestock and Labs ..... 3, 4 or 7
AS Production Courses. Select two from:
AS 365-365A, 474-474A, 477-477A, 478-478A
(one must be 474-474A, 477-477A, **or** 478-478A) ... 6
Group I Electives 6
General Electives 6-15

Requirements for Animal Science Minor: 19 cr
AS 101-101A, Introduction to Animal Science and Lab.... 3
AS 233-233A, Applied Animal Nutrition and Lab 4
AS 285-285A, Livestock Evaluation and Marketing and Lab..... 4
one of the following courses:
AS 323, Advanced Animal Nutrition..... 3
AS 332-332A, Principles of Animal Breeding and Lab.. 4
AS 433-433A, Livestock Reproduction and Lab..... 3

two of the following courses:
(one must be 474-474A, 477-477A **or** 478-478A)
AS 241, Meat: Production to Consumption..... 3
AS 365-365A, Horse Production and Lab 3
AS 474-474A, Beef Cattle Production and Lab..... 3
AS 477-477A, Sheep and Wool Production..... 3
AS 478-478A, Swine Production and Lab..... 3

Apparel Merchandising (AM) Major and Minor

Sandra Evers
Department of Apparel Merchandising and Interior Design
NFA 229
605-688-5196

Requirements for Apparel Merchandising Major
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
AM 121-121A, Apparel in Popular Culture and Lab	3		
AM 172, Introduction to Apparel Merchandising			3
Art 121, Design I			3
Engl 101, Freshman Composition	3	or	3
FCS 101, Professional Foundations	1		
Math 102, College Algebra	3	or	3
Psyc 101, General Psychology	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
General Education Elective	3	or	3
Natural Science			4

Sophomore Year	**F**		**S**
AM 272, Fashion Forecasting	2		
AM 231-231A, Ready-to-Wear Analysis and Lab	3		
AM 274-274A, Fashion Promotion and Visual Merchandising and Lab			3
AM 342-342A, Textiles I and Lab			3
CSc 105, Introduction to Computers	3		
Econ 202, Macroeconomics Principles	3		
HDCF 241, Family Relations			3
Hist 121, History of Western Civilization to 1650 **or** Hist 122, History of Western Civilization since 1650	3		
ID 221, Introduction to Interiors & Housing	3	or	3
ID 222, Lab in Interiors & Housing	1	or	1
Art History/Studio Elective or Econ/BAdm Elective			3
Natural Science			4

Junior Year	**F**		**S**
AM 315-315A, Apparel Design and Lab			3
AM 331, Apparel Manufacturing	3		
AM 352, History of Dress in Western World	3		
AM 372, International Trade in Textiles and Apparel			3
AM 442-442A Textiles II and Lab			3
AM 453, Socio-Psychological Aspects of Dress			3
Engl 301, Advanced Composition	3	or	3
HDCF 241, Family Relations	3	or	3
AM Elective	2-3	or	2-3
Art History/Studio Elective	3		
Econ/BAdm Elective	3	or	3
College of Family and Consumer Sciences Electives	2	or	3

Senior Year	**F**		**S**
AM 472, Retailing (1/2 sem)	3		
AM 453, Socio-Psychological Aspects of Dress			3
AM 473, Merchandise Planning & Control			3
AM 487, Pre-Practicum in Apparel Merchandising (1/2 sem)	1		
AM 493, Current Topics (optional)	1-3		
AM 497, Professional Practicum (1/2 semester)	1-12		
FCS 401, Professional Perspectives			2

AM Electives **or** Electives 3-6
Econ/BAdm Elective 3

Additional electives to total 128 credits

Requirements for Apparel Merchandising Minor: 16 cr
AM 121-121A, Apparel in Popular Culture and Lab **or**
AM 342-342A, Textiles I and Lab 3
AM 372, International Trade in Textiles/Apparel 3
Apparel Merchandising Electives 10-11

Art Major and Minor

Norman Gambill
Department of Visual Arts
Solberg Hall 102A
605-688-4103

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. Foreign Languages are required for the B.A.

Requirements for Art Major – Education
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
ArtH 100, Art and Design Appreciation	3	or	3
Engl 101, Freshman Composition	3	or	3
Soc 100, Introduction to Sociology **or** Psyc 101, General Psychology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Foreign Language (B.A. only)	4		4
Biological Science Elective (B.S. only)	3	or	3
Mathematics Core Requirement	3		
Visual Arts Core	6		6
Sophomore Year	**F**		**S**
EdFn 375, Human Relations	3	or	3
SeEd 287, Practicum and Professional Lab	2	or	2
Art History	3	or	3
Foreign Language (B.A. only)	3		3
Biological Science Elective (B.S. only)	3	or	3
Natural Science Electives (B.A. only)	4		4
Physical Science Electives (B.S. only)	4		4
Social Science Elective	3	or	3
Visual Arts Core	3		3
Electives	3	or	3
Junior Year	**F**		**S**
ArtE 415, Methods of Teaching Art in Public Schools	3	or	3
Art 251, Ceramics I–Beginning Level	3		
EdFn 365, Integrating Computers into the Curriculum	2	or	2
Engl 301, Advanced Composition	3		
EPsy 302, Educational Psychology	2	or	2
Hist 368, History of the American Indians **or** Anth 421, Indians of North America	3	or	3
SeEd 314, Supervised Clinical/Field Experience	1	or	1
SeEd 450, Teaching of Reading	3	or	3
Social Science Elective	3	or	3
Art History	3	or	3
Electives (B.S. only)	6		2
Electives (B.A. only)	3	or	3
Senior Year	**F**		**S**
Art 241, Sculpture I–Beginning Level			3
SeEd 400, Curriculum and Instruction in Secondary Schools	3		
SeEd 410, Social Foundations, Management and Law	2		
SeEd 420, Teaching Special Needs Students	1		
SeEd 488, Supervised Teaching Internship	10		
Art History			3
Art Electives			6
Humanities Elective (non-Art course)(B.S. only)			3

Requirements for Art Major – Graphic Design
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
ArtH 100, Art and Design Appreciation	3	or	3
Engl 101, Freshman Composition	3	or	3
MCom 160-160A, Basic Photography and Studio			2
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Foreign Language (B.A. only)	4		4
Biological Science Elective (B.S. only)	3	or	3
Mathematics Core Requirement	3		
Visual Arts Core	6		6
Electives	3	or	3
Sophomore Year	**F**		**S**
ArtD 251, Graphic Design I	3		
ArtD 255, Introduction to Computer Graphics (art core)	3	or	3
ArtD 350, Graphic Design II			3
Social Science Elective	3		
Art History	3	or	3
Foreign Language (B.A. only)	3		3
Biological Science Elective (B.S. only)	3	or	3
Humanities Elective (non-Art course)(B.S. only)	3	or	3
Natural Science Electives (B.A. only)	4		4
Physical Science Elective (B.S. only)	4		4
Visual Arts Core	3	or	3
Electives (B.S. only)	3	or	3
Junior Year	**F**		**S**
ArtD 351, Graphic Design III			3
ArtD 355, Computer Graphics II	3		
Art 497, Internship (art elective)	3	or	3
Engl 301, Advanced Composition	3		
Design Media I			3
Art History	3	or	3
Social Science Electives	3		3
Electives (B.A. only)	6		2
Electives (B.S. only)	3		3
Senior Year	**F**		**S**
ArtD 450, Graphic Design IV	3		
ArtD 465, Advertising Design (art elective)			3
Art History	3	or	3
Social Science Elective	3		3
Design Media II			3
Art Elective	1	or	1
Electives (B.A. only)	6		3
Electives (B.S. only)	6		7

Requirements for Art Major – Fine Arts (Painting/Printmaking)
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
ArtH 100, Art and Design Appreciation	3	or	3
Engl 101, Freshman Composition	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Foreign Language (B.A. only)	4		4
Biological Science Elective (B.S. only)	3	or	3

Mathematics Core Requirement	3		
Visual Arts Core	6		6
Electives (B.S. only)	3		3

Sophomore Year	**F**		**S**
Art 231, Painting I–Beginning Level **or** Art 281, Printmaking I–Beginning Level	3	or	3
Art History	3	or	3
Foreign Language (B.A. only)	3		3
Biological Science Elective (B.S. only)	3	or	3
Humanities Elective (non-Art course)(B.S. only)	3	or	3
Natural Science Elective (B.A. only)	4		4
Physical Science Elective (B.S. only)	4		4
Social Science Elective (B.A. only)	3	or	3
Social Science Elective (B.S. only)	3		3
Visual Arts Core	3		3
Electives	3	or	3

Junior Year	**F**		**S**
Art 331, Painting II–Intermediate Level **or** Art 381, Printmaking II–Beginning Level	3	or	3
Art 332, Painting III–Intermediate Level **or** Art 382, Printmaking Advanced	3		3
Engl 301, Advanced Composition	3		
Art History	3	or	3
Art Electives	3		3
Social Science Elective (B.A. only)	3		3
Social Science Elective (B.S. only)	3	or	3
Electives	6		3

Senior Year	**F**		**S**
Art 431, Painting IV–Advanced Level **or** Art 481, Printmaking IV–Advanced Level	3		3
Art History	3	or	3
Art Electives	3		3
Social Science Elective (B.A. only)	3		
Social Science Elective (B.S. only)	3	or	3
Electives (B.A. only)	3		5
Electives (B.S. only)	5		2

(Majors must take 18 credit hours of Painting and Printmaking courses)

Requirements for Art Major – Fine Arts (Ceramics/Sculpture)
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Art 251, Ceramics I–Beginning Level **or** Art 241, Sculpture I–Beginning Level	3	or	3
ArtH 100, Art and Design Appreciation	3	or	3
Engl 101, Freshman Composition	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Foreign Language (B.A. only)	4		4
Biological Science Elective (B.S. only)	3	or	3
Mathematics Core Requirement	3		
Visual Arts Core	3		3
Visual Arts Core (3-D Design)	3		

Sophomore Year	**F**		**S**
Art 351, Ceramics II–Intermediate Level **or** Art 341, Sculpture II–Intermediate Level	3	or	3
Art History	3	or	3
Foreign Language (B.A. only)	3		3
Biological Science Elective (B.S. only)	3	or	3
Humanities Elective (non-Art course)(B.S. only)	3	or	3
Natural Science Elective (B.A. only)	4		4
Physical Science Elective (B.S. only)	4		4
Social Science Elective	3	or	3
Visual Arts Core	3		3
Electives (B.A. only)	3	or	3
Electives (B.S. only)	3		3

Junior Year	**F**		**S**
Art 352, Ceramics III–Intermediate Level **or** Art 342, Sculpture III–Intermediate Level	3		3
Engl 301, Advanced Composition	3		
Art History	3	or	3
Art Electives	3		3
Social Science Elective	3		3
Visual Arts Core	3	or	3
Electives (B.A. only)	3		3
Electives (B.S. only)	6		3

Senior Year	**F**		**S**
Art 451, Ceramics IV–Advanced Level **or** Art 441, Sculpture IV–Advanced Level	3		3
Art History	3	or	3
Art Electives	3		3
Social Science Elective	3		
Electives (B.A. only)	6		5
Electives (B.S. only)	6		4

(Majors must take 18 credit hours of Ceramics and Sculpture courses)

Requirements for Art Major – Fine Arts (General)
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
ArtH 100, Art and Design Appreciation	3	or	3
Engl 101, Freshman Composition	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Foreign Language (B.A. only)	4		4
Biological Science Elective (B.S. only)	3	or	3
Mathematics Core Requirement	3		
Visual Arts Core	6		6
Electives	3	or	3

Sophomore Year	**F**		**S**
Art History	3	or	3
Foreign Language (B.A. only)	3		3
Biological Science Elective (B.S. only)	3	or	3
Humanities Elective (non-Art course)(B.S. only)	3	or	3
Natural Science Elective (B.A. only)	4		4
Physical Science Elective (B.S. only)	4		4
Social Science Elective	3	or	3
Visual Arts Core	3		3
Electives	3		3

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3		
Art History	3	or	3
Art Electives	3		3
ArtD/Art Electives	3		3
Social Science Elective	3		3
Electives (B.A. only)	3		2
Electives (B.S. only)	6		3

Senior Year	**F**		**S**
Art History	3	or	3
Art Electives	3		6
ArtD/Art Electives	3	or	3
Social Science Elective	3		
Electives (B.A. only)	6		6
Electives (B.S. only)	6		7

Requirements for Art Minor: 24 cr

To include 6 credits in art history.

Athletic Training (AT) Major

Jim Booher
Department of Health, Physical Education, and Recreation
Physical Education Center 265
605-688-5824
e-mail: booherj@mg.sdstate.edu

Requirements for Athletic Training Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
AT 164, Introduction to Athletic Training	2	or	2
Bio-101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab	3		3
Engl 101, Freshman Composition	3	or	3
Hlth 120, Community Health **or** Hlth 212, Contemporary Health Problems	2	or	2
Math 102, College Algebra	3	or	3
Psyc 101, General Psychology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Zool 221, Anatomy	3	or	3

Sophomore Year	**F**		**S**
NFS 221, Survey of Nutrition	3	or	3
Chemistry and/or Physics	4		4
Humanities and Social Science Core			

Junior Year	**F**	**S**
AT 361, Athletic Training Techniques I	3	
AT 362, Athletic Training Techniques II		3
AT 364, Athletic Training Techniques IV		3
AT 371, Athletic Training Clinical Experience I	2	
AT 372, Athletic Training Clinical Experience II		2
AT 454, Athletic Injury Assessment	3	
Engl 301, Advanced Composition	3	or 3
PE 350-350A, Exercise Physiology and Lab	3	or 3
PE 353, Biomechanics	3	or 3

Summer School	
AT 471, Fall Football Clinical Experience	1

Senior Year	**F**	**S**
AT 363, Athletic Training Techniques III	3	
AT 373, Athletic Training Clinical Experience III	2	
AT 374, Athletic Training Clinical Experience IV		2
AT 464, Therapeutic Modalities in Athletic Training		2
AT 474, Rehabilitation of Athletic Injuries	2	
AT 490, Senior Seminar in Athletic Training		2
Zool 325-325A, Mammalian Physiology and Lab	4 or	4

Aviation (Avia) Minor

Gary Egeberg
College of Education and Counseling
Wenona Hall 108
605-688-6291

This minor has been placed on an inactive status. Contact the College of Education and Counseling for further information.

Biology (Bio) Major and Minor

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 306
605-688-6141

Requirements for Biology Major
Bachelor of Science in Arts and Science

Freshman Year	**F**	**S**
Bio 151-152, 153-154, General Biology I-II and Labs	4	4
Chem 112-113, 114-115, General Chemistry I-II and Labs	4	4
Engl 101, Freshman Composition	3	
Math 113, Algebra & Trigonometry **or** Math 102, College Algebra **and** Math 120, Trigonometry		5-6
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living & Lab	2	
Social Science (approved list: two areas)	3	

Sophomore Year	**F**	**S**
Bio 290, Undergraduate Seminar	1	
Chem 326-327 & 328-329, Organic Chemistry and Labs **or** Chem 120-121, Elementary Organic Chemistry and Lab **and** Chemistry elective (Recommend Chem 361-361A)	4	4
Micr 231-232, General Microbiology and Lab		4
Humanities elective† (approved list: two areas)	4	
Social Science Elective† (approved list: two areas)		3
Emphasis and Elective* courses	7	5

Junior Year	**F**	**S**
Bio 371, Genetics	3	
Engl 301, Advanced Composition	3	
Phys 111-112-113-114, Introduction to Physics I-II and Labs	4	4
Humanities Elective (approved list: two areas)		5
Social Science Electives (approved list: two areas)	3	
Emphasis and Elective* courses	3	7

Senior Year	**F**	**S**
Bio 490, Senior Seminar	1	
Communications Elective (recommend Engl 379)	3	
Social Science Elective (approved list: two areas)	3	
Emphasis and Elective* courses	9	16

* The College of Arts and Science requires that at least 40 semester credits of the 128 total for graduation be upper division (300 and above). If a student plans to teach Biology with this curriculum, see the Undergraduate Teacher Education program and consult with the Dean of Education and Counseling.

† The College of Arts and Science requires two courses which concentrate on the humanities and social science aspects of an international area. These courses may be used to partially satisfy the social science and humanities requirements. (See International Studies list.)

Requirements for Biology Major
Bachelor of Science in Biological Science

Freshman Year	**F**	**S**
Bio 151-152, 153-154, General Biology I-II and Labs	4	4
Chem 112-113, 114-115, General Chemistry I-II and Labs	4	4
Engl 101, Freshman Composition	3	
Math 113, Algebra & Trigonometry **or** Math 102, College Algebra **and** Math 120, Trigonometry	5-6	
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living & Lab		2
Humanities Elective		3

Sophomore Year	F	S
Bio 290, Undergraduate Seminar	1	
Chem 326-327 & 328-329, Organic Chemistry & Labs or Chem 120-121, Elementary Organic Chemistry & Lab and Chemistry elective (Recommend Chem 361)	4	4
Econ 202, Macroeconomics Principles		3
Micr 231-232, General Microbiology and Lab	4	
Soc 100, Introduction to Sociology		3
Social Science Elective (approved list)	3	
Emphasis and Elective* courses	4	6

Junior Year	F	S
Bio 371, Genetics	3	
Engl 301, Advanced Composition		3
Phys 111-112-113-114, Introduction to Physics I-II and Labs	4	4
Humanities Electives (approved list)	3	
Emphasis and Elective* courses	6	9

Senior Year	F	S
Bio 490, Senior Seminar	1	
Communications Elective (recommend Engl 379)	3	
Emphasis and Elective* courses	13	16

* The College of Agriculture and Biological Sciences requires that at least 25 semester credits of the 128 total for graduation be upper division (300 and above). If you plan to teach Biology with this curriculum, see the Undergraduate Teacher Education program and consult with the Dean of Education and Counseling.

Biology Emphasis

At least **two** (2) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 200-200A, Biological Diversity and Lab 4
Bot 201-202, General Botany and Lab 3
Bot 301-301A, Plant Systematics and Lab 4
Bot 305-305A, Agrostology and Lab 3
Bot 415-415A, Plant Ecology and Lab 4
Bot 421-421A, Plant Anatomy and Lab 3

At least **two** (2) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 445-445A, Histological Techniques and Lab 3
Zool 221-222, Anatomy and Lab 3
Zool 355-355A, Mammalogy and Lab 3
Zool 357-358, Invertebrate Zoology and Lab 4
Zool 365-365A, Vertebrate Zoology and Lab 4
Zool 441-441A, Vertebrate Histology and Lab 4
Zool 467-467A, General Parasitology and Lab 3

At least **four** (4) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 311, Principles of Ecology 3
Bio 343-343A, Cell Biology and Lab 3
Bio 353, Introduction to Oceanography 3
Bio 373, Evolution 3
Bot 327-327A, Plant Physiology and Lab 4
EnvM 275, Intro to Environmental Science 3
EnvM 425-425A, Disturbance Ecology and Lab 4
Micr 422-422A, Immunology and Lab 4
Micr 436, Molecular and Microbial Genetics 4
Micr 438, Molecular Microbial Genetics Lab 2
Zool 301, Animal Behavior 3
Zool 325-325A, Mammalian Physiology and Lab 4
Zool 383-383A, Embryology and Lab 4

Biological Science Electives: Additional courses needed to total 28 hours can be any Bio, Bot, Zool, WL, or Micr prefixed courses (with the exception of Seminars)

Botany Emphasis

At least **four** (4) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 200-200A, Biological Diversity and Lab 4
Bot 201-202, General Botany and Lab 3
Bot 301-301A, Plant Systematics and Lab 4
Bot 305-305A, Agrostology and Lab 3
Bot 327-327A, Plant Physiology and Lab 4
Bot 415-415A, Plant Ecology and Lab 4
Bot 421-421A, Plant Anatomy and Lab 3

At least **two** (2) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 445-445A, Histological Techniques and Lab 3
Zool 221-222, Anatomy and Lab 3
Zool 355-355A, Mammalogy and Lab 3
Zool 357-358, Invertebrate Zoology and Lab 4
Zool 365-365A, Vertebrate Zoology and Lab 4
Zool 441-441A, Vertebrate Histology and Lab 4
Zool 467-467A, General Parasitology and Lab 3

At least **two** (2) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 311, Principles of Ecology 3
Bio 343-343A, Cell Biology and Lab 3
Bio 353, Introduction to Oceanography 3
Bio 373, Evolution 3
EnvM 275, Intro to Environmental Science 3
EnvM 425-425A, Disturbance Ecology and Lab 4
Micr 422-422A, Immunology and Lab 4
Micr 436, Molecular and Microbial Genetics 4
Micr 438, Molecular Microbial Genetics Lab 2
Zool 301, Animal Behavior 3
Zool 325-325A, Mammalian Physiology and Lab 4
Zool 383-383A, Embryology and Lab 4

Biological Science Electives: Any Bio, Bot, PS, Zool, WL, or Micr prefixed courses (with the exception of Seminars)

Zoology Emphasis

At least **two** (2) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 200-200A, Biological Diversity and Lab 4
Bot 201-202, General Botany and Lab 3
Bot 301-301A, Plant Systematics and Lab 4
Bot 305-305A, Agrostology and Lab 3
Bot 415-415A, Plant Ecology and Lab 4
Bot 421-421A, Plant Anatomy and Lab 3

At least **four** (4) courses from the following list are required; additional courses from this list may be taken as electives:

Zool 221-222, Anatomy and Lab 3
Zool 301, Animal Behavior 3
Zool 325-325A, Mammalian Physiology and Lab 4
Zool 355-355A, Mammalogy and Lab 3
Zool 357-358, Invertebrate Zoology and Lab 4
Zool 365-365A, Vertebrate Zoology and Lab 4
Zool 383-383A, Embryology and Lab 4
Zool 441-441A, Vertebrate Histology and Lab 4
Zool 467-467A, General Parasitology and Lab 3

At least **two** (2) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 311, Principles of Ecology 3
Bio 445-445A, Histological Techniques and Lab.....3
Bot 327-327A, Plant Physiology and Lab 4
Bio 343-343A, Cell Biology and Lab 3
Bio 353, Introduction to Oceanography 3
Bio 373, Evolution 3
EnvM 275, Introduction to Environmental Science 3
EnvM 425-425A, Disturbance Ecology and Lab 4
Micr 422-422A, Immunology and Lab.....4
Micr 436, Molecular and Microbial Genetics 4
Micr 438, Molecular and Microbial Genetics Lab 2

Biological Science Electives: Any Bio, Bot, PS, Zool, WL, or Micr prefixed courses (with the exception of Seminars)

Pre-professional Emphasis

Three years + Professional school track: Students who are admitted into a professional school after only 3 years of undergraduate study may request to graduate from SDSU with a B.S. degree in Biological Science with a major in Biology. This program requires the successful completion of 96 credits at the undergraduate level. At least 32 of these 96 credits must be completed at SDSU. At least 20 of the 32 credits completed at SDSU must be at the 300 or above level. The student must complete all the college and university general education requirements. The student must complete at least 16 credits at SDSU in courses prefixed Bio, Bot, Micr, Vet, or Zool. These credits can fulfill a portion of the 32 credit residency requirement. In this program, the courses listed below are not required but are recommended to complete the 96 credit requirement.

Four year track: Students entering the regular 4-year program in Biology will complete the following requirements for the Pre-professional Emphasis:

At least **four** (4) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 200-200A, Biological Diversity and Lab 4
Bio 415-415A, Mycology and Lab 3
HSc 440, Epidemiology 3
Micr 323-324, Medical Microbiology (can substitute Vet 403) and Lab 4
Micr 425, Pathogenesis.....3
Micr 424-424A, Medical and Veterinary Virology and Lab 4
Zool 467-467A, General Parasitology and Lab 3

At least **four** (4) courses from the following list are required; additional courses from this list may be taken as electives:

Bio 343-343A, Cell Biology and Lab 3
Bio 383, Bioethics.....4
Micr 422-422A, Immunology and Lab.....4
Zool 221-222, Anatomy and Lab* 3
Zool 325-325A, Mammalian Physiology and Lab* 4
Zool 383-383A, Embryology and Lab 4
Zool 441-441A, Vertebrate Histology and Lab 4

Recommended general electives, but not restricted to:

Chem 361-361A, Biochemistry and Lab (if taken Chem 326-327-328-329) 4
Hlth 364-364A, Emergency Medical Technician and Lab 4
HSc 120, Community Health 2
Math 222, Calculus for Non-Math Majors 5
Psyc 101, General Psychology (can use as Social Science elective)3
SpCm 201, Interpersonal Communication 3
Stat 341, Statistical Methods I 3

* For Pre-veterinary Students: You may substitute Vet 223 for Zool 325. However, if Vet 223 is taken, you cannot then use Zool 221 as one of your 4 courses from this block.

Requirements for Biology Minor: 16 cr

The minor in Biology consists of Bio 101 and Lab or 151 and Lab and additional credit hours in the Biology/Microbiology Department for a total of at least 16 credits. Two courses must be at the 300 level or above.

Botany (Bot) Minor

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 304
605-688-6141

Requirements for Botany Minor: 16cr

The minor in Botany consists of Bio 101 and Lab or 151 and Lab, Bot 201 and Lab, and additional courses with a Bot prefix for a total of at least 16 credits. Two courses must be at the 300 level or above.

Business Area Studies

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

Business Economics Option – See Economics Major

The following group of business related courses represents offerings from all academic departments (or in cooperation with other institutions) of interest to majors in the various business related curricula of the university.

Accounting

Acct 210, Principles of Accounting I 3 FS
Acct 211, Principles of Accounting II 3 FS
Acct 310, Intermediate Accounting I 3 F
Acct 311, Intermediate Accounting II 3 S
Acct 320, Cost Accounting 3 S
Acct 430, Income Tax Accounting 3 F

Agricultural Economics

AgEc 271-271A, Farm & Ranch Management and Lab 4 FS
AgEc 352, Agricultural Law 3 F
AgEc 354, Agricultural Marketing and Prices 3 F S
AgEc 373/PS 373, Rural Real Estate Appraisal 3 F
AgEc 454, Economics of Grain and Livestock Marketing 3 F
AgEc 478-478A, Agricultural Finance and Lab 3 F

Business Administration

BAdm 310, Business Finance 3 FS
BAdm 324, Operations Research 4 FS
BAdm 334, Small Business Management 3 F
BAdm 350, Legal Environment of Business and Contracts 3 FS
BAdm 351, Business Law I 3 F
BAdm 360, Organization and Management 3 FS
BAdm 380, Personal Finance 3 S
BAdm 416, Commercial Bank Management 3 S AY
BAdm 482, Business Policy and Strategy 3 FS
BAdm 483 Seminar in Business Consulting 3 FS
BAdm 474, Principles of Selling 3 F

Computer Science
CSc 330, COBOL Programming 3 FSSu

Economics
Econ 370, Marketing 3 FS
Econ 467, Labor, Law and Economics 3 S
Econ 453, Risk Management–Personal and Business 3
Econ 476, Marketing Research 3

General Engineering and Technology
GE 443, Project Management

Geography
Geog 454, Industrial and Commercial Site Selection FS

Mathematics
Math 241, Mathematics of Finance 3 S

Mass Communications
MCom 313, Publicity Methods 2 FSSu
MCom 370, Principles of Advertising 3 F

Political Science
PolS 428, Personnel and Budgetary Administration 3 S

Psychology
Psyc 331, Business and Industrial Psychology 3 F

Speech
SpCm 201, Interpersonal Communication 3 S
SpCm 315, Public Speaking 3 FS

Apparel Merchandising and Interior Design
AM/ID 472, Retailing 3 S

Chemistry (Chem) Major and Minor

Harry G. Hecht
Department of Chemistry and Biochemistry
Shepard Hall 121
605-688-5151

Requirements for Chemistry Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Chem 112-113, General Chemistry I and Lab	4		
Chem 114-115, General Chemistry II and Lab			4
Engl 101, Freshman Composition	3	or	3
Math 123, Calculus I* **or**			
Math 222, Calculus for Non-Math Majors	5	or	5
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Biological Science	3		3
Humanities and Social Science Core**	0-3		0-3

Sophomore Year	**F**		**S**
Chem 326-327, Organic Chemistry and Lab	4		
Chem 328-329, Organic Chemistry and Lab			4
Phys 111-112, Introduction to Physics I and Lab	4		
Phys 113-114, Introduction to Physics II and Lab			4
Humanities and Social Science Core**	3-6	or	3-6
Electives***	3-6	or	3-6

Junior Year	**F**		**S**
Chem 232-233, Analytical Chemistry I and Lab	4		
Chem 342-342A, Physical Chemistry and Lab	5		
Engl 301, Advanced Composition	3	or	3
Humanities and Social Science Core**	3-6	or	3-6
Electives***	3-6	or	3-6

Senior Year	**F**		**S**
Humanities and Social Science Core**	0-10	or	0-10
Electives***	6-16	or	6-16

* Math 224, Calculus II is recommended as an elective.
** 9 credits of Humanities and 12 credits of Social Sciences are required. At least 6 of these must be International Studies. See College of Arts and Science requirements.
*** Electives must include at least 8 credits of Chemistry selected from Chem 344-344A, 352-352A, 361-361A, 380, 382,-382A, 434-434A, 461.

Suggested courses for those interested in associated careers in:
Allied Health
Bio 151-152; Zool 221-222, 325-325A, 467-467A; Micr 231-232, 422-422A; Chem 361-361A, 382-382A, 434-434A; Stat 341
Biological Sciences
Chem 361-361A, 461; Biological Science upper division, 9 credits; Bio 151-152
Education
Chem 352-352A, 361-361A, 380; Education Requirements
Environmental
Chem 361-361A, 380, 434-434A; Micr 310; Bot 415; Bio 311; Geog 337
Quality Control
Chem 352-352A, 361-361A, 434-434A; Stat 341

Requirements for Chemistry Major – ACS Certified
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Chem 112-113, General Chemistry I and Lab	4		
Chem 114-115, General Chemistry II and Lab			3-4
Engl 101, Freshman Composition	3	or	3
Math 123, Calculus I	5		
Math 224, Calculus II			4
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Humanities, Social Science, & Biological Science Core*	3	or	3

Sophomore Year	**F**		**S**
Chem 232-232A, Analytical Chemistry I and Lab	4		
Chem 326-327, Organic Chemistry and Lab	4		
Chem 328-329, Organic Chemistry and Lab			4
Computer Science Course	3	or	3
Math Elective	3		
Phys 211-212, University Physics I and Lab	4		
Phys 213-214, University Physics II and Lab			4
Humanities, Social Science, & Biological Science Core*	0-3	or	0-5

Junior Year	**F**		**S**
Chem 352-352A, Inorganic Chemistry and Lab	4		
Chem 342-342A, Physical Chemistry and Lab	5		
Chem 344-344A, Physical Chemistry			5
Engl 301, Advanced Composition	3	or	3
Humanities, Social Science, and Biological Science Core*	4		8

Senior Year	**F**		**S**
Chem 434-434A, Instrumental Analysis and Lab			4

Chem 492, Special Problems	1-4	or	1-4
Advanced Physics Elective	3	or	3
Advanced Chemistry Elective	3	or	3
Humanities, Social Science, and Biological Science Core*	1-6	or	0-2
Electives	0-8	or	0-5

* 9 credits of Humanities and 12 credits of Social Sciences are required. At least 6 of these must be International Studies. See College of Arts and Science requirements. The University core requires 6 credits of Biological Science.

Requirements for Chemistry Minor: 20 cr

A minor should include a minimum of 20 semester credit hours (or equivalent). Two or more areas of chemistry should be chosen beyond general chemistry from the following: Analytical, Biochemistry, Inorganic, Organic, Physical and Environmental. This should include laboratory experiences in at least two different areas beyond general chemistry. A 2.0 GPA in chemistry courses is required and at least 50% of chemistry courses applied toward a minor must be completed at SDSU.

Civil Engineering (CEE) Major

Dwayne Rollag
Department of Civil and Environmental Engineering
Crothers Engineering Hall 118
605-688-5427

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)

Freshman Year	**F**	**S**
CEE 106-106A, Elementary Surveying and Lab		3
Chem 112-113, General Chemistry I and Lab	4	
Chem 114, General Chemistry II **or** Chem 120, Elementary Organic Chemistry		3
EG 121-122, Engineering Design Graphics I-II	1	1
Engl 101, Freshman Composition **and** SpCm 101-101A, Fundamentals of Speech and Lab	3	3
GE 101, Introduction to Engineering and Technology	0	
Math 123-224, Calculus I-II	5	4
WEL 100, Skills for Healthy Living & Lab	2	

Sophomore Year	**F**	**S**
CEE 208-208A, Engineering Surveys and Lab	3	
CEE 216-216A, Materials		3
CSc 213, Introduction to Programming with FORTRAN	3	
EG 123, Computer Aided Design & Graphics	1	
EM 221, Statics	3	
EM 222, Dynamics		3
Math 225, Calculus III	3	
Math 321, Differential Equations		3
Phys 211-212-213-214, University Physics I-II and Labs	4	4
Electives	1	4

Junior Year	**F**	**S**
CEE 311, Structural Materials Lab	1	
CEE 327-327A, Water Supply Engineering and Lab		3
CEE 336-336A, Engineering Geology and Lab		3
CEE 353, Structural Theory		3
CEE 363-363A, Highway Engineering and Lab		3
CEE 490, Seminar	0	
EE 300-301, Basic Electrical Engineering I and Lab		3
EM 321, Mechanics of Materials	3	
EM 331, Fluid Mechanics	3	
Engl 301, Advanced Composition **or** Engl 379, Technical Communications	3	
Math 381, Mathematical Statistics **or** Stat 341, Statistical Methods I	3	
ME 314, Thermodynamics	3	
Elective	2	3

Senior Year	**F**	**S**
CEE 331, Fluid Mechanics Lab	1	
CEE 423-423A, Wastewater Engineering and Lab	3	
CEE 433, Hydraulic Engineering	3	
CEE 446-446A, Geotechnical Engineering and Lab	4	
CEE 455-455A, Steel Design and Lab	3	
CEE 456-456A, Concrete Theory and Design and Lab		3
CEE 464, Senior Design Project I	1	
CEE 465, Senior Design Project II		2
CEE 475, Engineering Administration		3
Electives	3	10

Total hours required for graduation	**136**
Electives	**23**

Technical Electives	**Credits**
CEE 304, Land Surveying	3
CEE 306, Photo Interpretation and Photogrammetry	3
CEE 333, Hydrology	3
CEE 457-457A, Indeterminate Structural Analysis & Lab	3
CEE 458, Design of Timber Structures	2
CEE 467, Transportation Engineering	3
CEE 483-483A, Municipal Engineering and Lab	3
CEE 492, Special Problems	1-3
CEE 493, Special Topics	1-3
CEE 411-411A, Bituminous Materials and Lab	3
CEE 424, Industrial Waste Treatment	2
CEE 427-427A, Environmental Engineering Instrumentation and Lab	3
CEE 428-428A, Solid Waste Engineering and Management and Lab	3
CEE 435, Water Resources Engineering	3
CEE 436-436A, Foundation Engineering and Lab	3
CEE 447-447A, Advanced Soils Engineering and Lab	3
CEE 452, Prestressed Concrete	3
CEE 444, Precast Concrete Structures	3
CEE 443, Matrix Analysis of Structures	3
CEE 459, Advanced Structural Mechanics	3

Clinical Laboratory Technology (MEDT) Major

Harry G. Hecht
Department of Chemistry and Biochemistry
Shepard Hall 121
605-688-5151

Requirements for Clinical Laboratory Technology Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Bio 151-152, General Biology I and Lab	4		
Chem 112-113, General Chemistry I and Lab	4		
Chem 114-115, General Chemistry II and Lab			4
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra **or**			
Math 113, Algebra & Trigonometry	3-5	or	3-5
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Zool 221-222, Anatomy and Lab			3
Humanities or Social Science Core*	3-5		3-5

Sophomore Year	**F**		**S**
Chem 120-121, Elementary Organic Chemistry &Lab	3-4		
Chem 361-361A, Biochemistry and Lab			4
Micr 231-232, General Microbiology and Lab	4	or	4
Zool 467-467A, General Parasitology and Lab	3		
Stat 341, Statistical Methods	3	or	3
Humanities and Social Science Core*	3	or	6-8

Junior Year	**F**		**S**
Chem 232-233, Analytical Chemistry I and Lab	4		
Chem 434-434A, Instrumental Analysis and Lab			4
Chem 382-382A, Techniques in Clinical Laboratory			
Technology and Lab			3
Engl 301, Advanced Composition	3	or	3
Micr 422-422A, Immunology and Lab	4		
Micr 323-324, Medical Microbiology and Lab			4
Zool 325-325A, Mammalian Physiology and Lab	4	or	4
MedT 487, Internship Orientation			1
Humanities and Social Science Core*	0-6	or	0-6
Electives**	3-4	or	1-3

Senior Year

Twelve months of training in a hospital school of Medical Technology approved by the Committee on Allied Health Education and Accreditation of the American Medical Association for which 40 semester credits will be granted. Ninety-eight (98) credit hours must be earned at SDSU prior to the internship. Interns register for MEDT 495 during summer, fall and spring semesters of the internship year.

* 9 credits of Humanities and 12 credits of Social Sciences are required. At least 6 of these must be International Studies. See College of Arts and Science requirements.

** Students are encouraged to select one course from the following: Phys 101 Survey of Physics, Bio 371 Genetics, Acct 210 Principles of Accounting I, SpCm 201 Interpersonal Communications.

Communication Studies and Theatre (CST) Major and Minor

Michael R. Schliessmann
Department of Communication Studies and Theatre
Pugsley Center 115
605-688-6131

Requirements for Communication Studies and Theatre Major – RTVF Option (Radio, Television, and Film)
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Foreign Language (B.A. only)	4		4
Math Core	3	or	3
RTVF 130, Introduction to Radio & TV	3		
RTVF 144, Radio, Television & Film Activities	1	or	1
RTVF 160, Introduction to Film (or RTVF 360)	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Biological Science Core** (B.S. only)	3		3
Humanities Core*	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Sophomore Year	**F**		**S**
Foreign Language (B.A. only)	3		3
RTVF 330-330A, Writing for Radio & TV and Lab			
(alternate years–even)			3
RTVF 331-331A, Television Production and Lab	3	or	3
RTVF 344, Radio, Television & Film Activities	1	or	1
Humanities Core*	3	or	3
Natural Science Core (sequence) (B.A. only)	4		4
Physical Science Core** (B.S. only)	4		4
Social Science Core	3	or	3
CST Electives	3	or	3

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
RTVF 332-332A, Radio News Reporting and Lab **or**			
RTVF 333-333A, TV News Reporting and Lab	3	or	3
RTVF 344, Radio, Television & Film Activities	1	or	1
RTVF 360, Film Narrative (or RTVF 160)			3
SpCm 334, Discussion	3	or	3
Humanities Core* (B.S. only)	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Senior Year	**F**		**S**
GCom 345, Organizational Communication	3		
RTVF 335, Broadcast Programming **or**			
Thea 397, Theatre Arts Management (AY)			3
RTVF 344, Radio, Television & Film Activities	1	or	1
RTVF 431-431A, Advanced Television Production			
and Lab (AY-odd)			3
CST Electives	3	or	3

* From 2 disciplines other than Communication Studies and Theatre courses.

** Science sequence required in one area.

Requirements for Communication Studies and Theatre Major – SpCm Option (Speech Communication)
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Foreign Language (B.A. only)	4		4
Math Core	3	or	3
RTVF 130, Introduction to Radio & Television	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
SpCm 281, Forensic Activities	1	or	1
Thea 100, Introduction to Theatre	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Biological Science Core** (B.S. only)	3		3
Humanities Core*	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Sophomore Year	F		S
Foreign Language (B.A. only)	3		3
GCom 211, Phonetics			3
SpCm 201, Interpersonal Communication			3
SpCm 315, Public Speaking	3	or	3
SpCm 340, Oral Interpretation	3	or	3
Humanities Core*	3	or	3
Natural Science Core (sequence) (B.A. only)	4		4
Physical Science Core** (B.S. only)	4		4
Social Science Core	3	or	3
CST Electives	3	or	3

Junior Year	F		S
Engl 301, Advanced Composition	3	or	3
GCom 345, Organizational Communication	3		
SpCm 322, Argumentation and Debate (AY)			3
SpCm 334, Discussion	3	or	3
Humanities Core* (B.S. only)	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Senior Year	F		S
CST Electives	3	or	3

* From 2 disciplines other than Communication Studies and Theatre courses.
** Science sequence required in one area.

Requirements for Communication Studies and Theatre Major – SpEd Option (Speech Education)
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	F		S
DCom 131, Introduction to Communication Disorders	3	or	3
Engl 101, Freshman Composition	3	or	3
Foreign Language (B.A. only)	4		4
Math Core	3	or	3
RTVF 130, Introduction to Radio & TV	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Thea 131, Acting	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Biological Science Core** (B.S. only)	3		3
Humanities Core*	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Sophomore Year	F		S
Foreign Language (B.A. only)	3		3
SpCm 201, Interpersonal Communication			3
SpCm 210, Individual Contest Events (AY)	2		
Thea 241-241A, Stagecraft and Lab	3	or	3
Physical Science Core** (B.S. only)	4		4
Humanities Core*	3	or	3
Natural Science Core (sequence) (B.A. only)	4		4
Social Science Core	3	or	3
CST Electives	3	or	3

Junior Year	F		S
Engl 301, Advanced Composition	3	or	3
SpCm 322, Argumentation and Debate (AY)			3
SpCm 340, Oral Interpretation	3	or	3
Humanities Core* (B.S. only)	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Senior Year	F		S
SpCm 375, Teaching of Speech (AY)	3		
Thea 351, Directing **or**			
Thea 355, Children's Theatre (alternate years)	3	or	3
CST Electives	3	or	3

* From 2 disciplines other than Communication Studies and Theatre courses.
** Science sequence required in one area.

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

Requirements for Communication Studies and Theatre Major – Thea Option (Theatre)
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	F		S
Engl 101, Freshman Composition	3	or	3
Foreign Language (B.A. only)	4		4
Math Core	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Thea 100, Introduction to Theatre	3	or	3
Thea 131, Acting	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Biological Science Core** (B.S. only)	3		3
Humanities Core*	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Sophomore Year	F		S
Foreign Language (B.A. only)	3		3
Thea 241-241A, Stagecraft and Lab	3	or	3
Thea 243, Makeup for the Stage	3		
Humanities Core*	3	or	3
Natural Science Core (sequence) (B.A. only)	4		4
Physical Science Core**(B.S. only)	4		4
Social Science Core	3	or	3
CST Electives	3	or	3

Junior Year	F		S
Engl 301, Advanced Composition	3	or	3
Thea 351, Directing	3		
Humanities Core* (B.S. only)	3	or	3
Social Science Core	3	or	3
CST Electives	3	or	3

Senior Year	F		S
Thea 397, Theatre Arts Management **or**			
Thea 445, Lighting for Stage & TV (AY)	3		
Thea 485, Summer Theatre (Su Only – 5 credits)			
CST Electives	5	or	5

* From 2 disciplines other than Communication Studies and Theatre courses.
** Science sequence required in one area.

Requirements for Communication Studies and Theatre Minor: 20 cr (Theatre Option, 19 cr)

20 (or 19) semester credits including SpCm 101, approved by the department head. Not more than 8 credits chosen from activity courses (RTVF 144-445, SpCm 281, Thea 135, 145, 195, and 490) may be counted.

Computer Science (CSc) Major and Minor

Gerald Bergum
Department of Computer Science
Administration Building 133C
605-688-5719

Requirements for Computer Science Major
Bachelor of Science in Computer Science

Freshman Year	**F**		**S**
CSc 150, Computer Science I	3		
CSc 250, Computer Science II			3
Engl 101, Freshman Composition	3	or	3
Math 123, Calculus I	5		
Math 224, Calculus II			4
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2		
Electives			3
Social Science Electives	3		3

Sophomore Year	**F**	**S**
CSc 241, Computer Logic	3	
CSc 285, Data Structures	3	
CSc 290, Programming Languages		3
CSc 314, Assembly Language	3	
Math 215, Matrix Algebra	2	
Math 253, Elementary Logic and Set Theory	3	
Math 345, Topics in Discrete Mathematics		2
Applied Electives***		4
Humanities Electives	3	3
Social Science Electives		3

Junior Year	**F**	**S**
CSc 303, Introduction to Ethical Issues in Computer Science		2
CSc 328, Introduction to Automata Theory	3	
CSc 354, Introduction to Systems Programming	3	
CSc 428, Compiler Construction		3
Engl 301, Advanced Composition**	3	
Math 373, Introduction to Numerical Analysis		3
Stat 341, Statistical Methods I*	3	
Applied Electives		3
Electives	1	
Natural Science Electives	4	4

Senior Year	**F**	**S**
CSc 426, Computer Architecture & Organization		3
CSc 484, Database Management Systems		3
CSc 456, Operating Systems	3	
CSc 470, Software Engineering		3
Applied Electives	6	3
Electives	8	3

Curriculum for Secondary Computer Science Teaching

Freshman Year	**F**		**S**
CSc 150, Computer Science I	3		
CSc 250, Computer Science II			3
Engl 101, Freshman Composition	3	or	3
Math 123, Calculus I	5		
Math 224, Calculus II			4
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2		
Natural Science Electives	4		4
Social Science Electives			3

Sophomore Year	**F**	**S**
CSc 241, Computer Logic	3	
CSc 285, Data Structures	3	
CSc 290, Programming Languages		3
CSc 314, Assembly Language	3	
EdFn 375, Human Relations		3
Math 215, Matrix Algebra	2	
Math 253, Elementary Logic and Set Theory	3	
Math 345, Topics in Discrete Mathematics		2
Psyc 101, General Psychology	3	
SeEd 287, Practicum & Professional Lab		2
Humanities Electives		6

Junior Year	**F**	**S**
CSc 328, Introduction to Automata Theory	3	
CSc 354, Introduction to Systems Programming	3	
CSc 456, Operating Systems	3	
CSc 480, Methods for Teaching Computer Science		3
EdFn 365, Integrating Computers into the Curriculum	2	
Engl 301, Advanced Composition**	3	
EPsy 302, Educational Psychology		2
Hist 368, History of the American Indians **or** Anth 421, Indians of North America		3
Math 373, Introduction to Numerical Analysis		3
SeEd 314, Supervised Clinical/Field Experience	1	
SeEd 420, Teaching Special Needs Students		1
SeEd 450, Teaching of Reading		3

Senior Year	**F**	**S**
CSc 426, Computer Architecture & Organization		3
CSc 428, Compiler Construction		3
CSc 470, Software Engineering		3
SeEd 400, Curriculum & Instruction in Secondary Schools	3	
SeEd 410, Social Foundations, Management & Law	2	
SeEd 488, Supervised Teaching Internship	10	
Stat 341, Statistical Methods I*		3
Electives		4

* May substitute Math 381.
** May substitute Engl 379.
*** Courses numbered 300 or above chosen from your support field of study with at least nine credits from Computer Science courses numbered 300 or higher. Must have permission of major adviser.

Requirements for Computer Science Minor: 21 cr

CSc 150, Computer Science I	3
CSc 250, Computer Science II	3
CSc 285, Data Structures	3
Applied Electives*	12

* 3 credits from one's discipline may be used subject to approval by adviser and department head.

Construction Management (CM) Major

Jerry Sorensen
Department of General Engineering and Technology
Wenona Hall 310
605-688-6417

Requirements for Construction Management Major
Bachelor of Science in Technology

Freshman Year	**F**	**S**
Acct 210, Principles of Accounting I	3	
Acct 211, Principles of Accounting II		3

Chem 106-107, Chemistry Survey and Lab	4	
CM 101, Introduction to Construction	1	
CSc 312, Advanced Microcomputer Applications		3
EG 121, Engineering Design Graphics I		1
Engl 101, Freshman Composition	3	
Math 113, College Algebra & Trigonometry	5	
Math 222, Calculus for Non-Math Majors		5
SpCm 101-101A, Fundamentals of Speech and Lab		3

Sophomore Year	**F**	**S**
CM 106, Elementary Surveying	3	
CM 200, Project Visitations	1	
CM 216, Construction Materials		3
CM 232, Planning and Blueprint Reading	2	
CM 336-336A, Engineering Geology and Lab		3
EG 122, Engineering Design Graphics II	1	
EG 123, Computer Aided Design and Graphics		1
GE 223, Mechanics for Technologists		3
Phys 111-112, Introduction to Physics I and Lab	4	
Phys 112, Introduction to Physics II		4
WEL 101, Skills for Healthy Living and Lab	2	
Elective Humanities	3	
Elective Social Science		3

Junior Year	**F**	**S**
BAdm 350 Legal Envir. of Business and Contracts	3	
CM 208-208A, Construction Surveying and Lab	3	
CM 321-321A, Strength of Materials and Lab	3	
CM 332-332A, Building Systems in Construction & Lab		3
CM 333, Practical Hydrology and Hydraulics		3
CM 352, Cost Estimating Techniques	3	
CM 353, Structural Theory for Technologists		3
CM 374-374A, Construction Method and Equipment and Lab	3	
ES 131-131A, Welding and Lab	2	
Social Science		3
Technical Electives		3

Senior Year	**F**	**S**
BAdm 334, Small Business Management	3	
CM 400, Risk/Loss Control in Construction	3	
CM 443, Project Management		3
CM 452, Cost Estimating II	2	
CM 473, Construction Engineering		3
CM 475, Engineering Administration		3
Engl 379 Technical Communications	3	
Elective Humanities		3
Elective Social Science	3	
Technical Electives	3	3

* Any applicable College of Engineering 300 or above designated course may be taken as a Technical Elective course (prerequisites must be met on all courses).

Consumer Affairs (CA) Major and Minor

Mary Kay Helling
Department of Human Development, Consumer and Family Sciences
NFA 369
605-688-6418

Requirements for Consumer Affairs Major
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
CA 130 Coping Skills for Consumers	2		
Engl 101, Freshman Composition	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations	1	or	1
Math 102, College Algebra	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living & Lab	2	or	2
College of Family and Consumer Sciences Elective			2
General Education Elective			3
Humanities Elective	3	or	3
Natural Science Electives	4		4
Social Science Elective	3		

Sophomore Year	**F**		**S**
CA 291, Consumers and the Market	3	or	3
CA 293, Current Topics*			1
Econ 202, Macroeconomics Principles	3	or	3
Business Electives**	3		3
College of Family and Consumer Sciences Electives	3		4
General Education Elective	2	or	2
Humanities Elective	3	or	3
Electives	3		4

Junior Year	**F**		**S**
BAdm 350, Legal Environment of Business & Contracts	3	or	3
BAdm 360, Organization and Management	3	or	3
CA 340, Work, Time, and Energy Decisions*			3
CA 341, Management Personal/Family Living*	3		
CA 450, Consumer Protection*	3		
CA 381, Social Skills in the Business Environment	2	or	2
Engl 301, Advanced Composition	3	or	3
FCSE 421, Adult Education			2
HDCF 241, Family Relations	3		
Business Electives**	3		3
College of Family and Consumer Sciences Elective	3		

Senior Year	**F**	**S**
CA 371, Issues in Consumer Affairs*	2	
CA 412, Preparation for Consumer Affairs Practicum*		3
CA 421 Diversity in the Workplace	3	
CA 442, Family Resource Management Lab	3	
CA 487, Orientation to Consumer Affairs Internship*	1	
CA 495, Professional Internship*		10
FCS 401, Professional Perspectives	2	
Electives	5	

* These courses are only offered once a year. Deviations from the established program schedule can extend the time required to complete the program.
** See your adviser for courses allowed in this section.

Must have 2.5 GPA and/or "C" or higher as described on program guidesheet to be eligible for graduation.

Requirements for Consumer Affairs Minor: 16 cr

CA 341, Management Personal/Family Living*	3
CA 371, Issues in Consumer Affairs*	2
CA 291, Consumers and the Market	3
FCSE 421, Adult Education	2

In addition, at least 6 credits must be taken from the following:

CA 130, Coping Skills for Consumers*	2
CA 340, Work, Time and Energy Decisions*	3
CA 442, Family Resource Management Lab	3
CA 450, Consumer Protection*	3
CA 493, Current Topics	3

* These courses are only offered once a year. Deviations from the established program schedule can extend the time required to complete the program.

Counseling and Human Resource Development (CHRD)

Richard Roberts
Department of Counseling and Human Resource Development
Wenona Hall 115
605-688-4190

See Graduate Bulletin for requirements.

Criminal Justice (CJus) Minor

James Satterlee
Department of Sociology
Scobey Hall 224
605-688-4132

Requirements for Criminal Justice Minor: 18 cr*

CJus 201, Introduction to Criminal Justice 3
CJus 335, Criminal Prosecution and Defense 3
Soc 351, Criminology** (P, Soc 100) 3

9 hours from:
- CJus 203, Police and Community Relations.....3
- CJus 331, Civil Rights and Liberties (P, PolS 100 or 101) 3
- CJus 333, Fundamentals of Criminal Procedure 3
- CJus 334, Criminal Law 3
- CJus 336, Juvenile Justice.....3
- CJus 416, Problems in Criminal Justice (P, Consent) 3
- Soc 325, Domestic Violence**.....3
- Soc 354, Victimology** 3
- Soc 451, Juvenile Delinquency**.....3
- Soc 452, Sociology of Corrections** 3
- Soc 460, Advanced Criminology** (P, Soc 351).....3
- Soc 480, Sociology of Law** 3
- WL 420-420A, Wildlife Law & Enforcement and Lab (P, Jr. Standing) 3

* Must have a cumulative GPA of 2.2 to enter the program.
** May not be used for both a Sociology Major or Minor and a Criminal Justice Minor.

Curriculum and Instruction

R.L. Erion
Department of Educational Leadership
Wenona Hall 107
605-688-4369
e-mail: erionr@ur.sdstate.edu

See Graduate Bulletin for requirements.

Dairy Manufacturing Major

John Parsons
Department of Dairy Science
Dairy-Microbiology 109A
605-688-4116

Requirements for Dairy Manufacturing Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Chem 106-107 Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab	4		
DS 130-130A, Introduction to Dairy Science and Lab	3	or	3
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra **or** Math 113, College Algebra & Trigonometry			3-5
Soc 100, Introduction to Sociology			3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Group I Electives	3		6
Electives	2		

Sophomore Year	**F**		**S**
Bio 101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab	3		3
Chem 120-121, Elementary Organic Chemistry and Lab	4		
DS 202, Dairy Products Judging			1
Econ 202, Macroeconomics Principles	3		
Micr 231-232, General Microbiology and Lab			4
Humanities Electives	3		
Social Science Elective	3		
Electives			8

Junior and Senior Years	**F**		**S**
Acct 210, Principles of Accounting I			3
AST 443, Food Process & Engineering Fundamentals	3		
CSc 105, Introduction to Computers **or** CSc 150, Computer Science I			3
DS 313-313A, Technical Control of Dairy Products I and Lab **and** DS 422-422A, Technical Control of Dairy Products II and Lab	3		4
DS 301-301A, Dairy Microbiology and Lab			3
DS 321-321A, Dairy Product Processing I and Lab **and** DS 322-322A Dairy Product Processing II and Lab	5		5
DS 421, Dairy Plant Management	3		
DS 490, Dairy Seminar	1		
DS 496, Field Experience	3		
Econ 467, Labor, Law & Econ			3
Engl 301, Advanced Composition			3
Micr 311-311A, Food Microbiology and Lab	4		
Phys 101-102, Survey of Physics and Lab **or** Phys 111-112, Introduction to Physics I and Lab **or** Phys 211-212, University Physics I and Lab	4		
Communications Elective*			2
Economics or Business Administration Elective	3	or	3
Humanities Electives			3
Electives	3		3

* Communication elective to be selected from: Engl 379; MCom 210, 313, 315, 331; SpCm 315, 334.

Dairy Production Major

John Parsons
Department of Dairy Science
Dairy-Microbiology 109A
605-688-4116

Requirements for Dairy Production Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Chem 106-107, Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab			4
DS 130-130A, Introduction to Dairy Science and Lab	3	or	3
DS 212, Dairy Cattle Evaluation			2
Engl 101, Freshman Composition	3	or	3

Math 102, College Algebra **or**
Math 113, College Algebra & Trigonometry 3-5
PS 103-103A, Crop Production and Lab 3
Soc 100, Introduction to Sociology 3
SpCm 101-101A, Fundamentals of Speech and Lab .....3 or 3
WEL 100, Skills for Healthy Living and Lab 2
Humanities Electives 3 3

Sophomore Year	**F**		**S**
AS 233-233A, Applied Animal Nutrition and Lab	4		
Bio 101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab	3		3
Chem 120-121, Elementary Organic Chemistry and Lab	4		
DS 202, Dairy Products Judging			1
Econ 202, Macroeconomics Principles	3		
Micr 231-232, General Microbiology and Lab			4
Phys 101-102, Survey of Physics and Lab **or** Phys 111-112, Introduction to Physics I and Lab **or** Phys 211-212, University Physics I and Lab			4
PS 213-213A Soils and Lab	3		
Social Science Elective			3

Junior & Senior Years	**F**	**S**
AgEc 271-271A, Farm & Ranch Management and Lab		4
AS 323, Advanced Animal Nutrition		3
AS 332-332A, Principles of Animal Breeding and Lab		4
AS 433-433A, Livestock Reproduction and Lab	3	
Bio 371-372, Genetics and Lab	3	
CSc 105, Introduction to Computers **or** CSc 150, Computer Science I	3	
DS 301-301A, Dairy Microbiology and Lab		3
DS 411, Dairy Breeds & Breeding		2
DS 412, Dairy Farm Management	3	
DS 413, Physiology of Lactation		3
DS 432, Dairy Cattle Feeding		3
DS 490, Dairy Seminar	1	
DS 496, Field Experience	3	
Engl 301, Advanced Composition	3	
Vet 223-223A, Anatomy & Physiology of Livestock and Lab		4
Communications Elective*	2	
Electives	9	8

* Communication elective to be selected from: Engl 379; MCom 210, 313, 315, 331; SpCm 315, 334.

The following options have been approved for the curricula in Agriculture. Students may use elective credits in the major to fulfill requirements for the option.

Business Option
Acct 210, Principles of Accounting I 3
BAdm 360, Organization and Management 3
Econ 201, Microeconomics Principles 3

Plus 12 hours to be chosen from:
Acct 211, Principles of Accounting II 3
AgEc 354, Agricultural Marketing & Prices 3
BAdm 310, Business Finance 3
BAdm 380, Personal Finance 3
Econ 330, Money & Banking 3
Econ 370, Marketing.....3
Econ 476, Marketing Research.....3
Stat 341, Statistical Methods I, or equivalent 3

Science Option
Chemistry, Mathematics and/or Physics.....11

Biological Science to be selected from the following areas:
Botany, Entomology-Zoology or Plant Pathology 2

Early Childhood Education Major

Mary Kay Helling
Department of Human Development, Consumer and Family Sciences
NFA 369
605-688-6418

Requirements for Early Childhood Education Major
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations	1		
HDCF 141, Individual and the Family	2		
HDCF 150-150A, Early Experience and Lab	2		
HDCF 210, Lifespan Development	3		
HDCF 327, Human Development and Personality I: Childhood	3	or	3
Math 102, College Algebra	3	or	3
Psyc 101, General Psychology	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Electives	3	or	3
Natural Science Sequence Courses	3-4	or	3-4

Sophomore Year	**F**		**S**
CSc 105, Introduction to Computers	3	or	3
DCom 131, Introduction to Communication Disorders	3	or	3
HDCF 241, Family Relations	3	or	3
HDCF 328, Experiences with Young Children	3	or	3
Hlth 250-250A, First Aid and Lab	2	or	2
NFS 221, Survey of Nutrition	3	or	3
Humanities Electives	3	or	3
Recommended Electives	3-4	or	3-4
Natural Science Sequence Courses	3-4	or	3-4

Junior Year	**F**		**S**
ANTH 421, Indians of North America,	3	or	3
EdFn 375, Human Relations	3	or	3
Engl 301, Advanced Composition	3	or	3
HDCF 361, Methods/Materials Early Childhood Education*	4	or	4
HDCF 362, Early Childhood Education Curriculum*	4	or	4
HDCF 364, Parent/Child Relationships in a Professional Context	3	or	3
HDCF 371, Infants and Toddlers: Developmentally Appropriate Practices			3
HDCF 487, Orientation to Child and Family Services Practicum**	1		

Senior Year	**F**		**S**
HDCF 441, Professional Issues Child and Family Study	3	or	3
HDCF 465, Introduction to Developmental Assessment of Young Children*	3	or	3
HDCF 472, Student Teaching in Preschool Programs	8	or	8

HDCF 455, Administration and Supervision in Early Childhood Settings 3
HDCF 466, Early Childhood Special Education I 3
HDCF 467, Early Childhood Special Education II..... 3
HDCF 497, Practicum .....1-12 or 1-12
Recommended Electives .....0-5 or 0-5

* Taken concurrently.
** To be taken fall semester before HDCF 497, Practicum.

A pre-graduate check is required 1 semester 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 a department/program prefix is considered a course in the major.

A grade of "C" or better is required in Psyc 101, Soc 100, Engl 101, SpCm 101.

Requirements for Early Childhood Education Major
Cooperative Agreement with Black Hills State University
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab	3	or	3
Engl 101, Freshman Composition	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations	1		
HDCF 210, Lifespan Development	3	or	3
HDCF 150-150A, Early Experience and Lab	2	or	2
HDCF 327, Human Development and Personality I: Childhood			3
Hist 151, U.S. History to 1877 **or** Hist 152, U.S. History since 1877	3	or	3
Math 102, College Algebra	3	or	3
Phys 101-102, Survey of Physics and Lab **or** Chem 106-107 Chemistry Survey and Lab			4
Psyc 101, General Psychology	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2

Sophomore Year	**F**		**S**
Art 121, Design I	3	or	3
Engl 312, Juvenile Literature	3		
Geog 131-131A, Physical Geography I and Lab	4	or	4
Geog 200, Introduction to Human Geography **or** Geog 210, World Regional Geography	3	or	3
HDCF 241, Family Relations	3	or	3
HDCF 328, Experiences with Young Children	3	or	3
Hlth 250-250A, First Aid and Lab	2	or	2
Math 140, Survey of Mathematics			3
Mus 351-351A, Music Education I: Elementary Music Concepts and Lab	2		
PE 360-360A, Methods of Elementary School PE and Lab			2
PolS 100, American Government	3	or	3
Natural Science Sequence Course	3		

Junior Year	**F**		**S**
Anth 421, Indians of North America	3	or	3
EdFn 338, Foundations of American Education	2	or	2
EdFn 375, Human Relations	3	or	3
Engl 301, Advanced Composition	3	or	3
EPsy 302, Educational Psychology	2		
EPsy 303, The Exceptional Child	3	or	3
HDCF 361, Methods/Materials Early Childhood Education*	4	or	4
HDCF 362, Early Childhood Education Curriculum*	4	or	4
HDCF 364, Parent/Child Relationships in a Professional Context	3	or	3
HDCF 371, Infants and Toddlers: DAP			3
SeED 450, Teaching of Reading	3	or	3

Senior Year	**F**	**S**
HDCF 441, Professional Issues in Child Family Study	3	
HDCF 455, Administration and Supervision in Early Childhood Settings	3	
HDCF 465, Introduction to Developmental Assessment of Young Children*	3	
HDCF 472, Student Teaching in Preschool Programs*	8	
HDCF 400, Orientation to Cooperative Elementary Education		0

Courses taken at BHSU to meet state elementary education certification will require at least 2 additional semesters. Enroll in HDCF 400 (0 cr) while at BHSU.

* Taken concurrently.

A pre-graduate check is required 1 semester 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 a department/program prefix is considered a course in the major.

Students are required to have an overall GPA of 2.5 and have a "C" or better in Math 102, Engl 101, SpCm 101.

Students must meet all requirements for admission to Teacher Education Program at BHSU and SDSU. Students must successfully complete the PPST Exam or CAAP.

Requirements for Early Childhood Education Major
Cooperative Agreement with Dakota State University
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
Bio 101-102, Biology Survey I and Lab	3		
Engl 101, Freshman Composition	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations	1		
HDCF 150, Early Experience	2	or	2
HDCF 327, Human Development and Personality I: Childhood			3
Hist 151, U.S. History to 1877	3	or	3
Math 102, College Algebra	3	or	3
Psyc 101, General Psychology	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
CSc 105, Introduction to Computers	3	or	3

Sophomore Year	**F**		**S**
Geog 131-131A, Physical Geography I and Lab	4	or	4
Engl 312, Juvenile Literature (or Humanities)	3		
HDCF 241, Family Relations	3	or	3
HDCF 328, Experience with Young Children	3	or	3
Hist 152, U.S. History since 1877	3	or	3
Hlth 250-250A, First Aid and Lab	2	or	2
Math 140, Survey of Mathematics	3	or	3
Mus 351-351A, Music Education I: Elementary Music Concepts and Lab	2		
PE 360-360A, Methods of Elementary School PE & Lab	2	or	2
PolS 100, American Government	3	or	3
Sequence Science Course	3-4	or	3-4
Art 121, Design I	3	or	3

Junior Year	**F**		**S**
Anth 421, Indians of North America	3	or	3
EdFn 338, Foundations of American Education			2

EdFn 365, Integrating Computers into the Curriculum	2	or	2
EdFn 375, Human Relations	3	or	3
Engl 301, Advanced Composition	3	or	3
EPsy 302, Educational Psychology	2		
EPsy 303, The Exceptional Child	3	or	3
HDCF 361, Methods/Materials in Early Childhood Education*	4	or	4
HDCF 362, Early Childhood Education Curriculum*	4	or	4
HDCF 364, Parent/Child Relationship in a Professional Context	3	or	3
HDCF 371, Infants and Toddlers: DAP			3

Senior Year	**F**	**S**
HDCF 400, Orientation to Cooperative Elementary Education Program	0	0
HDCF 455, Administration and Supervision in Early Childhood Settings	3	
HDCF 465, Introduction to Developmental Assessment of Young Children*	3	
HDCF 472, Student Teaching in Preschool Programs*	8	

Courses taken at DSU to meet state elementary education certification will require at least 3 additional semesters. Enroll in HDCF 400 (0 cr) while at DSU.

* Taken concurrently.

A pre-graduate check is required 1 semester before going to DSU.

At beginning of graduation semester, a graduation application from SDSU must be completed.

DSU requires at least a grade of "C" in Algebra and a 2.3 cumulative in English, Speech, Ed Psyc, and Algebra.

An overall cumulative GPA of 2.5 is also required.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with a department/program prefix is considered a course in the major.

Students must meet all requirements for admission to Teacher Education Program at DSU and SDSU.

Economics (Econ) Major and Minor and Business Option

Richard Shane
Department of Economics
Scobey Hall 136
605-688-4141

Requirements for Economics Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Biological Science Electives (sequence courses)**	3		3
Social Science Elective*			3
General Electives	6		6

Sophomore Year	**F**	**S**
Acct 210, Principles of Accounting I	3	
Acct 211, Principles of Accounting II		3
CSc 312, Advanced Microcomputer Applications		3
Econ 201, Microeconomics Principles		3
Econ 202, Macroeconomics Principles	3	
Econ 330, Money and Banking		3
Math 222, Calculus for Non-Math Majors **or** Math 123, Calculus I	5	
Humanities Elective*	3	
Physical Science Elective**		3-4
General Electives	2-3	

Junior Year	**F**	**S**
Econ 301, Intermediate Microeconomics	3	
Econ 302, Intermediate Macroeconomics		3
Econ 433, Public Finance		3
Engl 301, Advanced Composition	3	
Engl 379, Technical Communications		3
Stat 341, Statistical Methods I	3	
Option# courses and general electives	7	7

Senior Year	**F**	**S**
Econ 405, Comparative Economic Systems; **or** Econ 404, History of Economic Thought; **or** Econ 440, Economics of the International Sector; **or** Econ 460 Development Economics **or** Hist 377, Economic History of the U.S.	3	
Econ 423, Statistics II	3	
Econ 428, Mathematical Economics	3	
Communications Elective***	3	
Electives in Acct, AgEc, BAdm, or Econ	3	6
Humanities Electives*		6
Social Science Elective*		3
Option# courses and general electives	1	1

 # Business Economics option. The courses listed below are the "Option courses."

Junior Year	
BAdm 310, Business Finance	3
BAdm 350, Legal Environment of Business & Contracts	3
BAdm 360, Organization and Management	3
Econ 370, Marketing	3

Senior Year	
BAdm 324, Operations Research	4
BAdm 482, Business Policy and Strategy	3

Three of the option courses can be substituted for:

Econ 423, Statistics II	3
Econ 428, Mathematical Economics	3
One of the electives in Acct, AgEc, BAdm, or Econ	3

* From approved list. Six hours of International Studies must be included in Humanities and/ or Social Science electives. See pages 35-38.

** All students must complete two science courses from the same sequence, as identified in the list on pages 36-37.

*** Communications elective must be chosen from SpCm 201, Interpersonal Communications; SpCm 315, Public Speaking; or SpCm 334, Discussion.

Requirements for Economics Major
Bachelor of Arts in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Natural Science electives**	3-4		3-4
Social Science elective*			3
Humanities elective			3
General electives	5-6		2-3

Sophomore Year	**F**	**S**
Acct 210, Principles of Accounting I		3
Acct 211, Principles of Accounting II	3	
Econ 201, Microeconomics Principles		3
Econ 202, Macroeconomics Principles	3	

Foreign Language***	4	4
Econ 330, Money and Banking		3
Math 222, Calculus for non-math majors	5	
Humanities elective*		3
Junior Year	**F**	**S**
Econ 301, Intermediate Microeconomics	3	
Econ 302, Intermediate Macroeconomics		3
Stat 341, Statistical Methods	3	
Foreign Language	3	3
CsC 312, Advanced Microcomputer Applications		3
English 301, Advanced Composition	3	
Social Science elective*	3	
Communications Elective****	3	
Elective in Acct, BAdm, Ag Econ, Econ		3
General elective – or Option# Course		3
Senior Year	**F**	**S**
Econ 423, Statistics II	3	
Econ 428, Mathematical Economics	3	
Econ 405, Comparative Economic Systems; **or** Econ 404, History of Economic Thought; **or** Econ 440, Economics of the International Sector; **or** Econ 460, Development Economics; **or** Hist 377, Economic History of the US		3
Econ 433, Public Finance		3
Electives in Acct, BAdm, Ag Econ, Econ	3	3
Engl 379, Technical Communications		3
*General electives or Option# Courses	6	5

\# B.A. students may take the Business Economics option (above).

* From approved list. Six hours of international studies must be included in humanities/social science electives. See pages 35-38.

** Students must complete two science courses in sequence. See pages 36-37.

*** Fourteen credits of foreign language are required. A student with a prior foreign language background may enroll in the final course of a four semester language sequence and receive credits for the previous three courses.

**** Communications elective must be selected from: SpCm 201, Interpersonal Communications; SpCm 315, Public Speaking; or SpCm 334, Discussion.

Requirements for Economics Minor: 21-24 cr

Econ 201, Microeconomics Principles	3
Econ 202, Macroeconomics Principles	3
Econ 301, Intermediate Microeconomics, **or** Econ 302, Intermediate Macroeconomics	3
Two courses selected from courses prefixed: AgEc or Econ	6-7
Two of the following:	6-8
Math 381, Mathematical Statistics (4) **or** Stat 341, Statistical Methods I (3) **or** Courses prefixed Acct, AgEc, BAdm, or Econ (3-4)	

International Studies. For the international option in agriculture, refer to page 129. A Foreign Language/Business-Economics specialization is available for all students majoring in Agricultural Business, Agricultural Economics or Economics or minoring in Economics. The specialization requires a minimum of twenty credit hours from the following courses in addition to the specified courses in the major or minor.

Core Courses:	
Two courses in any one language	8
FL 134, Foreign Cultures (topical)	3
Span 383, Business Spanish **or** French or German Counterpart	2-3
	13
An additional seven credit hours chosen from approved list. See any Economics Dept. adviser for approved courses	7
	20

Business Area Studies. Students preparing for various positions in management and business should consult the list of courses under **Business Area Studies.** Many of the courses listed there are offered by departments other than the Department of Economics and are of more specific interest to students in majors outside this department.

Educational Administration

R.L. Erion
Department of Educational Leadership
Wenona Hall 107
605-688-4369
e-mail: erionr@ur.sdstate.edu

See Graduate Bulletin for requirements.

Electrical Engineering (EE) Major

Lewis Brown
Department of Electrical Engineering
Harding Hall 201
605-688-4526

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)

Freshman Year	**F**		**S**
Chem 112-113, General Chemistry I and Lab **and** Chem 114, General Chemistry II	4		3
EG 121, Engineering Design Graphics I	1		
EG 123, Computer Aided Design and Graphics			1
Engl 101, Freshman Composition **and** SpCm 101-101A, Fundamentals of Speech and Lab	3		3
GE 101, Introduction to Engineering and Technology	0		
Math 123, Calculus I **and** Math 224, Calculus II	5		4
Phys 211-212, University Physics I and Lab			4
WEL 100, Skills for Healthy Living and Lab	2	or	2
Electives	x		x
Sophomore Year	**F**		**S**
CSc 218, Introduction to C/C++/UNIX for Engineers			3
EE 220, Circuits I **and** EE 221, Circuits II	3		3
EE 222, Circuits Laboratory I **and** EE 223, Circuits Laboratory II	1		1
EE 260, Materials Science for EE's			2
Engl 379, Technical Communications	3		
Math 225, Calculus III			3
Math 321, Differential Equations	3		
ME 314, Thermodynamics			3
Phys 213-214, University Physics II and Lab	4		
Electives	x		x
Junior Year	**F**		**S**
EE 316, Signals and Systems I **and** EE 317, Signals and Systems II	3		3
EE 320, Electronics I **and** EE 321, Electronics II	3		3
EE 322, Electronics Laboratory I **and** EE 323, Electronics Laboratory II	1		1

EE 345, Digital Systems	3		
EE 346, Digital Systems Laboratory	1		
EE 347 Microprocessor Systems			3
EE 348 Microprocessor Systems Laboratory			1
EE 360, Electronic Devices	3		
EE 385, Electromagnetics			3
EE 386, Electromagnetics Laboratory			1
Electives	x		x

Senior Year	**F**		**S**
EE 410, Probablistic Methods in Electrical Engineering	3		
EE 422, Engineering Economy			2
EE 430, Energy Conversion	3		
EE 434, Energy Laboratory	1		
EE 464, Senior Design I **and**			
EE 465, Senior Design II	2		2
EM 223, Engineering Mechanics	3	or	3
Electives	x		x

You should select technical electives to complement employment goals. Following are some suggested areas and supporting courses.

Biomedical Engineering

EE 415, Linear Control Systems	3
EE 416, Passive and Active Filters	3
EE 420, Electronics III	3
EE 421, Electronics Laboratory III	1
EE 450, Biomedical Signal Processing	3
EE 454, Biomedical Instrumentation & Electrical Safety	3
Zool 221-222, Anatomy and Lab	3
Zool 325-325A, Mammalian Physiology and Lab	4

Communications & Advanced Electronics

EE 415, Linear Control Systems	3
EE 416, Passive and Active Filters	3
EE 420, Electronics III	3
EE 421, Electronics Laboratory III	1
EE 440-440A, VLSI Circuit Design and Studio	3
EE 470, Communications Engineering	3
EE 471, Optical Fiber Communications	3
EE 493, Communication Networks	3
Math 381, Mathematical Statistics	4

Computers-Digital Hardware

EE 420, Electronics III	3
EE 421, Electronics Laboratory III	1
EE 440-440A, VLSI Circuit Design and Studio	3
Math 373, Introduction to Numerical Analysis	3

Electronic Devices and Materials

Chem 340-341, Elementary Physical Chemistry and Lab	4
EE 440-440A, VLSI Circuit Design and Studio	3
EE 460-460A, Sensor Theory and Design and Lab	3
EE 493, Microelectronic Device Fabrication Lab	1
EE 493, Microelectronic Packaging	3
Phys 331, Introduction to Modern Physics	3
Phys 439, Physics of the Solid State	3

Image Processing

EE 415, Linear Control Systems	3
EE 470, Communications Engineering	3
EE 475, Digital Image Processing	3
EE 493, Image Processing	3
EE 493, Data and Image Compression	3
Math 381, Mathematical Statistics	4
Math 373, Introduction to Numerical Analysis	3
Phys 361, Optics	3

Power Systems

Chem 380, Environmental Chemistry	4
EE 431, Power Systems	3
EE 432, Advanced Power Systems	3
EE 435, Seminar in Power Systems	1
EE 470, Communications Engineering	3
EE 493, Power Electronics	3
EE 433, Computer Analysis of Power Systems	3
Math 381, Mathematical Statistics	4
ME 362 , Industrial Engineering	3

Cooperative Education Program

Students have the opportunity to work in industry and receive technical elective credit for the experience through EE 494. A formal work plan must be approved by the Department prior to the work experience. Further information can be found in the Department's Cooperative Education policy.

Electronics Engineering Technology (ET) Major

Jerry Sorensen
Department of General Engineering and Technology
Wenona Hall 310
605-688-6417

Requirements for Electronics Engineering Technology Major
Bachelor of Science in Technology

Freshman Year	**F**		**S**
EG 121, Engineering Design Graphics I	1	or	1
Engl 101, Freshman Composition	3	or	3
ET 112, DC and AC Concepts	5		
ET 113, DC and AC Concepts Lab	2		
ET 120, Circuits			5
ET 121, Circuits Lab			2
Math 113, College Algebra & Trigonometry*	5		
Math 123, Calculus I	5	or	5
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2

Sophomore Year	**F**		**S**
CSc 150, Computer Science I	3	or	3
EG 123, Computer Aided Design & Graphics	1	or	1
ET 210, Logic & Digital Circuits	4		
ET 211, Logic & Digital Circuits Lab	2		
ET 220, Advanced Circuits	3		
ET 254, Microprocessor I			2
ET 255, Microprocessor I Lab			1
GE 231, Technology and Society	3	or	3
Math 224, Calculus II	4	or	4
Phys 111-112, Introduction to Physics I and Lab	4		
Phys 113-114, Introduction to Physics II and Lab			4

Junior Year	**F**		**S**
Engl 379, Technical Communications	3	or	3
ET 302, Discrete & Integrated Devices	4		
ET 334, Microprocessor II	2		
ET 335, Microprocessor II Lab	1		
ET 340, Techniques of Servicing			2

ET 380-380A, Prototype Techniques and Lab		3
ET 384, Industrial & Computer Control Circuits		4
ET 385, Industrial & Computer Control Circuits Lab		2
Economics Elective	or	3
Humanities Elective	or	3
Psychology Elective	or	3
Technical Elective	or	3

Senior Year	**F**		**S**
BAdm 360, Organization and Management	3	or	3
ET 430, Video Systems I	3		
ET 431, Video Systems I Lab	2		
ET 440, Video Systems II			3
ET 441, Video Systems II Lab			2
or			
ET 450, Communication Circuits & Systems I	3		
ET 451, Communication Circuits & Systems I Lab	2		
ET 460, Communication Circuits & Systems II			3
ET 461, Communication Circuits & Systems II Lab			2
or			
ET 470, Electronic Computer Systems I	3		
ET 471, Electronic Computer Systems I Lab	2		
ET 480, Electronic Computer Systems II			3
ET 481, Electronic Computer Systems II Lab			2
Humanities Elective	3	or	3
Technical Elective	3	or	3
Technical Elective	3	or	3
Non-technical Elective	3	or	3
Non-technical Elective	4	or	4

* Courses need not include these numbers; however, minimum math requirements must include one year of Calculus.

Engineering Physics Major

Oren Quist
Department of Physics
Crothers Engineering Hall 310A
605-688-5428

Requirements for Engineering Physics Major
Bachelor of Science in Engineering Physics
Electrical Engineering Track

Freshman Year	**F**		**S**
Chem 112-113, General Chemistry I and Lab	4		
Chem 114, General Chemistry II			3
EG 121, Engineering Design Graphics I	1		
EG 123, Computer Aided Design and Graphics			1
Engl 101, Freshman Composition	3		
GE 101, Introduction to Engineering and Technology	0	or	0
Math 123, Calculus I	5		
Math 224, Calculus II			4
Phys 211-212, University Physics I and Lab			4
SpCm 101-101A, Fundamentals of Speech and Lab			3
WEL 100, Skills for Healthy Living and Lab	2		
Non-technical Electives*			2

Sophomore Year	**F**	**S**
CSc 213, Introduction to Programming with FORTRAN **or** CSc 218, Introduction to C/C++/UNIX for Engineers		3
EE 220, Circuits I	3	
EE 221, Circuits II		3
EE 222, Circuits I Laboratory	1	
EE 223, Circuits II Laboratory		1
Math 225, Calculus III	3	
Math 321, Differential Equations		3
Phys 213-214, University Physics II and Lab	4	
Phys 331, Introduction to Modern Physics		3
Non-technical Electives*	5	3

Junior Year	**F**	**S**
EE 320, Electronics I	3	
EE 321, Electronics II		3
EE 322, Electronics Laboratory I	1	
EE 323, Electronics Laboratory II		1
Engl 301, Advanced Composition **or** Engl 379, Technical Communications		3
Math 331, Advanced Engineering Mathematics **or** Math 327, Calculus of Several Variables	3	
Phys 312, Measurement Theory and Experiment Design	2	
Phys 314, Advanced Laboratory I		1
Phys 341, Thermodynamics & Statistical Mechanics	3	
Phys 351, Classical Mechanics		4
Phys 361, Optics	3	
Technical Electives**	2	4

Senior Year	**F**		**S**
Phys 412, Advanced Lab II			1
Phys 421, Electromagnetism			4
Phys 435, Introduction to Nuclear Engineering **or** Phys 439, Physics of the Solid State			3
Phys 464, Senior Design I	1		
Phys 465, Senior Design II			2
Phys 471, Quantum Mechanics	4		
Phys 490, Physics Colloquium	1	or	1
Non-technical Electives*	3		3
Technical Electives**	6		3

* Humanities and social science non-technical electives must be chosen to satisfy the University Core. The humanities and social science electives must include in-depth course work to meet the rigorous EAC/ABET requirements. Six humanities credits from at least two areas and nine social science credits from two areas must be taken for graduation. An additional one credit must be taken for a total of sixteen. A list of approved core courses that shows how the depth requirement can be met is available in the Physics Department office.

** Technical electives will be selected with the assistance of the student's adviser from courses offered by the Electrical Engineering, Physics, Computer Science, Chemistry, Biology, and Mathematics Departments. Technical electives must be 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.

Requirements for Engineering Physics Major
Bachelor of Science in Engineering Physics
Mechanical Engineering Track

Freshman Year	**F**		**S**
Chem 112-113, General Chemistry I and Lab	4		
Chem 114, General Chemistry II			3
EG 121, Engineering Design Graphics I	1		
EG 122, Engineering Design Graphics II			1
Engl 101, Freshman Composition	3		
GE 101, Introduction to Engineering and Technology	0	or	0
Math 123, Calculus I	5		
Math 224, Calculus II			4
Phys 211-212, University Physics I and Lab			4
SpCm 101-101A, Fundamentals of Speech and Lab			3
WEL 100, Skills for Healthy Living and Lab	2		
Non-technical Electives*			2

Sophomore Year	F		S
CSc 213, Introduction to Programming with FORTRAN **or** CSc 218, Introduction to C/C++/UNIX for Engineers	3		
EE 220, Circuits I	3		
EE 221, Circuits II			3
EE 222, Circuits I Laboratory	1		
EE 223, Circuits II Laboratory			1
EM 221, Statics	3		
ES 225, Industrial Machine Tool Applications			1
Math 225, Calculus III	3		
Math 321, Differential Equations			3
ME 240, Introduction to Mechanical Design			3
Phys 213-214, University Physics II and Lab	4		
Phys 331, Introduction to Modern Physics			3
Non-technical Electives*	2		

Junior Year	F		S
EM 331, Fluid Mechanics			3
Engl 301, Advanced Composition **or** Engl 379, Technical Communications			3
Math 331, Advanced Engineering Mathematics **or** Math 327, Calculus of Several Variables	3		
Phys 312, Measurement Theory and Experiment Design	2		
Phys 314, Advanced Laboratory I			1
Phys 341, Thermodynamics and Statistical Mechanics	3		
Phys 351, Classical Mechanics			4
Phys 361, Optics	3		
Non-technical Electives*	2		6
Technical Electives**	3		

Senior Year	F		S
Phys 412, Advanced Lab II			1
Phys 421, Electromagnetism			4
Phys 435, Introduction to Nuclear Engineering **or** Phys 439, Physics of the Solid State			3
Phys 464, Senior Design I	1		
Phys 465, Senior Design II			2
Phys 471, Quantum Mechanics	4		
Phys 490, Physics Colloquium	1	or	1
Non-technical Electives*	4		
Technical Electives**	6		4

* Humanities and social science non-technical electives must be chosen to satisfy the University Core. The humanities and social science electives must include in-depth course work to meet the rigorous EAC/ABET requirements. Six humanities credits from at least two areas and nine social science credits from two areas must be taken for graduation. An additional one credit must be taken for a total of sixteen. A list of approved core courses that shows how the depth requirement can be met is available in the Physics Department office. It is recommended that *Econ202, Macroeconomics* (3cr) be one of the elective Social Sciences courses.

** Technical electives will be selected with the assistance of the student's adviser from courses offered by the Mechanical Engineering, Physics, Computer Science, Chemistry, Biology, and Mathematics Departments. Technical electives must be 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.

English (Engl) Major and Minor

George West
Department of English
Scobey Hall 014
605-688-5191

Requirements for English Major – Option A
Bachelor of Arts in Arts and Science

Freshman Year	F		S
Engl 101, Freshman Composition	3	or	3
Hist 121, History of Western Civilization to 1650 **and** Hist 122, History of Western Civilization since 1650	3		3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Foreign Language	4		4
Natural Science Core (sequence courses)	4		4
Social Science Core	3	or	3

Sophomore Year	F		S
Engl 221, English Literature I **and** Engl 222, English Literature II	3		3
English or American Literature Courses	3		3
Foreign Language	3		3
Math Core	3	or	3
Social Science Core	3		3
Electives	3		3

Junior Year	F		S
Engl 241, American Literature I **and** Engl 242, American Literature II	3		3
Engl 301, Advanced Composition	3	or	3
Engl 383, Creative Writing: **or** Engl 379, Technical Communications	3	or	3
English or American Literature Courses	3		3
Social Science Core	3	or	3
Electives	3		3

Senior Year	F		S
English or American Literature Courses	6		3
Linguistics Course (203, 425, 420, 443, 452)	3	or	3
Electives	6-12		6-12

Requirements for English Major – Option B (Education)
Bachelor of Arts in Arts and Science

Freshman Year	F		S
Engl 101, Freshman Composition	3	or	3
Hist 121, History of Western Civilization to 1650 **and** Hist 122, History of Western Civilization since 1650	3		3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Foreign Language	4		4
Natural Science Core (sequence courses)	4		4
Elective	3	or	3

Sophomore Year	F		S
Anth 421, Indians of North America **or** Hist 368, History of the American Indians	3	or	3
Engl 221, English Literature I **and** Engl 222, English Literature II	3		3
Engl 330, Shakespeare	3		
Ling 203, English Grammar			3

Psyc 101, General Psychology **or**
Soc 100, Introduction to Sociology .....3 or 3
Foreign Language 3 3
Math Core .....3 or 3
Professional Semester I
(SeEd 287, Practicum & Professional Lab **and**
EdFn 375, Human Relations) .....5 or 5

Junior Year	**F**		**S**
EdFn 365, Integrating Computers into the Curriculum	2	or	2
Engl 241, American Literature I **and** Engl 242, American Literature II	3		3
Engl 301, Advanced Composition	3	or	3
Engl 308, The Teaching of English	3	or	3
Engl 312, Juvenile Literature	3		
Engl 351, American Indian Literature of the Past **or** Engl 352, American Indian Literature of the Present	3	or	3
Professional Semester II (EPsy 302, Educational Psychology and SeEd 314, Supervised Clinical/Field Experience **and** SeEd 450, Teaching of Reading)	6	or	6
Social Science Core	3		3

Senior Year	**F**		**S**
Professional Semester III (SeEd 400, Curriculum & Instruction in Secondary School **and** SeEd 410, Social Foundations, Management & Law **and** SeEd 420, Teaching Special Needs Students **and** SeEd 488, Supervised Teaching Internship)	16	or	16
English Electives	9	or	9
Electives	6	or	6

Requirements for English Minor: 20 cr
(Engl 101 and 301 do not apply)
British Literature 9
American Literature 6
One of the following courses:
Engl 379, Technical Communications 3
Engl 383, Creative Writing: 3
Ling 203, English Grammar 3
Ling 420, The New English 3
Ling 425, The Structure of English 3
Ling 443, Development of the English Language 3
Ling 452, General Semantics 3

Environmental Management (EnvM) Major

Nels Troelstrup, Jr.
Department of Biology and Microbiology
Agricultural Hall 327
605-688-6141

Requirements for Environmental Management Major
Bachelor of Science in Biological Science

Freshman Year	**F**	**S**
Bio 151-152, 153-154, General Biology I-II & Labs	4	4
Chem 112-113, 114-115, General Chemistry I-II & Labs	4	4
Engl 101, Freshman Composition	3	
Math 113, Algebra & Trigonometry **or** Math 102, College Algebra **and** Math 120, Trigonometry	5	
SpCm 101-101A, Fundamentals of Speech & Lab		3
WEL 100, Skills for Healthy Living & Lab		2
Humanities Electives		3

Sophomore Year	**F**	**S**
Bio 311, Principles of Ecology	3	
Bio 290, Undergraduate Seminar (EnvM sec)	1	
EnvM 275, Introduction to Environmental Science	3	
Chem 326-327 & 328-329, Organic Chemistry & Labs **or** Chem 120-121, Elementary Organic Chemistry and Labs **and** Chemistry elective (Recommend Chem 361 and Lab)	4	4
Econ 202, Macroeconomics Principles	3	
Micr 231-232, General Microbiology and Lab		4
PS 213-213A, Soils and Lab	3	
PS 243-244, Geology and Lab		3
Soc 100, Introduction to Sociology		3
Electives		1

Junior Year	**F**	**S**
Bio 371-372, Genetics and Lab	3	
Engl 301, Advanced Composition	3	
Phys 111-112-113-114, Introduction to Physics I-II & Labs **or** Phys 211-212-213-214, University Physics I-II and Labs	4	4
Stat 341, Statistical Methods I		3
Humanities Elective		3
Social Science Elective	3	
Electives (from approved list)**	3	6

Senior Year	**F**	**S**
ABS 475-475A, Integrated Natural Resource Management and Lab		3
EnvM 425-425A, Disturbance Ecology and Lab		4
Bio 490, Senior Seminar†	1	
Communications Elective*		2
Electives	8	7
Electives (from approved list)**	7	

* Communications elective to be selected from the following: Engl 379; MCom 210-210A, 313, 315, 331-331A; SpCm 315, 334.

** Environmental Management Majors are required to take 15 hours from the following list of approved electives:
AE 353-353A, Physical Climatology and Meteorology and Lab 3
AE 434-434A, Soil and Water Engineering and Lab 4
AE 503, Energy and Environment 3
AE 522, Bio-environmental Engineering 2
AST 463, Agricultural Waste Management 3
Bio 200-200A, Biological Diversity and Lab 4
Bio 343-343A, Cell Biology and Lab 3
Bio 353, Introduction to Oceanography 3
Bio 373, Evolution 3
Bio 383, Bioethics 4
Bio 415-415A, Mycology and Lab 3
Bot 201-202, General Botany and Lab 3
Bot 301-301A Plant Systematics and Lab 4
Bot 305-305A, Agrostology and Lab 3
Bot 327-327A, Plant Physiology and Lab 4
Bot 415-415A, Plant Ecology and Lab 4
CEE 333-333A, Hydrology and Lab 3
Chem 232-233, Analytical Chemistry I and Lab 4
Chem 340-341, Elementary Physical Chemistry and Lab 3
Chem 341, Elementary Physical Chemistry Lab 1
Chem 352-352A, Inorganic Chemistry and Lab 4
Chem 361-361A, Biochemistry and Lab 4
Chem 380, Environmental Chemistry 4
CSc 285, Data Structures 3
CSc 484, Database Management Systems 3
CScA 243, Spreadsheet Applications 3
CScA 244, Database Applications 3
Econ 423, Statistics II 3
GE 525, Risk/Loss Control Management 2
Geog 365, Land Use Planning 3
Geog 433, World Crop and Soil Resources 3

Geog 454, Industrial and Commercial Site Selection 3
Geog 464, Geographic Aspects of Regional Planning 3
Geog 483, Air Photo Interpretation 3
Geog 484, Remote Sensing 3
Geog 487, Geographic Information Systems I 3
Geog 493, Topics in Geography 1-5
HSc 440, Epidemiology.....3
HSc 443, Public Health Science 3
La 231, Introduction to LandCADD 3
La 322, Site Planning 3
La 323, Landscape Construction 3
La 364, Planting Design & Specification 4
La 314, Landscape Design Studio.....4
La 424-424A, Recreational Facilities Design and Lab 3
La 442, Landscape Design III 3
Math 123, Calculus I 5
Math 222, Calculus for Non-Math Majors 5
Math 224, Calculus II 4
Math 225, Calculus III 3
ME 411, Environmental Engineering 3
Micr 310-310A, Environmental Microbiology and Lab 4
Micr 421-421A, Soil Microbiology and Lab.....3
Micr 422-422A, Immunology and Lab 4
PolS 320, Public Administration 3
PR 303, Forest Ecology and Management 3
PS 305-305A, General Entomology and Lab 3
PS 310-310A, Soil Geography and Land Use Interpretation and Lab ...3
PS 362-362A, Environmental Soil Management and Lab 3
PS 475, Water Quality in Agriculture 3
Rang 321, Wildland Ecosystems 3
Rang 421-421A, Grassland Fire Ecology and Lab 3
Soc 362, Population Problems 3
Stat 442, Analysis of Variance and Regression.....3
WL 363-363A, Ornithology and Lab 4
WL 367-367A, Ichthyology and Lab 3
WL 370-370A, Limnology and Lab.....3
WL 411-411A, Principles of Wildlife Management and Lab 4
WL 430,-430A Human Dimensions in Wildlife and Fisheries and Lab 3
Zool 325-325A, Mammalian Physiology and Lab 4
Zool 355-355A, Mammalogy and Lab 3
Zool 357-358, Invertebrate Zoology and Lab 4
Zool 365-365A, Vertebrate Zoology and Lab 4
Zool 467-467A, General Parasitology and Lab.....3

† Senior Seminar may be elected in Animal Science and Range Science, Biology and Microbiology, Plant Science or any other second major department. ABS 475 may be substituted for seminar (as advised).

European Studies Program (EurS)

Gordon Tolle
Department of Political Science
Scobey Hall 304
605-688-4912

Curriculum in European Studies Program
(Total of 20 hours. Because courses used to satisfy the university core and 8 hours from your major department may be counted, the total number of **additional** credits may vary.)

Requirements	**Credits**
Language: 8 credits of a European language **or** an appropriate European language substitution	8
History: Hist 122, History of Western Civilization since 1650 (or Hist 328 or 329)	3
Political Science: PolS 341, European Democratic Governments (or PolS 165, Political Ideologies **or** PolS 462, Modern Political Philosophy)	3
EurS 300, Topics in European Culture **and/or** EurS 301, Topics in European Society	6
Total	**20**

Family and Consumer Sciences Education (FCSE) Major

Mary Kay Helling
Department of Human Development, Consumer and Family Sciences
NFA 369
605-688-6418

Requirements for Family and Consumer Sciences Education Major
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
CA 130, Coping Skills for Consumers*	2		
Engl 101, Freshman Composition	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations	1		
HDCF 327, Human Development and Personality I: Childhood	3	or	3
Math 102, College Algebra	3	or	3
Psyc 101, General Psychology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Elective	3	or	3
Natural Science Core (Bio or Chem sequence)**	3-4		3-4
Elective	2	or	2

Sophomore Year	**F**		**S**
AM 121, Apparel in Popular Culture* **or** AM 453 Soc-Psy Aspects of Clothing	3	or	3
CA 291, Consumers and the Market	3		
EdFn 375, Human Relations*	3		
HDCF 328, Experience with Young Children	3	or	3
NFS 111, Food and People	3	or	3
NFS 141, Food Principles	4	or	4
NFS 221, Survey of Nutrition	3	or	3
VTE 287, Practicum in Vocational Education*	1		
VTE 405, Philosophy of Vocational Technical Education*	2		
Elective****	2	or	2
HDCF Elective	2	or	2
Elective	3	or	3

Junior Year	**F**		**S**
EdFn 365, Integrating Computers into the Curriculum	2	or	2
EdFn 427, Middle School: Affective Applications			2
Engl 301, Advanced Composition	3	or	3
EPsy 302, Educational Psychology	2	or	2
FCSE 331, Workforce Preparation in FCS***	2		
HDCF 241, Family Relations	3	or	3
HDCF 312, Human Development and Personality II: Adolescence **or** EPsy 426, Psychology of the Early Adolescent Learner	3	or	3
Edfn 427, Middle School: Affective Applications			2
SeEd 314, Supervised Clinical/Field Experience	1	or	1
SeEd 450, Teaching of Reading	3	or	3
HDCF Elective	3	or	3
Edfn 428, Middle School Curriculum & Instruction			3
Elective	3		3

Senior Year	**F**	**S**
Anth 421, Indians of North America	3	
CA 341, Management Personal/Family Living	3	
CA 442, Family Resource Management Lab	3	
FCS 401, Professional Perspectives	2	
FCSE 411, Philosophy and Methods FCSE*	4	

FCSE 412, Preparation for Student Teaching 5
FCSE 473, Supervised Student Teaching in FCS*..... 10
Elective 3

* Courses offered only once a year as designated. Deviations from the established sequence schedule can extend the required time to complete the program.
** 3-4 additional Natural Science credits are required. If another sequence is selected, additional credits will be in addition to the 128 required for graduation.
*** Courses offered fall of even years.
**** If Chem sequence is taken for 8 credits, elective credits would not be available.

Food and Biological Materials Engineering (FBME) Major

Darrell W. DeBoer
Department of Agricultural Engineering
Agricultural Engineering 105
605-688-5141
http://www.abs.sdstate.edu/ae/index.htm

Requirements for Food and Biological Materials Engineering Major
Bachelor of Science in Food and Biological Materials Engineering
In the 1994-96 catalog this was a separate major. Students enrolled in the major prior to July 1, 1996, will complete the major as described in the 1994-96 catalog. Effective July 1, 1996, this became an option as described under the Agricultural and Biosystems Engineering Major.

Food Science Major

Marilyn A. Swanson
Department of Nutrition and Food Science
NFA 423
605-688-5161
e-mail: swansonm@mg.sdstate.edu

Requirements for Food Science Major
Bachelor of Science in Family and Consumer Sciences
In the 1994-96 catalog this was a separate major. Students enrolled in the major prior to July 1, 1996, will complete the major as described in the 1994-96 catalog. Effective July 1, 1996, this became an option as described under the Nutrition and Food Science Major.

Foreign Language Business-Economics Specialization

Karen Cárdenas
Department of Foreign Languages
NFA 121
605-688-5101

Requirements for Foreign Language Business-Economics Specialization:

In addition to the Foreign Language Core, need 20 cr. of one language
Mathematics Core 3
Econ 201, Microeconomics Principles 3
Econ 202, Macroeconomics Principles 3
subtotal **9**

Choose 4 of the following courses
Econ 330, Money and Banking 3
Econ 370, Marketing 3
Acct 210, Principles of Accounting I 3
AgEc 354, Agricultural Marketing and Prices 3
AgEc 454, Economics of Grain & Livestock Marketing 3
AgEc 479, Agricultural Policy 3
PolS 350, International Relations 3
BAdm 310, Business Finance 3
BAdm 350, Legal Environment of Business and Contracts 3
BAdm 360, Organization and Management 3
Stat 341, Statistical Methods I 3
subtotal **12**

Choose 1 of the following courses
Econ 405, Comparative Economic Systems 3
Econ 440, Economics of the International Sector 3
Econ 460, Economic Development 3
Econ 472, Resource and Environmental Economics 3
subtotal **3**

Total **24**

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.

French Studies (Fren) Major and Minor

Karen Cárdenas
Department of Foreign Languages
NFA 121
605-688-5101

The major in French Studies requires a minimum of 37 credit hours in French. All French Studies Majors will take the following courses:
French 101-102, Introductory French I-II 8
French 201-202, Intermediate French I-II 8
French 310, French Language Skills 3
French 333, Topics in Francophone Culture 3

In addition, French Studies Majors taking the Business Option are required to take:
French 350, Business Communications in French 3
French 450, Business French II 3

French Studies Majors taking the General Option are required to take:
French 353, Exploring Literature in French 3
French 453,Topics in French Literature 3

Regardless of the Option chosen, French Studies Majors will take at least nine hours of electives from the following:
French 395, Travel Study Abroad Francophone 1-6
French 415, French Language Skills Workshop 1-6
French 480, Senior Capstone Experience..... 3
French 492, Directed Readings/Independent Study 1-3
French 493, Special Topics 3

Requirements for French Studies Major
Freshman Year
Engl 101, Freshman Composition 3
Fren 101-102, Introductory French I-II* 8
SpCm 101-101A, Fundamentals of Speech and Lab 3
WEL 100, Skills for Healthy Living and Lab 2
Mathematics Core 3
Natural Science Core 6-8
Social Science Core 3

Sophomore Year
French 201-202, Intermediate French I-II 8
Humanities Core..... 6
Social Science Core 6
Electives (Second major/minor)

Junior Year
Engl 301, Advanced Composition 3
French course work (300-400 level) 6-12
Social Science Core 3

Senior Year
French Course work (300-400 level) 6-12
Electives

Requirements for the French Studies Minor: 22 cr
French 101-102, Introductory French I-II 8
French 201-202, Intermediate French I-II 8
French electives, 300 and above 6

* Students who have a background in foreign 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, completion of appropriate paperwork, and the payment of the established fee.

General Agriculture Major

Eugene Arnold
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133

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 returning to the farm or ranch. The core requirement is as follows:

Course	Credits
Math*	3
Wellness	2
English 101	3
Speech 101	3
Humanities*	3
Physical Science*	3
Social Science*	3
Major field of concentration	16
General electives	28
Total	64
GPA 2.0	

* Must meet Proficiency Core Requirements

Requirements for General Agriculture Major
Bachelor of Science in Agriculture

Freshman Year	**F**	**S**
AS 101, Introduction to Animal Science		3
Bio 101-102, Biology Survey I and Lab	3	
Bio 103-104, Biology Survey II and Lab		3
Chem 106-107, Chemistry Survey and Lab		4
Engl 101, Freshman Composition	3	
Math 102, College Algebra	3	
PS 103-103A, Crop Production and Lab	3	
Soc 100, Introduction to Sociology		3
Humanities Elective		3
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living and Lab	2	
Sophomore Year	**F**	**S**
AgEc 271-271A, Farm & Ranch Management and Lab		4
Chem 120-121, Elementary Organic Chemistry and Lab	4	
Econ 201, Microeconomics Principles	3	
Humanities (2nd Discipline) **or**		
Fine Arts Elective		3
Micr 231-232, General Microbiology and Lab	4	
Phys 101-102, Survey of Physics and Lab		4
PS 213-213A, Soils and Lab		3
Free Electives	2	2
Social Science Elective**	3	
Junior Year	**F**	**S**
AS 233-233A, Applied Animal Nutrition and Lab	3	
Bio 371-372, Genetics and Lab		4
Communications Elective***		2
Engl 301, Advanced Composition	3	
PS 223-223A, Principles of Plant Pathology and Lab	3	
PS 307-307A, Insect Pest Management and Lab		3
Restricted Elective		
(from, Math, Stat, CSc, Acct, BAdm)	3	
Free Electives	3	6
Senior Year	**F**	**S**
Free Electives (at least 24 credits must be 300 level or above courses excluding Internships, Cooperative Education, or Field Experience courses)	15	15

** See approved listing.
*** Communications Elective to be selected from the following: Engl 379; MCom 210, 313, 315, 331; SpCm 201, 315, 334.

General Studies Major

Allen Branum
College of Arts and Science
NFA 251
605-688-6619

Requirements for General Studies Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities and Fine Arts Course	3		
Mathematics Core	3		
Biological Science Courses	3		3
Social Science Course			3
Plan of Study Courses	3		3
General Elective Courses			2-4
Sophomore Year	**F**		**S**
Humanities and Fine Arts Course	3	or	3
International Studies Course	3	or	3
Physical Science Courses	4		4
Social Science Course	3	or	3
Plan of Study Courses	3		3
General Elective Courses	2-4		3-4
Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Humanities and Fine Arts Course	3	or	3
International Studies Course	3	or	3
Social Science Courses	3		3
Plan of Study Courses	6		6
General Elective Courses	5-7		5-7
Senior Year	**F**		**S**
Plan of Study Courses	8		8
General Elective Courses	8		5-8

Geographic Information Systems (GIS) Minor

Roger Sandness
Department of Geography
Scobey Hall 232
605-688-4511

Requirements for Geographic Information Systems Minor: 18 cr

CEE 304, Land Surveying 3
Geog 487, Geographic Information Systems I 3
Geog 406, Seminar in Systematic Geography: 1-4
Courses from Electives Lists I and II available at the department 9

Geography (Geog) Major and Minor

Roger Sandness
Department of Geography
Scobey Hall 232
605-688-4511

Requirements for Geography Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Geog 131-131A, Physical Geography I and Lab	4		
Geog 132-132A, Physical Geography II and Lab			4
Geog 200, Introduction to Human Geography	3	or	3
Geog 210, World Regional Geography			3
Math 102, College Algebra	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Biological Science Elective	3		3
Humanities Elective	3		
Sophomore Year	**F**		**S**
Geog 382, Geographic Research Methods			3
WEL 100, Skills for Healthy Living & Lab	2	or	2
Geography Electives	3		3
Geography Electives (Upper Division)	3		3
Humanities Elective	3		3
Regional Geography	3		
Social Science Elective (not Geog)	3		3
Junior Year	**F**		**S**
Engl 301, Advanced Composition	3		
Geography Electives (Upper Division)	4		6
Social Science Elective (not Geog)			3
Free Electives (may include Geog)	9		7
Senior Year	**F**		**S**
Free Electives (may include Geog)	13		16
Social Science Elective (not Geog)	3		

Technical Geography – Science Option

It is strongly suggested that technical-science geographers choose a minor from the list of recommendations available in the Department of Geography. The following discipline electives are required:

Physical Science Electives 6
Agricultural Science, Engineering Science, or Math Electives ...6
Computer Programming Language 3
Geog 486, Computer Mapping 3
Geog 487, Geographic Information Systems I 3
Total **21**

Environmental Planning and Management Option

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 310-310A, Soil Geography & Land-use Interpretation and Studio 3
Geog 337, Atmospheric Sciences 3
Geog 339, The Earth's Landforms 2
Geog 343, Natural Disasters & Human Hazards 3
Geog 351, Economic Geography 3
Geog 365, Land Use Planning 3
Geog 383, Cartography 3
Geog 425, Population Geography 3
Geog 484, Remote Sensing 3
Geog 486, Computer Mapping 3
Geog 487, Geographic Information Systems I 3

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, Geographic Aspects of Regional Planning 3
Geog 483, Air Photo Interpretation 3
Geog 484, Remote Sensing 3
Geog 486, Computer Mapping 3
Geog 487, Geographic Information Systems I 3

Recommended electives outside of the Department:

Plan 471, Principles of State, Regional & Community Planning 3
Plan 472, Techniques of State, Regional & Community Planning 3

Requirements for Geography Major
Bachelor of Arts in Arts and Science

This program will not accept new students after July 1, 1996. Students enrolled in this program prior to July 1, 1996, will follow the plan of study outlined in the 1994-96 catalog.

Requirements for Geography Minor: 17 cr

Geog 131-131A, Physical Geography I and Lab 4
Geog 132-132A, Physical Geography II and Lab 4
Geog 200, Intro to Human Geography 3
Upper-division courses or substitutions approved by the Department. 6

German (Germ) Major and Minor

Karen Cárdenas
Department of Foreign Languages
NFA 121
605-688-5101

The major in German requires a minimum of 36 credit hours in German. The course work should include 101, 102, 201, 202, 311, 312, and 18 credit hours of upper-division (300-400) classes. Upper-division course work must include a minimum of 4 credit hours in literature, 4 credit hours in civilization and culture, and 2 credit hours in advanced language study.

The following curriculum plans are very general. Please contact a German adviser for more specific information.

Requirements for German Major
Bachelor of Arts in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3

Germ 101-102, Introductory German I-II*	4	and	4
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Mathematics Core	3	or	3
Natural Science Core	3-4	and	3-4
Social Science Core	3	or	3
Electives			

Sophomore Year	**F**		**S**
Germ 201-202, Intermediate German I-II	3	and	3
Germ 311-312, German Composition and Conversation	2	and	2
Humanities Core	3	and	3
Social Science Core	3	and	3
Electives (Second major/minor)			

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
German course work (300-400 level)	3-6	and	3-6
Social Science Core	3	or	3
Electives			

Senior Year	**F**		**S**
German course work (300-400 level)	3-6	and	3-6
Electives			

Requirements for German Minor: 20 cr

Germ 101-102*, Introductory German I-II	8
Germ 201-202, Intermediate German I-II	6
Germ 311-312, German Composition and Conversation	4
Germ 300-400 level Electives	2

* Students who have a background in foreign 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, completion of appropriate paperwork, and the payment of the established fee.

Gerontology (Gero) Minor

Renee Oscarson
Department of Human Development, Consumer and Family Sciences
NFA 369
605-688-6418

Requirements for Gerontology Minor: 18 cr

Choose 11 credits from the following Level One courses:

Bio 425, Biology of Aging	3
CA 442, Family Resource Management Lab	3
Gero 201, Introduction to Gerontology (required for minor)	3
GERO 492, Independent Study in Gerontology	1-4
GERO 493, Current Topics in Gerontology	1-3
HDCF 313, Human Development and Personality III: Adulthood	3
Psyc 324, Psychology of Aging	3
Soc 490, Seminar: Sociology of Aging,	3

Nurs 201, Medical Terminology
Management course approved by the Gerontology Coordinator.
Seminar, Current Topics, or Special Problems approved by the Gerontology Coordinator.
The topic and credits vary by semester
Choose 7 credits from Levels Two and Three. Lists of courses for Levels Two and Three are available in the Department Office or the Office of the Dean of the College of Family and Consumer Sciences.

Students who minor in Gerontology need to complete the Gerontology minor form available in the HDCFS Department Office (NFA 369) or the Family and Consumer Sciences Dean's Office (NFA 249).

A grade of "C" or better is required in all courses in the minor.

Health Education (Hlth) Minor

Patty Hacker
Department of Health, Physical Education, and Recreation
Physical Education Center 269
605-688-5218
e-mail: hackerp@ur.sdstate.edu

All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of "C" is required in all courses taught by the HPER Department.

Requirements for Health Education Minor: 21 cr (minimum)

Required courses are:

Hlth 212, Contemporary Health Problems	2
Hlth 120, Community Health	2
NFS 221, Survey of Nutrition	3
Psyc 442, Health Psychology	3
HDCF 250, The Development of Human Sexuality	3
Hlth 420, Methods of Health Instruction	2

Three courses must be completed from among the following (6-9 cr):

CA 291, Consumers and the Market	3
Hlth 250-250A, First Aid and Lab	2
Hlth 440, Epidemiology	3
HSc 302, Wellness and the Family	2
Pha 201, Medication and the Consumer	2
Soc 250, Marriage **or** HDCF 141, Individual and the Family **or** HDCF 341, Family Theories	2-3

Health, Physical Education, and Recreation (HPER) Major

Patty Hacker
Department of Health, Physical Education, and Recreation
Physical Education Center 269
605-688-5218
e-mail: hackerp@ur.sdstate.edu

The intent of this major is to provide students with a general background in health/wellness, physical education and recreation.

Students in this major are not required to earn a minor or an emphasis but may pursue an emphasis in teaching physical education. Students choosing this emphasis must contact the faculty coordinator for that area for the information on the application/acceptance requirements and procedures. Students may wish to obtain a minor in Public Recreation, Health Education, or other area. A minimum final grade of "C" is required in all courses taught by the HPER department.

Required courses for the HPER major: 36 cr

Danc 130, Dance Fundamentals	1	or	1
Hlth 212, Contemporary Health Problems	2	or	2
Hlth 250-250A, First Aid and Lab	2	or	2
HPER 180, Introduction to HPER	3	or	3

HPER 252-252A, Motor Learning and Development and Lab 2
HPER 490, Senior Seminar ....3 or 3
PE 353, Biomechanics ....3 or 3
PE 354-354A, Prevention and Care of Athletic Injuries and Lab ....2 or 2
WEL 100, Skills for Healthy Living and Lab ....2 or 2
Zool 221-222, Anatomy and Lab ....3 or 3
Recr 260, Recreation Leadership 2
Minimal additional 1 course in each of these three areas:
Hlth/Hsc, Recr, HPER/PE for a total of 11 cr
Additional Requirements:
Requires a 2.5 Cumulative GPA to graduate.
Departmental approval required for graduation.

Requirements for HPER Major – Teaching Emphasis
Bachelor of Science in Arts and Science

Application for admission into the Physical Education teaching emphasis is required and can begin after successful completion of 30 credits, including HPER 180, Danc 130, Engl 101, and SpCm 101. Additional admission requirements are available from the Physical Education Teacher Education (PETE) Coordinator. All HPER teaching majors are strongly encouraged to obtain a health teaching endorsement (18 hours). Information on courses which fulfill this endorsement (or other teaching area endorsements) can be obtained from the PETE Coordinator. A minimum final grade of "C" is required in all courses taught by the HPER department.

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab	3	or	3
Danc 130, Dance Fundamentals	1	or	1
Engl 101, Freshman Composition	3	or	3
Hlth 212, Contemporary Health Problems **or** Hlth 120, Community Health	2	or	2
HPER 180, Introduction to HPER	3	or	3
Math 102, College Algebra (or higher)	3	or	3
PE 321-321A, Water Safety Instructor and Lab	2	or	2
Psyc 101, General Psychology	3	or	3
Recr 260, Recreation Leadership			2
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Core	3	or	3
Social Science Core	3	or	3
International Studies (taken as part of Hum and Soc Sci Core)			

Sophomore Year	**F**		**S**
Bio 103-104, Biology Survey II and Lab	3	or	3
EdFn 375, Human Relations	3	or	3
HPER 252-252A, Motor Learning and Development and Lab	2		
PE 170, Fundamental Movement	1	or	1
Two credits from these:			
PE 200, Skill Concept: Fitness	1		
PE 201, Skill Concept: Gymnastics			1
PE 202, Skill Concept: Individual/Dual Activities			1
PE 203, Skill Concept: Team Sport Activity	1		
PE 204, Skill Concept: Rhythms and Dance			1
PE/Recr 205, Skill Concept: Recreational Activities	1		1
PE 241, Curriculum in PE	2		
PE 352, Adapted Physical Education			2
PE 360-360A, Methods of Elementary School PE and Lab			2
Recr/PE 342, Recreation Sport Programming and Administration	2		
SeEd 287, Practicum and Professional Lab	2	or	2
Soc 100, Introduction to Sociology	3	or	3
Zool 221-222, Anatomy and Lab	3	or	3
Humanities Core	3		3
International Studies (taken as part of Hum or Soc Sci core)			

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Hist 368, History of American Indians **or** Anth 421, Indians of North America	3	or	3
Hlth 420, Methods of Health Instruction			2
HPER 451-451A, Tests and Measurements and Lab	2		
PE 101-144, Fitness and Lifetime Activities	0.5-1		0.5-1
Two credits from these:			
PE 200, Skill Concept: Fitness	1		
PE 201, Skill Concept: Gymnastics			1
PE 202, Skill Concept: Individual/Dual Activities			1
PE 203, Skill Concept: Team Sport Activity	1		
PE 204, Skill Concept: Rhythms and Dance			1
PE/Recr 205, Skill Concept: Recreational Activities	1		1
PE 334, Assisting Teaching I **or** PE 336, Assisting Teaching II	1	or	1
PE 353, Biomechanics	3	or	3
PE354-354A, Prevention and Care of Athletic Injuries and Lab	2	or	2
Chemistry or Physics	4		4
Social Science Core	3	or	3

Senior Year	**F**		**S**
EdFn 365, Integrating Computers into the Curriculum	2	or	2
EPsy 302, Educational Psychology	2	or	2
HPER 440, Organization and Administration of HPER			2
HPER 490, Senior Seminar	3	or	3
PE 101-144, Fitness and Lifetime Activities	0.5-1		
PE 334, Assisting Teaching I **or** PE 336, Assisting Teaching II	1	or	1
PE 461-461A, Methods of Teaching Physical Education and Lab	2		
PE 350-350A, Exercise Physiology and Lab	3	or	3
SeEd 314, Supervised Clinical Field Experience	1	or	1
SeEd 400, Curriculum & Instruction in Secondary Schools	3	or	3
SeEd 410, Social Foundation, Management & Law	2	or	2
SeEd 420, Teaching Special Needs Students	1	or	1
SeEd 450, Teaching of Reading	3	or	3
SeEd 488, Supervised Teaching Internship	10	or	10

Health Promotion Major

Katherine Riggen-Santiago
Department of Health, Physical Education, and Recreation
Physical Education Center 119
605-688-5480
e-mail: santiagk@ur.sdstate.edu

This program is designed to prepare students for employment in Wellness Centers, rehabilitation centers, hospitals and managed care groups. The student is encouraged to minor in an area of wellness. A minimum final grade of "C" is required in all courses taught by the HPER department.

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Math 102, College Algebra	3	or	3
WEL 100, Skills for Health Living	2	or	2

Psyc 101, General Psychology **or** ....3 or 3
Soc 100, Introduction to Sociology ....3 or 3
Chem 106-107, Chemistry Survey and Lab ....4 or 4
Hlth 120, Community Health ....2 or 2
HPER 180, Introduction to HPER ....3 or 3
Bio-101-102, Biology Survey I and Lab....3 or 3
Biological Sciences....3 or 3
Humanities Core/International Studies....3 3

Sophomore Year
Soc 100, Introduction to Sociology **or** ....3 or 3
Psyc 101, General Psychology ....3 or 3
Chem 108-109, Organic and Biochemistry and Lab ....5 or 5
Pha 201, Medication and the Consumer....2
Zool 221-222, Anatomy and Lab ....3 or 3
HDCF 241, Family Relations ....3 or 3
Hlth 250-250A, First Aid and Lab ....2 or 2
Social Sciences/International Studies 3 3
Humanities/International Studies ....3 or 3

Junior Year
Engl 301, Advanced Composition ....3 or 3
PE 350, Exercise Physiology ....3 or 3
Hsc 302, Wellness and the Family 2
NFS 321, Human Nutrition....3 or 3
Zool 325-325A, Mammalian Physiology and Lab ....4 or 4
HDCF 350, Helping Relationships 3
PE 354-354A, Prevention/Care of Athl Inj and Lab....2 or 2
Psyc 358, Behavior Modification 3
PE 400-400A, Exercise Testing and Prescription & Lab 2
Hlth 480-480A, Wellness Programming and Lab.... 2
Career Orientation Electives....3 or 3
HPER 468, Internship 1

Senior Year
Mcom 313, Publicity Methods ....2 or 2
Hlth 440, Epidemiology ....3 or 3
*Psyc 442, Health Psychology 3
HPER 490, Senior Seminar.... 2
HPER 468, Internship....3 4
HPER 496, Field Experience 2
Career Orientation Electives....9 or 9

* Only offered every other year – next offered fall of 1999.

Health Science (HSc) Minor

Roberta Olson
College of Nursing
NFA 255
605-688-5178

Requirements for Health Science Minor: 26-27 cr
5 or 6 credit hours chosen from:
HDCF 210, Lifespan Development 3
HDCF 241, Family Relations 3
HDCF 312, Human Development and Personality II Adolescence ...3
HDCF 313, Human Development and Personality III: Adulthood 3
HDCF 327, Human Development and Personality I: Childhood....3
HDCF 341, Family Theories....3

12 credit hours chosen from:
Hlth 250-250A, First Aid and Lab **or** Hlth 364-364A, Emergency Medical Technician & Lab ...2 or 4
HSc 120, Community Health 2
HSc 212, Contemporary Health Problems 2
HSc 302, Wellness and the Family 2
HSc 420, Methods of Health Instruction 2
HSc 440, Epidemiology 3
HSc 443, Public Health Science 3
HSc 433/533, Industrial Health* 3
Nurs 201, Medical Terminology 1

9 credit hours of biological science:
these can include Zool 221 and Zool 325. Suggested Biological course Bio 311, Bio 371, Bio 103, Bio 105, Bio 151, and Bio 153.

All minors must consult the department head of Undergraduate Nursing for approval.

* Only offered every other year - next offered fall of 1999.

History (Hist) Major and Minor

Rodney Bell
Department of History
Scobey Hall 322
605-688-4311

Requirements for History Major: 36 cr
Hist 121, History of Western Civilization to 1650 3
Hist 122, History of Western Civilization since 1650 3
Hist 151, U.S. History to 1877 3
Hist 152, U.S. History since 1877 3
Upper level credits, including Hist 380, Methods and Philosophy of History, and at least 6 in non-U.S. courses 24

Requirements for History Major
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Hist 121, History of Western Civilization to 1650 **or** Hist 122, History of Western Civilization since 1650 **or** Hist 151, U.S. History to 1877 **or** Hist 152, U.S. History since 1877	3		3
Math Core	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Foreign Language (B.A. only)	4		4
Natural Science Core (B.S. only)	3-4		3-4

Sophomore Year	**F**		**S**
Hist 121, History of Western Civilization to 1650 **or** Hist 122, History of Western Civilization since 1650 **or** Hist 151, U.S. History to 1877 **or** Hist 152, U.S. History since 1877	3		3
Foreign Language (B.A. only)	3		3
Natural Science Core (B.A. only)	4		4
Natural Science Core (B.S. only)	3-4		3-4
Social Science Core	3-4	or	3-4
Electives (consider Educ, second major, minor)	0-3		0-3

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Hist 380, Methods and Philosophy of History			3
Humanities Core (B.S. only)	3	or	3

Social Science Core	3	or	3
Upper level Hist courses	6-9		3-6
Electives (consider Educ, second major, minor)	1-9		1-6

Senior Year	**F**		**S**
Upper level Hist courses	3-9		
Upper level Electives (consider Educ, second major, minor)	7-13		16

Requirements for History Minor: 18 cr

Three of the following four courses:

Hist 121, History of Western Civilization to 1650	3
Hist 122, History of Western Civilization since 1650	3
Hist 151, U.S. History to 1877	3
Hist 152, U.S. History since 1877	3
Additional credits (6 must be upper level)	9

Please Note: No more than 6 credits in Special Problems (Hist 492) and Internship (Hist 495) may be counted toward the major or minor; and, no grade below a "C" in history courses may be used to fulfill major and minor requirements.

Honors Program (Hon)

Harriet Swedlund
Director of Honors Program
Administration 315
605-688-4706

Requirements

Freshman Year	**F**		**S**
Hist 121, History of Western Civilization to 1650 (Honors)	3	or	3
Hist 122, History of Western Civilization since 1650 (Honors)	3	or	3
Phil 100, Introduction to Philosophy (Honors)	4	or	4

Sophomore Year	**F**		**S**
Departmental Honors Course Electives*	9	or	9

Junior Year	**F**		**S**
Honors Colloquium**	3	or	3

Senior Year	**F**		**S**
Hon 492, Honors Independent Study	3	or	3

* Electives must have the designation of "Honors" and will fulfill General Education Core requirements if listed in the core.

** Honors Colloquium may be designated Hon 301, 302, 303, or 304.

Horticulture (Ho) Major

Peter Schaefer
Department of Horticulture, Forestry, Landscape, and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
e-mail: hflp@mg.sdstate.edu

No grade below a "C" in an Ho prefixed course will be accepted toward a major in Horticulture.

Requirements for Horticulture Major – Production Emphasis
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab	3		
Chem 106-107 Chemistry Survey and Lab			4
Engl 101, Freshman Composition	3	or	3
Ho 111-111A, General Horticulture and Lab	3	or	3
Math 102, College Algebra	3		
Humanities and Fine Arts (Must meet Proficiency Core)	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Elective	3	or	3

Sophomore Year	**F**		**S**
Bot 201-202, General Botany and Lab	3		
Econ 202, Macroeconomics Principles	3	or	3
Ho 220-220A, Landscape Maintenance and Lab			3
Ho 230-230A, Greenhouse and Nursery Crops and Lab			3
Ho 240-240A, Fruit and Vegetable Production and Lab			3
Ho 250-250A, Woody Plants: Trees and Lab	3		
Ho 260, Woody Plants: Shrubs and Vines			2
Phys 101-102, Survey of Physics and Lab			4
PS 213-213A Soils and Lab	3	or	3
PS 223-223A, Principles of Plant Pathology and Lab	3		
Elective	3	or	3

Summer Term

Ho 494, Cooperative Education			1

Junior and Senior Years	**F**		**S**
BAdm 360, Organization and Management **or** Acct 210, Principles of Accounting I	3	or	3
Bio 371-372, Genetics and Lab **or** Ho 383-383A, Principles of Crop Improvement & Lab	3-4	or	3-4
Bot 327-327A, Plant Physiology and Lab	4		
Engl 301, Advanced Composition	3		
Engl 379, Technical Communications			3
Ho 311-311A, Herbaceous Plants and Lab	3		
Ho 312-312A, Plant Propagation and Lab			3
Ho 490, Seminar	1	or	1
PS 305-305A, General Entomology and Lab	3		
PS 334-334A, Diseases of Horticultural Crops and Lab	3		
Electives	3		3
Social Science Elective (see University Listing)	3	or	3
Humanities and Fine Arts Electives (see pages 35-36)	3	or	3
Technical Electives (see approved department listing*)	5	or	5

Choose 18 credits from the following:

Ho 314-314A, Turf Management and Lab	3		
Ho 316, Vegetable Growing			3
Ho 411-411A, Fruit Production and Lab			3
Ho 412-412A, Greenhouse Management and Lab			3
Ho 413-413A, Arboriculture and Lab			3
Ho 415, Nursery Management	3		
La 201, Introduction to Landscape Design	3	or	3

* Technical electives will be selected with the assistance of the student's adviser from the list of approved electives on file in the HFLP Department office. Any departure from this list must be approved by the Head of the HFLP Department.

Requirements for Horticulture Major – Business Option
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Bio 101-102, Biology Survey I and Lab	3		
Chem 106-107 Chemistry Survey and Lab			4
Engl 101, Freshman Composition	3	or	3
Ho 111-111A, General Horticulture and Lab	3	or	3
Math 102, College Algebra	3		
Area III Social Science Elective (see University listing)	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3

WEL 100, Skills for Healthy Living and Lab .....2 or 2
Electives .....3 or 3

Sophomore Year	**F**		**S**
Acct 210, Principles of Accounting			3
Bot 201-202, General Botany and Lab 3			
Econ 202, Macroeconomics Principles 3	or	3	
Ho 220-220A, Landscape Maintenance and Lab			3
Ho 230-230A, Greenhouse and Nursery Crops and Lab			3
Ho 240-240A, Fruit and Vegetable Production and Lab			3
Ho 250-250A, Woody Plants: Trees and Lab 3			
Ho 260, Woody Plants: Shrubs and Vines			2
Phys 101-102, Survey of Physics and Lab			4
PS 213-213A Soils and Lab 3	or	3	
PS 223-223A, Principles of Plant Pathology and Lab.....3			

Summer Term
Ho 494, Cooperative Education..... 1

Junior and Senior Years	**F**		**S**
BAdm 360, Organization and Management			3
Bio 371-372, Genetics and Lab **or**			
Ho 383, Principles of Crop Improvement 3-4	or	3-4	
Bot 327-327A, Plant Physiology and Lab 4			
Econ 201, Microeconomics Principles 3	or	3	
Engl 301, Advanced Composition 3			
Engl 379, Technical Communications			3
Ho 312-312A, Plant Propagation and Lab.....			3
Ho 490, Seminar 1	or	1	
PS 305-305A, General Entomology and Lab 3			
PS 334-334A, Diseases of Horticultural Crops and Lab.....3			
Electives 2	or	2	
Humanities and Fine Arts Electives (see pages 35-36) 3			3

Choose 15 credits from the following:

Ho 311-311A, Herbaceous Plants and Lab 3			
Ho 314-314A, Turf Management and Lab.....3			
Ho 316, Vegetable Growing.....			3
Ho 411-411A, Fruit Production and Lab			3
Ho 412-412A, Greenhouse Management and Lab			3
Ho 413-413A, Arboriculture and Lab			3
Ho 415, Nursery Management 3			
La 201, Introduction to Landscape Design 3	or	3	

Choose 12 credits from the following:

Acct 211, Principles of Accounting II 3	or	3	
AgEc 354, Agricultural Marketing and Prices 3	or	3	
BAdm 310, Business Finance 3	or	3	
BAdm 350, Legal Environment of Business & Contracts 3	or	3	
BAdm 351, Business Law I 3	or	3	
BAdm 380, Personal Finance.....3	or	3	
Econ 330, Money and Banking 3	or	3	
Econ 370, Marketing 3	or	3	
Econ 476, Marketing Research 3	or	3	
Stat 341, Statistical Methods I 3	or	3	

Requirements for Horticulture Major – Science Option
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Bio 151-152, General Biology I and Lab 4			
Chem 106-107 Chemistry Survey and Lab			4
Engl 101, Freshman Composition 3	or	3	
Ho 111-111A, General Horticulture and Lab 3	or	3	
Math 102, College Algebra 3			
Social Science Elective (see University listing)			
Soc 100, Introduction to Sociology 3	or	3	
SpCm 101-101A, Fundamentals of Speech and Lab 3	or	3	
WEL 100, Skills for Healthy Living and Lab 2	or	2	
Electives 3	or	3	

Sophomore Year	**F**		**S**
Bot 201-202, General Botany and Lab 3			
Econ 202, Macroeconomics Principles 3	or	3	
Ho 220-220A, Landscape Maintenance and Lab			3
Ho 230-230A, Greenhouse and Nursery Crops and Lab			3
Ho 240-240A, Fruit and Vegetable Production and Lab			3
Ho 250-250A, Woody Plants: Trees and Lab 3			
Ho 260, Woody Plants: Shrubs and Vines			2
Math 120, Trigonometry 3	or	3	
Phys 101-102, Survey of Physics and Lab			4
PS 213-213A Soils and Lab 3	or	3	
PS 223-223A, Principles of Plant Pathology and Lab.....3			

Summer Term
Ho 494, Cooperative Education..... 1

Junior and Senior Years	**F**		**S**
Bio 371-372, Genetics and Lab			4
Bot 327-327A, Plant Physiology and Lab 4			
Chem 120-121, Elementary Organic Chemistry and Lab ...4	or	4	
Chem 361-361A, Biochemistry and Lab.....4	or	4	
Engl 301, Advanced Composition 3			
Engl 379, Technical Communications			3
Ho 311-311A, Herbaceous Plants and Lab 3			
Ho 312-312A, Plant Propagation and Lab.....			3
Ho 490, Seminar 1	or	1	
PS 305-305A, General Entomology and Lab 3			
PS 334-334A, Diseases of Horticultural Crops and Lab.....3			
Stat 341, Statistical Methods I.....3	or	3	
Humanities and Fine Arts Electives (see pages 35-36) 3			3

Choose 15 credits from the following:

Ho 314-314A, Turf Management and Lab.....3			
Ho 316, Vegetable Growing.....			3
Ho 411-411A, Fruit Production and Lab			3
Ho 412-412A, Greenhouse Management and Lab			3
Ho 413-413A, Arboriculture and Lab			3
Ho 415, Nursery Management 3			
La 201, Introduction to Landscape Design 3	or	3	

Choose one course from the following:

Bio 343-343A, Cell Biology and Lab 3			
Bot 301-301A, Plant Systematics and Lab.....4			
Bot 415-415A, Plant Ecology and Lab 4			
Bot 421-421A, Plant Anatomy and Lab.....3			
Ho 492, Problems 1-2			
Ho 493, Special Topics 1-4			
Ho 480, Environmental Stress Physiology.....3			
Ho 590, Special Topics in Horticulture 1-3			

If necessary, choose elective credits to bring total to 128 required for graduation.

Hotel, Restaurant, and Institution Management (HRIM) Major

Marilyn A. Swanson
Department of Nutrition and Food Science
NFA 423
605-688-5161
e-mail: swansonm@mg.sdstate.edu

Requirements for Hotel, Restaurant, and Institution Management Major
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**	**S**
CSc 105, Introduction to Computers		3
Engl 101, Freshman Composition	3	
FCS 101, Family and Consumer Sciences: Professional Foundations	1	
Math 102, College Algebra		3
NFS 100, Introduction to Travel and Tourism		3
NFS 110, Perspectives in Nutrition	3	
NFS 141-141A, Food Principles and Lab*	4	
NFS 171, Introduction to the Hospitality Industry	2	
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living and Lab	2	
Natural Science Elective		4

Sophomore Year	**F**	**S**
Acct 210, Principles of Accounting I	3	
Acct 211, Principles of Accounting II		3
Econ 202, Macroeconomics Principles	3	
NFS 151, Food Technology		2
NFS 251-251A, Meal Management and Lab*		3
NFS 261, Food Service Operations*	3	
NFS 271, Hotel/Motel Operational Management I*		3
Psyc 101, General Psychology		3
Soc 100, Introduction to Sociology	3	
Humanities/Fine Art Elective		3
Natural Science Elective	4	
NFS 297, Professional Practicum (to be taken after sophomore year)		2

Junior Year	**F**	**S**
BAdm 360, Organization and Management		3
Econ 201, Microeconomics Principles		3
Engl 301, Advanced Composition		3
HDCF 241, Family Relations	3	
NFS 361, Hospitality Industry Law		2
NFS 362, Financial Management for the Hospitality Industry	3	
NFS 381, Quantity Food Production and Service		2
NFS 421, Diversity in the Workplace	3	
Business Elective**	3	3
General Education Elective	2	

Senior Year	**F**	**S**
Econ 370, Marketing	3	
Econ 467, Labor, Law and Economics		3
FCS 401, Professional Perspectives		2
NFS 371, Food Service Purchasing		3
NFS 372, Property Maintenance & Housekeeping	3	
NFS 391, Institution Organization and Management	3	
NFS 482, Hospitality Marketing		3
Electives	3	4
Humanities/Fine Art Electives	3	
NFS 497 Professional Practicum (2 cr) to be taken after junior year		2

* Must be taken in this sequence.
** See Economics Department for Econ Minor requirements.
**** Take in summer after sophomore year.

Human Development and Family Studies (HDFS) Major

Mary Kay Helling
Department of Human Development, Consumer and Family Sciences
NFA 369
605-688-6418

Requirements for Human Development and Family Studies Major
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
HDCF 141, Individual and the Family	2	or	2
HDCF 150, Early Experience	2	or	2
FCS 101, Family and Consumer Sciences: Professional Foundations	1		
Math 102, College Algebra	3	or	3
Psyc 101, General Psychology	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Electives	3	or	3
Natural Science Course(s)	3-4	or	3-4

Sophomore Year	**F**		**S**
HDCF 241, Family Relations	3	or	3
HDCF 250, The Development of Human Sexuality	3	or	3
HDCF 312, Human Development and Personality II: Adolescence	3		
HDCF 327, Human Development and Personality I: Childhood			3
HDCF 313, Human Development and Personality III: Adulthood	3	or	3
HDCF 350, The Helping Relationship	3	or	3
Natural Science Course	3-4	or	3-4
Humanities Elective	3	or	3
Recommended Electives	6	or	6

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
HDCF 341, Family Theories	3	or	3
HDCF 355, Prevention Programs in Human Development and Family	3	or	3
HDCF 364, Parent-Child Relations in a Professional Context	3	or	3
Electives	8		8

Senior Year	**F**		**S**
HDCF 414, Research Applications in HDCFS	3	or	3
HDCF 441, Professional Issues in CFS	3	or	3
HDCF 487, Orientation to Child and Family Services Practicum*	1		
HDCF 457, Family Assessment	3	or	3
HDCF 497, Practicum in Child and Family Services (or SS)**	12	or	12
Electives	7-11	or	7-11

* To be taken semester before HDCF 497, Practicum.
** SS Summer Session

A pre-graduation check is required 1 semester 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 a department/program prefix is considered a course in the major.

Human Development, Child and Family Studies Minor

Mary Kay Helling
Department of Human Development, Consumer and Family Sciences
NFA 369
605-688-6418

Requirements for Human Development, Child and Family Studies Minor: 18 cr

All courses for the minor must be approved by the department head no later than the beginning of the junior year. Suggested courses include (but are not limited to):

HDCF 141, Individual and the Family 2
HDCF 241, Family Relations 3
HDCF 250, The Development of Human Sexuality 3
HDCF 312, Human Development and Personality II: Adolescence 3
HDCF 313, Human Development and Personality III: Adulthood 3
HDCF 327, Human Development and Personality I: Childhood 3
HDCF 328, Experiences with Young Children 3
(Reservation required; complete form in department office)

Interior Design (ID) Major and Minor

Sandra Evers
Department of Apparel Merchandising and Interior Design
NFA 229
605-688-5196

Requirements for Interior Design Major
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
Art 121, Design I	3		
Engl 101, Freshman Composition	3	or	3
FCS 101, Professional Foundations	1		
ID 121, Interior Design Foundations	2		
ID 122, Design Graphics	3	or	3
ID 221, Introduction to Interiors & Housing			3
ID 222, Lab in Interiors & Housing			1
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
General Education Courses	6-9		6-9

Sophomore Year	**F**		**S**
AM 342-342A, Textiles I and Lab			3
Art 111, Drawing I	3	or	3
ArtH 100, 211 or 212	3	or	3
HDCF 241, Family Relations	3	or	3
Hist 122, History of Western Civilization since 1650			3
ID 250-250A, The Design Process and Studio	3		
ID 315-315A, Materials and Product Specification and Studio	3	or	3
ID 230, Presentation Techniques			3
ID 231, Computer Aided Design	2		
General Education Courses	6-9		6-9

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
ID 310-310A, Interior Design Fabrics and Lab	2	or	2
ID 316, Interior Design Technology	2	or	2
ID 319-319A, Building Systems and Studio	3	or	3
ID 320-320A, Color and Lighting Design and Lab	3	or	3
ID 322, Intermediate Interior Design I	3		
ID 323, Intermediate Interior Design II			3
ID 424, History of Interiors I	3		
ID 425, History of Interiors II			3
ID 431, Advanced Computer Aided Design	2		
ID 487, Pre-Practicum in Interior Design and Housing (or senior year)			3
General Education Courses & Electives	6-8	or	6-8

Summer School either Junior or Senior Year		
ID 497, Professional Practicum		7

Senior Year	**F**		**S**
ID 310-310A, Interior Design Fabrics and Lab	2	or	2
ID 316, Interior Design Technology	2	or	2
ID 317, Interior Design Practices			2
ID 319-319A, Building Systems and Studio	3		3
ID 320-320A, Color and Lighting Design and Lab	3	or	3
ID 422, Advanced Interior Design I	3		
ID 423, Advanced Interior Design II			3
ID 424, History of Interiors I	3		
ID 425, History of Interiors II			3
ID 431, Advanced Computer Aided Design	2		
ID 477-477A, Portfolio and Senior Exhibit and Studio			2
ID 487, Pre-Practicum in Interior Design and Housing (if not done in junior year)			3
General Education Courses & Electives	6-9	or	6-9

Requirements for Interior Design Minor: 17 cr

ID 121, Interior Design Foundations 2
ID 221, Introduction to Interiors & Housing 3
ID 222, Lab in Interiors & Housing 1
Interior Design Electives 11

International Agriculture Option

Eugene Arnold
College of Agriculture and Biological Sciences
Agricultural Hall 156
605-688-5133

Leading to the B.S. in Agriculture or Biological Science

Two Years of same International Language 14
Required Electives* 12
Group I Electives** 12
International Experience and Seminar*** 2

* From the following listed courses one course each must be selected from three of the following course areas: economics, geography, history, and political science. The remaining credits to make up the total of 12 may be chosen from any of the remaining courses in the listing.
  - Anth 200, General Anthropology
  - Anth 310, Cultural Anthropology
  - Econ 201, Microeconomics Principles
  - Econ 370, Marketing
  - Econ 405, Comparative Economic Systems
  - Econ 440, Economics of the International Sector
  - EurS 300, Topics in European Culture
  - EurS 301, Topics in European Society
  - Geog 200, Introduction to Human Geography
  - Geog 313, Geography of Latin America
  - Geog 314, Geography of the Former USSR
  - Geog 315, Geography of Europe

Geog 316, Geography of Asia
Geog 317, Geography of Africa
Geog 433, World Crop & Soil Resources
HDCF 141, Individual & the Family
Hist 345, History of Russia
Hist 418, History of Latin America
Hist 467, U.S. Foreign Relations (20th Century)
NFS 111, Food & People
NFS 321, Human Nutrition
PolS 253, Current World Problems
PolS 350, International Relations
PolS 446, China & Asian Politics
PolS 461, Early Political Philosophy
PolS 462, Modern Political Philosophy
Psyc 101, General Psychology
Psyc 441, Social Psychology
Soc 362, Population Problems

** The Group I Electives (ag) are presently included in all curricula leading to the B.S. degree in agriculture but under this option they would also be required for a degree leading to a B.S. in Biological Science.

*** A work experience or experience at a university in another country through international student exchange or other means. You may also participate in international travel/study courses or international travel tours with consent. Student should register for credit using the 494, 495, or 496 series in their major.

Journalism Major and Minor

Richard Lee
Department of Journalism and Mass Communication
Printing and Journalism 209
605-688-4171

Requirements for Journalism Major – Advertising
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab (B.S. only)	3		3
Engl 101, Freshman Composition	3	or	3
Math Core	3	or	3
MCom 151, Introduction to Mass Communication (recommended)	2	or	2
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Foreign Language (B.A. only)	4		4
Humanities Core	3		3
Social Science Core	3		3
Sophomore Year	**F**		**S**
Econ 202, Macroeconomics Principles	3	or	3
MCom 160-160A, Basic Photography and Studio	2	or	2
MCom 210-210A, Newswriting and Reporting and Studio	3	or	3
MCom 213-213A, Journalism Typography and Studio	2	or	2
WEL 100, Skills for Healthy Living and Lab	2	or	2
Foreign Language (B.A. only)	3		3
Humanities Core (B.S. only)	3	or	3
Physical Science Core (sequential)	4		4
Social Science Core	3		3
Elective (B.S. only)	3	or	3
Junior Year	**F**		**S**
Econ 370, Marketing	3	or	3
Engl 301, Advanced Composition	3	or	3
MCom 370, Principles of Advertising	3	or	3
MCom 371-371A, Advertising Copy and Layout and Studio	3	or	3
MCom 372, Media and Markets	3	or	3
MCom Elective	3	or	3
Humanities Electives	3	or	3
International Studies (Humanities)	3		
International Studies (Social Science)			3
Social Science Electives	3	or	3
Elective (B.A. only)			3
Electives (B.S. only)	3		2
Senior Year	**F**		**S**
MCom 414, Mass Communication Law	3	or	3
MCom 417, History of Journalism **or** MCom 416, Mass Media in Society	3	or	3
MCom 473, Advertising Campaigns	3	or	3
MCom 495, Internship (summer)	2	or	2
MCom Elective (upper division)	3	or	3
Social Science Electives (upper division)	3		3
Upper Division Electives	6		6

Requirements for Journalism Major – Broadcast Journalism
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab (B.S. only)	3		3
Engl 101, Freshman Composition	3	or	3
Math Core	3	or	3
MCom 151, Introduction to Mass Communication (recommended)	2	or	2
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Foreign Language (B.A. only)	4		4
Humanities Core	3		3
Social Science Core	3		3
Sophomore Year	**F**		**S**
MCom 160-160A, Basic Photography and Studio	2	or	2
MCom 210-210A, Newswriting and Reporting and Studio	3	or	3
PolS 210, State and Local Government	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Foreign Language (B.A. only)	3		3
Humanities Core	3	or	3
Physical Science Core (sequential)	4		4
Social Science Core (B.A. only)	3		
Social Science Core (B.S. only)	3		3
Electives (B.A. only)	3	or	3
Electives (B.S. only)	3		2
Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
MCom 316-316A, Public Affairs Reporting and Studio (recommended)	3	or	3
MCom 331-331A, Television Production and Lab	3		
MCom 332-332A, Radio News Reporting and Studio	3	or	3
MCom 333-333A, Television News Reporting and Studio	3	or	3
Humanities Electives	3	or	3
International Studies (Humanities)	3		
International Studies (Social Science)			3
Social Science Electives	3		3
Elective (B.A. only)			2
Electives (B.S. only)	3		2
Senior Year	**F**		**S**
MCom 414, Mass Communication Law	3	or	3
MCom 417, History of Journalism **or** MCom 416, Mass Media in Society	3	or	3
MCom 433-433A, Advanced Television News Reporting and Studio	3		
MCom 495, Internship (summer)	2	or	2
MCom Elective (upper division)	3	or	3
Social Science Electives (upper division)	3		3
Upper Division Electives	6		6

Requirements for Journalism Major – News-Editorial
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab (B.S. only)	3		3
Engl 101, Freshman Composition	3	or	3
Math Core	3	or	3
MCom 151, Introduction to Mass Communication (recommended)	2	or	2
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Foreign Language (B.A. only)	4		4
Humanities Core	3		3
Social Science Core	3		3

Sophomore Year	**F**		**S**
MCom 160-160A, Basic Photography and Studio	2	or	2
MCom 210-210A, Newswriting and Reporting and Studio	3	or	3
MCom 213-213A, Journalism Typography and Studio	2	or	2
PolS 210, State and Local Government	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Foreign Language (B.A. only)	3		3
Humanities Core (B.S. only)	3	or	3
Physical Science Core (sequential)	4		4
Social Science Core	3		3
Elective	3	or	3

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
MCom 310, Newspaper Editing	2	or	2
MCom 311, Editing Lab (concurrent with 310)	1	or	1
MCom 316-316A, Public Affairs Reporting and Studio	3	or	3
MCom Elective	3		3
Humanities Electives	3	or	3
International Studies (Humanities)	3		
International Studies (Social Science)			3
Social Science Electives	3		3
Elective (B.A. only)			3
Elective (B.S. only)	3		2

Senior Year	**F**		**S**
MCom 412, Advanced Editing Lab	1	or	1
MCom 414, Mass Communication Law	3	or	3
MCom 417, History of Journalism **or** MCom 416, Mass Media in Society	3	or	3
MCom 495, Internship (summer)	2	or	2
MCom Elective (upper division) (B.A. only)	3	or	3
MCom Elective (upper division) (B.S. only)	3		2
Social Science Electives (upper division)	3		3
Upper Division Electives (B.A. only)	6		8
Upper Division Electives (B.S. only)	6		6

Requirements for Journalism Minor: 16 cr

To include:			
MCom 210-210A, Newswriting and Reporting and Studio	3	or	3

Landscape Design (La) Major

Peter Schaefer
Department of Horticulture, Forestry, Landscape, and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
e-mail: hflp@mg.sdstate.edu

Requirements for Landscape Design Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab	3		
Biological Science Sequence, Bio 103 **or** Bio 200 **or** Bot 201			3
Chem 106-107 Chemistry Survey and Lab	4	or	4
Engl 101, Freshman Composition	3	or	3
Ho 111-111A, General Horticulture and Lab	3	or	3
Math 113, College Algebra & Trigonometry, **or** Math 102, College Algebra **and** Math 120, Trigonometry	5	or	5
Phys 101-102, Survey of Physics and Lab	4	or	4
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
ID 122, Design Graphics	3	or	3

Sophomore Year	**F**		**S**
CEE 106, Elementary Surveying	3	or	3
EG 123, Computer Aided Design and Graphics	1	or	1
Ho 250-250A, Woody Plants: Trees and Lab	3		
Ho 260, Woody Plants: Shrubs and Vines			2
La 284, Graphics and Theory of Design			4
La 201, Introduction to Landscape Design	3	or	3
La 241, History of Landscape Architecture			3
PS 213-213A, Soils and Lab	3	or	3
Soc 100, Introduction to Sociology	3	or	3
Fine Arts Elective**	3	or	3

Junior Year	**F**		**S**
CEE 208-208A, Engineering Surveys and Lab **or** CM 208-208A, Construction Surveying	3		
Econ 202, Macroeconomics Principles	3	or	3
Engl 301, Advanced Composition	3	or	3
Ho 220-220A, Landscape Maintenance and Lab			3
Ho 311-311A, Herbaceous Plants and Lab	3		
La 322, Site Planning	3		
La 323, Landscape Construction			3
La 324-324A, Planning Public Grounds and Lab	3		
La 314, Landscape Design Studio	4		
La 364, Planting Design and Specification			4
Communication Elective (see ABS College listing)	2	or	2

Senior Year	**F**		**S**
Group I Ag Elective	3	or	3
La 421-421A, City Planning and Lab	3		
La 442, Landscape Design III			3
La 424-424A, Recreational Facilities Design and Lab	3		
La 464, Landscape Professional Practice Studio			4
Electives	3		3
Technical Electives*	5		6
Humanities Elective (see University listing)	3	or	3
Social Science Elective (see University listing)	3	or	3

* Technical electives will be selected with the assistance of the student's adviser from the list of approved electives on file in the HFLP Department office. Any departure from this list must be approved by the Head of the HFLP Department.

** Fine Arts elective will be selected with the assistance of the student's adviser from the following list:
Art 111, Drawing I
Art 121, Design I
Art 123, Three Dimensional Design

No grade below a "C" in an La prefixed course will be accepted toward a major in Landscape Design.

Latin American Area Studies Program (LAAS)

Allen Branum
College of Arts and Science
NFA 251
605-688-6619

Requirements (Minimum of 22 credit hours as indicated below)

Section A	**Credits**
Span 101-102, Introductory Spanish I-II	4-4
Span 201-202, Intermediate Spanish I-II	3-3
Span 311-312, Spanish Composition and Conversation	2-2
Minimum Sub Total	**8**

Section B	**Credits**
Span 356, Spanish American Literature	3
Span 436, Spanish American Culture & Civilization	1-3
Span 484, 20th Century Spanish American Literature	3
Span 492, Special Problems (oriented toward Latin America)	1-3
(Courses in English)	
Geog 313, Geography of Latin America	3
Hist 418, History of Latin America	3
Hist 493, Topics in History	1-5
PolS 347, Latin American Politics	3
(LAAS courses)	
LAAS 301, Latin American Cultures (Topical)	3
LAAS 302, Latin American Societies (Topical)	3
LAAS 491, Directed Studies in Latin American Cultures	1-3
Minimum Sub Total	**14**

Recommended Electives
Additional courses in Spanish are strongly recommended.

Anth 200, General Anthropology	3
Anth 310, Cultural Anthropology	3
Econ 405, Comparative Economic Systems	3
Econ 440, Economics of the International Sector	3
Hist 467, U.S. Foreign Relations (20th Century)	3
NFS 321, Human Nutrition	3
PolS 253, Current World Problems	3
PolS 350, International Relations	3
PolS 461, Early Political Philosophy	3
PolS 462, Modern Political Philosophy	3
Soc 362, Population Problems	3

Manufacturing Engineering Technology (MET) Major

Jerry Sorensen
Department of General Engineering and Technology
Wenona Hall 310
605-688-6417

Requirements for Manufacturing Engineering Technology Major
Bachelor of Science in Technology

Freshman Year	**F**	**S**
Chem 106-107 Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab	4	
EG 121-122, Engineering Design Graphics I-II	1	1
EG 123, Computer Aided Design and Graphics	1	
Engl 101, Freshman Composition	3	
ES 222-222A, Advanced Machine Shop and Lab		2
ES 225, Industrial Machine Tool Applications	1	
Math 113, College Algebra & Trigonometry	5	
Math 222, Calculus for Non-Math Majors **or** Math 123, Calculus I		5
Social Science	3	
SpCm 101-101A, Fundamentals of Speech and Lab	3	
WEL 100, Skills for Healthy Living and Lab		2

Sophomore Year	**F**	**S**
CSc 105, Introduction to Computers	3	
ES 131-131A, Welding and Lab	2	
ET 112, DC and AC Concepts	5	
ET 113, DC and AC Concepts Lab	2	
MET 223-223A, Mechanics for Technologists and Lab		3
MET 232, Micro-Computers in Industry		2
Phys 111-112-113-114, Introduction to Physics I-II and Labs	4	4
Stat 341, Statistical Methods I		3
Humanities		3

Junior Year	**F**	**S**
CM 332-332A, Building Systems in Construction & Lab	3	
Econ 201, Microeconomics Principles		3
Engl 379, Technical Communications	3	
MET 211-211A, Introduction to Engineering Materials and Lab	3	
MET 333-333A, Computer Integrated Manufacturing (CIM) and Lab		3
MET 343, Automated Production Techniques		3
Emphasis*		3
Humanities	3	
Emphasis*		3
MET 243, Quality Control	3	
MET 331, Fluid Mechanics	3	

Senior Year	**F**	**S**
GE 231, Technology and Society	3	
MET 477, Senior Design		3
Emphasis*	6	3
Emphasis*		3
Technical Electives	3	6
Electives	5	

* See General Engineering and Technology Department for applicable course work.

Mathematics (Math) Major and Minor

Kenneth Yocom
Department of Mathematics and Statistics
Harding Hall 101
605-688-6196

Requirements for Mathematics Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Chem 106-107 Chemistry Survey and Lab **or** Chem 112-113, General Chemistry I and Lab	4		
CSc 150, Computer Science I			3
Engl 101, Freshman Composition	3	or	3
Math 123, Calculus I	5		
Math 224, Calculus II			4
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2

Biological Science Electives	3	3
Humanities Electives		3

Sophomore Year	**F**	**S**
Econ 202, Macroeconomics Principles		3
Math 215, Matrix Algebra	2	
Math 225, Calculus III	3	
Math 253, Elementary Logic & Set Theory		3
Math 271, Mathematical Applications in FORTRAN		3
Phys 211-212, University Physics I and Lab	4	
Phys 213-214, University Physics II and Lab		4
Humanities Elective		3
Social Science Elective	3	
Electives	3	

Junior Year	**F**	**S**
Engl 301, Advanced Composition	3	
Engl 379, Technical Communications		3
Choose 3 of the following 4 courses:		
Math 313, Modern Algebra **or**		
Math 315, Linear Algebra **or**		
Math 425, Introduction to Real Analysis I **or**		
Math 426, Introduction to Real Analysis II	6	3
Humanities Elective	3	
Social Science Electives	3	3
Electives	2	6

Senior Year	**F**		**S**
Math 401, Senior Seminar	1	or	1
Math Electives (300 level or above)	6		3
Electives	10		12

Mathematics Requirements in Teacher Education

In the B.S. program above, students seeking teacher certification in secondary mathematics must take the following mathematics courses:

Math 261, Geometry for Teachers	3
Math 345, Topics in Discrete Mathematics	2
Math 355-355A, Methods of Teaching Mathematics & Lab	3
Math 381, Mathematical Statistics	4
and the two courses:	
Math 313, Modern Algebra	3
Math 315, Linear Algebra	3

rather than three of 313, 315, 425, and 426.

Requirements for Mathematics Major
Bachelor of Arts in Arts and Science

This program will not accept new students after July 1, 1996. Students enrolled in this program prior to July 1, 1996, will follow the plan of study outlined in the 1994-96 catalog.

Requirements for Mathematics Minor: 23 cr

Math 123, Calculus I **or**	
Math 222, Calculus for Non-Math Majors	5
Math 224, Calculus II	4
Math 253, Elementary Logic and Set Theory	3
Mathematics courses at the 200 level or above.	11

Required of minors in the **Teacher Education** Program:

Math 261, Geometry for Teachers	3
Math 355, Methods of Teaching Mathematics	3
One of the following:	
Math 313, Modern Algebra	3
Math 315, Linear Algebra	3
Math 361, College Geometry	3
Math 425, Introduction to Real Analysis I	3

An average of "C" is required in the minor courses.

Mechanical Engineering (ME) Major

Don Froehlich
Department of Mechanical Engineering
Crothers Engineering Hall 210
605-688-5426

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)

Freshman Year	**F**	**S**
Chem 112-113, General Chemistry I and Lab	4	
EG 121, Engineering Design Graphics I **and**		
EG 122, Engineering Design Graphics II	1	1
EM 221, Statics		3
Engl 101, Freshman Composition **and**		
SpCm 101-101A, Fundamentals of Speech and Lab	3	3
GE 101, Introduction to Engineering and Technology	0	
Math 123, Calculus I **and**		
Math 224, Calculus II	5	4
Phys 211-212, University Physics I and Lab		4
WEL 100, Skills for Healthy Living and Lab	2	
Electives		2-3

Sophomore Year	**F**	**S**
CSc 213, Introduction to Programming with FORTRAN **or**		
CSc 218, Introduction to C/C++/UNIX for		
Engineers	3	
Econ 202, Macroeconomics Principles		3
EG 123, Computer Aided Design & Graphics	1	
EM 222, Dynamics	3	
EM 321, Mechanics of Materials		3
Engl 210, Introduction to Literature		3
ES 225, Industrial Machine Tool Applications	1	
Math 225, Calculus III	3	
Math 321, Differential Equations		3
ME 240, Introduction to Mechanical Design		3
ME 241, Engineering Materials	3	
ME 311, Thermodynamics I		3
Phys 213, University Physics II	4	

Junior Year	**F**	**S**
EE 300-301, Basic Electrical Engineering I and Lab **and**		
EE 302-303, Basic Electrical Engineering II and Lab	3	3
EM 331, Fluid Mechanics	3	
Engl 379, Technical Communications	3	
Math 331, Advanced Engineering Math **or**		
Math 471, Numerical Analysis	3	
Math 381, Mathematical Statistics		4
ME 312, Thermodynamics II	3	
ME 321, Fundamentals of Machine Design	3	
ME 376-376A, Measurements & Instrumentation & Lab		2
ME 415, Heat Transfer		3
Electives		5-6

Senior Year	**F**	**S**
ME 322, Vibrations	3	
ME 419-419A, Heating and Air Conditioning Design		
and Lab **or**		
ME 418, Design of Thermal Systems **or**		
ME 413, Turbomachinery	3	
ME 421, Design of Machine Elements	3	

ME 451, Automatic Controls	3	
ME 456, Dynamic Systems Lab	1	
ME 476, Thermo-Fluids Lab	1	
ME 477, Mechanical Systems Design I	1	
ME 478, Mechanical Systems Design II	2	
ME 480, Inspection Trip	0	
Electives	5-6	8-9

Technical Electives (11 credits)
The 11 credits of technical electives may be chosen from the following list. At least one course must be in design. Design courses are identified by an asterisk (*).

- ME 313, Analytical Thermodynamics 3
- ME 341, Metallurgy 3
- ME 362, Industrial Engineering....3
- ME 381, Mechanical Equipment for Buildings 3
- ME 411, Environmental Engineering....3
- ME 412, Internal Combustion Engines* 3
- ME 413, Turbomachinery* 3
- ME 414, Air Pollution Control*....3
- ME 416-416A, Computer Aided Engineering & Lab* 3
- ME 418, Design of Thermal Systems* 3
- ME 419, Heating & Air Conditioning Design* 3
- ME 427, Gas Dynamics I 3
- ME 428-428A, Machine Design–
  Case Studies and Lab*....3
- ME 431, Aerodynamics* 3
- ME 440, Computer Aided Design* 3
- ME 461, Analysis & Design of Industrial Systems* ...3
- ME 492, Special Problems* 1-5
- ME 493, Special Topics 1-5
- ME 494/495, Cooperative Education/Internship* ...1-3

Courses from other departments or disciplines accepted on approval

Microbiology (Micr) Major and Minor

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 304
605-688-6141

Requirements for Microbiology Major
Bachelor of Science in Arts and Science

Freshman Year	**F**	**S**
Bio 151-152, 153-154, General Biology I-II and Labs ...4		4
Chem 112-113, 114-115, General Chemistry I-II and Labs....4		4
Engl 101, Freshman Composition 3		
Mathematics, select either a. or b. or c.		
a. Math 113, Algebra & Trigonometry **or** Math 102, College Algebra **and** Math 120, Trigonometry		
b. Stat 341 Statistical Methods I **or** Math 222, Calculus for Non-Math Majors		
c. Math 123, Calculus I & Math 224, Calculus II ...5		
SpCm 101-101A, Fundamentals of Speech and Lab	3	
WEL 100, Skills for Healthy Living and Lab	2	
Electives	3	

Sophomore Year	**F**	**S**
Chem 232-233, Analytical Chemistry I and Lab	4	
Micr 231-232, General Microbiology and Lab 4		
Micr 332-333, Microbial Physiology and Lab.....		4
Micr 390, Undergraduate Seminar 1		
Phys 111-112, 113-114, Introduction of Physics I-II and Labs....4		4
Social Science Elective (approved list) 3		3
Humanities Elective (approved list).....		4
Electives		1

Junior Year	**F**	**S**
Bio 371, Genetics 3		
Chem 326-327, 328-329, Organic Chemistry and Labs **or** Chem 120-121, Elementary Organic Chemistry and Lab **and** Chemistry elective and Lab 4		4
Chem 361-361A, Biochemistry and Lab....4		
Engl 301, Advanced Composition		3
Humanities Electives (approved list) 5		
Social Science Elective (approved list)		3
Emphasis & Elective courses		6

Senior Year	**F**	**S**
Micr 422-422A, Immunology and Lab 4		
Micr 436, Molecular & Microbial Genetics 4		
Micr 490, Seminar		1
Social Science Elective 3		
Communications Elective (recommend Engl 379)		3
Emphasis & Elective courses 5		12

The College of Arts and Science requires that at least 40 semester credits of the 128 total for graduation be upper division (300 and above). The College of Arts and Science requires two courses which concentrate on the humanities and social science aspects of an international area. These courses may be used to partially satisfy the social science and humanities requirements. (See International Studies list.)

Requirements for Microbiology Major
Bachelor of Science in Biological Science

Freshman Year	**F**	**S**
Bio 151-152, 153-154, General Biology I-II and Labs ...4		4
Chem 112-113, 114-115, General Chemistry I-II & Labs 4		4
Engl 101, Freshman Composition 3		
Mathematics, select either a. or b. or c.		
a. Math 113, Algebra & Trigonometry **or** Math 102, College Algebra **and** Math 120, Trigonometry		
b. Stat 341 Statistical Methods I **or** Math 222, Calculus for Non-Math Majors		
c. Math 123, Calculus I & Math 224, Calculus II ...5		
SpCm 101-101A, Fundamentals of Speech and Lab	3	
WEL 100, Skills for Healthy Living and Lab	2	
Electives	3	

Sophomore Year	**F**	**S**
Chem 232-233, Analytical Chemistry I and Lab	4	
Econ 202, Macroeconomics Principles	3	
Micr 231-232, General Microbiology and Lab 4		
Micr 332-333, Microbial Physiology and Lab.....		4
Micr 390, Undergraduate Seminar 1		
Phys 111-112, 113-114, Introduction of Physics I-II and Labs....4		4
Soc 100, Introduction to Sociology		3
Humanities Elective (approved list).....		3
Electives		2

Junior Year	**F**	**S**
Bio 371, Genetics 3		
Chem 326-327, 328-329, Organic Chemistry and Labs **or** Chem 120-121, Elementary Organic Chemistry and Lab **and** Chemistry elective and Lab 4		4
Chem 361-361A, Biochemistry and Lab....4		
Engl 301, Advanced Composition		3

Humanities Electives (approved list)	3	
Social Science Elective (approved list)		3
Emphasis & Elective courses	2	6

Senior Year	**F**	**S**
Micr 422,422A Immunology and Lab	4	
Micr 436, Molecular & Microbial Genetics	4	
Micr 490, Seminar		1
Communications Elective (recommend Engl 379)		3
Emphasis & Elective courses	8	12

Requirements for Microbiology Major
Bachelor of Science in Agriculture

This program will not accept new students after July 1, 1996. Students enrolled in this program prior to July 1, 1996, will follow the plan of study outlined in the 1994-96 catalog.

Requirements for Microbiology Minor: 16 cr

The minor in Microbiology consists of Micr 231-232, General Microbiology and Lab, and additional credit hours with a Micr prefix for a total of at least 16 credits. DS 301 may be included in the 16 credits. Two courses must be at the 300 level or above.

Microbiology Emphasis:

At least one (1) course from the following list is required. Additional courses from this list may be taken as electives:

Micr 310, 310A Environmental Microbiology and Lab	4
Micr 311, 311A, Food Microbiology and Lab	4
Micr 421, 421A, Soil Microbiology and Lab	3
Micr 425, Pathogenesis	3

Supporting Course Electives – Other elective courses in Microbiology to complete the 28 credit minimum:

Micr 414-414A, Anaerobic Microbiology	3
Micr 424, 424A, Medical and Veterinary Virology	4
Micr 492, Microbiology Problem	1-3
Micr 494/495, Coop Ed./Internship	1-3
Micr 497, Advances in Microbiology	1-4
Zool 467, 467A, General Parasitology and Lab	3

Molecular Biology Emphasis:

Required Courses:

Bio 343, 343A, Cell Biology	3
Micr 438, Molecular Microbial Genetics Laboratory	2

Supporting Course Electives – Take a minimum of 12 credits from the following:

Bio 462, Molecular Biology I	2
Bio 464, Molecular Biology II	2
Bio 465, Molecular Biology II Lab	2
Bot 327, 327A, Plant Physiology and Lab	4
Chem 461, Intermediate Biochemistry	3
Micr 424, 424A, Medical and Veterinary Virology & Lab	4
Zool 325, 325A, Mammalian Physiology and Lab	4

Applied & Environmental Electives – Take one course from the following:

Micr 310, 310A, Environmental Microbiology and Lab	4
Micr 311, 311A, Food Microbiology and Lab	4
Micr 421, 421A, Soil Microbiology and Lab	3
Micr 425, Pathogenesis	3

General Electives:

Bio 372, Genetics Laboratory	1
Bio 445, 445A, Histological Techniques and Lab	3
Bio 453, Advanced Genetics	3
Chem 462-462A, Intermediate Biophysical Chemistry and Lab	3
Chem 340, 341, Elementary Physical Chemistry & Lab	4
Chem 342-342A, 344-344A, Physical Chemistry and Labs	8
Micr 492, Microbiology Problem	1-3
Micr 494/495 Coop Ed./Internship	1-4

Infectious Disease Emphasis:

Required Course:

Micr 425, Pathogenesis	3

Supporting Course Electives – Take a minimum of 12 credits from the following:

Bio 343, 343A, Cell Biology and Lab	3
Bio 415, 415A, Mycology and Lab	3
Hsc 440, Epidemiology	3
Micr 414-414A, Anaerobic Microbiology and Lab	3
Micr 424, 424A, Medical and Veterinary Virology & Lab	4
Micr 437, 437A, Systematic Bacteriology	4
Micr 438, Molecular Microbial Genetics Lab	2
Zool 467, 467A, General Parasitology and Lab	3

Applied & Environmental Electives – Take one (1) course from the following:

Bio 445, 445A, Histological Techniques and Lab	3
DS 301-301A, Dairy Microbiology and Lab	3
Micr 310, 310A, Environmental Microbiology and Lab	4
Micr 311, 311A, Food Microbiology and Lab	4
Micr 323, Medical Microbiology	3
Micr 324, Medical Microbiology Lab	1
Micr 421-421A, Soil Microbiology and Lab	3
PS 223-223A, Principles of Plant Pathology and Lab	4

General Electives:

Bio 372, Genetics Laboratory	1
Bio 462, Molecular Biology I	2
Bio 464, Molecular Biology II	2
Bio 465, Molecular Biology II Lab	2
Bot 327, 327A, Plant Physiology and Lab	4
Chem 461, Intermediate Biochemistry	3
PS 333-333A, Diseases of Field Crops and Lab	3
PS 334-334A, Diseases of Horticultural Crops and Lab	3
Vet 403, Animal Diseases & Their Control	3
Zool 325, 325A, Mammalian Physiology and Lab	4

Applied & Environmental Emphasis:

Required Courses:

Micr 438, Molecular Microbial Genetics Lab	2
Chem 461, Intermediate Biochemistry	3

Supporting Course Electives – Take a minimum of 12 credits from the following:

Bio 415, 415A, Mycology and Lab	3
Bio 462, Molecular Biology I	2
DS 301-301A, Dairy Microbiology and Lab	3
Micr 310, 310A, Environmental Microbiology and Lab	4
Micr 311, 311A, Food Microbiology and Lab	4
Micr 421, 421A, Soil Microbiology and Lab	3

Applied & Environmental Electives – Take one (1) course from the following:

Bio 464, Molecular Biology II	2
Bio 465, Molecular Biology II Lab	2

Micr 323-324, Medical Microbiology and Lab 4
Micr 424, 424A, Medical and Veterinary Virology and Lab 4
Micr 425, Pathogenesis 3
Micr 492, Microbiology Problem..... 1-3
Zool 467, 467A, General Parasitology and Lab..... 3

General Electives:
AE 343-343A, Physical Prop. Biol. Materials and Lab .. 3
Bio 311, Principles of Ecology 3
Bio 343, 343A, Cell Biology and Lab 3
Bio 475, Water Quality in Agriculture..... 3
Bio 383, Bioethics 4
Chem 434-434A, Instrumental Analysis and Lab 4
Chem 380, Environmental Chemistry 4
Chem 461, Intermediate Biochemistry..... 3
EnvM 275, Introduction to Environmental Science..... 3
EnvM 425-425A, Disturbance Ecology and Lab..... 4
Phil 200, Introduction to Logic 3
Phil 220, Introduction to Ethics 3
Phil 331, Philosophy of Science..... 3
Phil 332, Environmental Ethics 3
PS 213-213A, Soils and Lab 3
PS 362-362A, Environmental Soil Management & Lab 3
PS 412, Environmental Soil Chemistry 3

Military Science (Mil) Minor

LTC Jan Griesenbrock
Department of Military Science
DePuy Military Hall 200
605-688-6151

Requirements for Military Science Minor: 16 cr

A minor in Military Science is available for those who complete 12 credits offered and who enroll and complete Mil 494 Internship. This minor is compatible to fields of major studies.

Music (Mus) Major and Minor

Corliss Johnson
Department of Music
Lincoln Music Hall 204
605-688-5187

Requirements for Music Major
Bachelor of Arts in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Mus 110-110A, Basic Theory & Musicianship I & Lab **and** Mus 111-111A, Basic Theory & Musicianship II and Lab	4		4
Math Core	3		
Mus 195, Recital Attendance	0		0
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Social Science Core**			3
Applied Music	1		1
Foreign Language	4		4
Music Organization	1		1

Sophomore Year	**F**	**S**
Mus 195, Recital Attendance	0	0
Mus 210-210A, Intermediate Theory & Musicianship III and Lab **and** Mus 211-211A, Intermediate Theory and Musicianship IV and Lab	4	4
Mus 130, Music Literature and History I **and** Mus 131, Music Literature and History II	2	2
Mus 260-260A, Conducting Fundamentals and Lab	2	
Wel 100, Skills for Healthy Living and Lab		2
Applied Music	1	1
Foreign Language	3	3
Music Organization	1	1
Natural Science Core*	4	4

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Mus 195, Recital Attendance	0		0
Mus 311, Counterpoint (Advanced Musicianship V)	3		
Mus 313, Form and Analysis (Advanced Musicianship VI)			3
Mus 230, Music Literature and History III **and** Mus 231, Music Literature and History IV	2		2
Applied Music (300-400)	2		2
Humanities Core**	3		
Social Science Core**	3		3
General Electives	2	or	2
Music Organization	1		1

Senior Year	**F**	**S**
Mus 195, Recital Attendance	0	0
Mus 433, Music Literature V: 20th Century Music	2	
Mus 420, Orchestration and Arranging (Advanced Musicianship VII)	3	
Mus 483, Public Recital***	0-2	0-2
Applied Music	2	2
General Electives	4	4
Humanities Core**	3	3
Music Electives		4
Music Organization	1	1
Social Science Core**	3	3

* Must include two courses in sequence.

** Must be taken in at least two disciplines.

*** The piano proficiency must be passed before the senior recital may be scheduled. See the *Student Handbook* and your adviser for details.

Requirements for Music Minor: 22 cr

Mus 110-110A-111-111A, Basic Theory and Musicianship I-II and Labs	8
Mus 130, Music Literature and History I	2
Mus 260-260A, Conducting Fundamentals and Lab	2
Mus 361-361A, Music Education II (Vocal or Instrumental Conducting) and Lab or Music Electives	2
Applied (at least two hours upper level—300/400)	6
Note: Mus 195 required for each semester enrolled for applied lessons.	
Music Electives	2

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

Corliss Johnson
Department of Music
Lincoln Music Hall 204
605-688-5187

Requirements for Music Education Major
Bachelor of Music Education

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math Core	3	or	3
Mus 110-110A, Basic Theory & Musicianship I and Lab **and** Mus 111-111A, Basic Theory & Musicianship II & Lab	4		4
Mus 195, Recital Attendance	0		0
Psyc 101, General Psychology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Applied Music	1		1
Music Organization	1		1
Natural Science Core	4		4

Sophomore Year	**F**		**S**
Mus 130, Music Literature and History I **and** Mus 131, Music Literature and History II	2		2
Mus 195, Recital Attendance	0		0
Mus 210-210A, Intermediate Theory & Musicianship III and Lab **and** Mus 211-211A, Intermediate Theory & Musicianship IV and Lab	4		4
Mus 260-260A, Conducting Fundamentals and Lab	2		
Mus 270, Pedagogy I **and** Mus 271, Pedagogy II	2		2
Mus 361-361A, Music Education II: Conducting and Lab			2
Applied Music	1		1
Humanities Core	5	or	5
Music Organization	1		1
Professional Semester I	5	or	5

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Mus 195, Recital Attendance	0		0
Mus 230, Music Literature and History III **and** Mus 231, Music Literature and History IV	2		2
Mus 313, Form and Analysis (Advanced Musicianship VI)			3
Mus 351-351A, Music Education I: Elementary Music Concepts and Lab	2		
Mus 362-362A, Music Education III: Methods and Materials and Lab	2		
Mus 365-365A, Music Education IV: Supervision and Administration of School Music and Lab			2
Mus 370, Pedagogy III **and** Mus 371, Pedagogy IV	2		2
Applied Music	2		2
Music Organization	1		1
Professional Semester II	6	or	6

Senior Year	**F**	**S**
Anth 421, Indians of North America **or** Hist 368, History of the American Indians	3	
EdFn 365, Integrating Computers into the Curriculum	2	
Mus 195, Recital Attendance	0	
Mus 420, Orchestration and Arranging (Advanced Musicianship VII)	3	
Mus 433, Music Literature and History V	2	
Mus 483, Public Recital*	0-2	
Applied Music	2	
International Studies	2	
Music Organization	1	
Professional Semester III		16
Social Science Core	3	

* Proficiencies: All Music Education Majors must pass piano and fretted instrument proficiencies before scheduling senior recitals. See the *Student Handbook* and your adviser for details.

An emphasis in choral or instrumental teaching may be elected, or, by adding appropriate hours, students may prepare in **both areas**.

Specific Courses Required for Choral Emphasis:

- Mus 260-260A, Conducting Fundamentals and Lab
- Mus 270-271, Pedagogy I-II
- Mus 370-371, Pedagogy III-IV
- Mus 351-351A, Music Education I: Elementary Music Concepts & Lab
- Mus 361-361A, Music Education II: Conducting & Lab
- Mus 362-362A, Music Education III: Methods and Materials (Vocal) and Lab
- Mus 365-365A, Music Education IV: Supervision & Administration of School Music and Lab

Specific Courses Required for Instrumental Emphasis:

- Mus 260-260A, Conducting Fundamentals and Lab
- Mus 270-271, Pedagogy I-II
- Mus 370-371, Pedagogy III-IV
- Mus 351-351A, Music Education I: Elementary Music Concepts & Lab
- Mus 361-361A, Music Education II: Conducting and Lab
- Mus 362-362A, Music Education III: Methods and Materials (Instrumental) and Lab
- Mus 365-365A, Music Education IV: Supervision & Administration of School Music and Lab

Music Merchandising Major

Corliss Johnson
Department of Music
Lincoln Music Hall 204
605-688-5187

Requirements for Music Merchandising Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
CSc 105, Introduction to Computers	3		
Engl 101, Freshman Composition	3	or	3
Math Core			3
MuAp 115, Class Instruction in Keyboard **and** MuAp 116, Class Instruction in Keyboard	1		1
Mus 201, History of Country Music			3
Mus 110-110A, Basic Theory & Musicianship I and Lab **and** Mus 111-111A, Basic Theory & Musicianship II and Lab	4		4
Mus 195, Recital Attendance	0		0
Mus 202, The Music Industry	3		
Mus 301, Blues, Jazz & Rock	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Applied Music	1		1
Music Organization	1		1

Sophomore Year	F		S
Econ 201, Microeconomics Principles			3
Mus 195, Recital Attendance	0		0
Mus 210-210A, Intermediate Theory & Musicianship III and Lab **and** Mus 211-211A, Intermediate Theory & Musicianship IV and Lab	4		4
Mus 230, Music Literature & History III **and** Mus 231, Music Literature & History IV	2		2
WEL 100, Skills for Healthy Living and Lab	2	or	2
Applied Music	1		1
Biological Science Core*****	3		3
Humanities*	3		
Music Organization	1		1
Social Science Core** or Elective	2-3		2-3

Junior Year	F		S
Acct 210, Principles of Accounting	3		
Engl 301, Advanced Composition			3
MCom 370, Principles of Advertising	3		
Mus 195, Recital Attendance	0		0
Applied Music	2		2
Electives or Humanities Core*	2-4	or	2-4
Music Elective****	2-3	or	2-3
Music Organization	1		1
Physical Science Core*****	4		4

Senior Year	F		S
BAdm 310, Business Finance	3		
Econ 370, Marketing	3		
Mus 195, Recital Attendance	0		0
Mus 433, Music Literature V	2		
Mus 483, Public Recital	0-2		0-2
MCom 212-212A, Desktop Publishing and Lab			3
Social Science Core**			3
Music Organization	1	or	1
Professional Electives***	6-8		6-8

* Must be taken in at least two areas, one of which must be in international studies.
** Must be taken in at least two disciplines.
*** Includes required internship.
**** Select from Mus 311, 313, or 420.
***** Science requirement includes one 2-course sequence.

Nursing (Nurs) Major

Roberta Olson
College of Nursing
NFA 255
605-688-5178

Requirements for Nursing Major – Basic
Bachelor of Science in Nursing

Freshman Year	F		S
Chem 106-107, Chemistry Survey and Lab	4		
Chem 108-109, Organic and Biochemistry and Lab			5
Engl 101, Freshman Composition*	3		
Math 102, College Algebra*	3		
Psyc 101, General Psychology			3
Soc 100, 150, 240, 250, 340	3		
SpCm 101-101A, Fundamentals of Speech and Lab*			3
WEL 100, Skills for Healthy Living and Lab*	2	or	2
Zool 221-222, Anatomy and Lab			3
Elective/Humanities/Fine Arts*	2	or	2

Sophomore Year	F		S
HDCF 210 (lifespan)	3		
Micr 231-232, General Microbiology and Lab	4		
NFS 321, Human Nutrition	3		
Nurs 264, Professional Perspectives I			1
Nurs 265-265B, Health Assessment and Intervention & Lab			4
Nurs 280-280B, Professional Communication and Lab			4
Nurs 282, Health Promotion			2
Nurs 323, Introduction to Pathophysiology			3
Zool 325-325A, Mammalian Physiology and Lab	4		
Elective/Humanities/Fine Arts*	3		3

Junior Year	F	S
Engl 301, Advanced Composition*		3
HSc 443, Public Health Science	3	
Nurs 304, Professional Perspectives II	1	
Nurs 320-320A, Family as Client: Emerging & Developing and Lab	7	
Nurs 330-330A, Family Health Environment Across the Lifespan and Lab	4	
Nurs 364, Professional Perspectives III		1
Nurs 370, Acute Health Care I		5
Nurs 375-375A, Chronic Health Care I and Lab		5
Pha 241, Pharmacology	3	
Elective/Humanities/Fine Arts*		3

Senior Year	F	S
Nurs 404, Professional Perspectives IV	1	
Nurs 410-410A, Acute Health Care II and Lab	5	
Nurs 420-420A, Chronic Health Care II and Lab	5	
Nurs 464, Professional Perspectives V		2
Nurs 475, Community as Client		3
Nurs 491-491A, Directed Study in Nursing and Lab		6
Stat 341, Statistical Methods **or** HSc 440, Epidemiology	3	
Elective/Humanities/Fine Arts*	3	3

* University core courses–required for graduation.

Required pre-nursing major courses: Chem 106-107, 108-109; Psyc 101; Soc 100, 150, 240, 250, or 340; Zool 221-222, 325-325A, NFS 321, HDCF 210 (lifespan course), Micr 231-232.

Required concurrent with Nurs 264, 265-265B, 280-280B, 282: Nurs 323 (Pathophysiology).

Required prerequisite or concurrent with Nurs 304, 320-320A, 330-330A: HSc 443 and Pha 241.

Requirements for Nursing Major – RN Upward Mobility
Bachelor of Science in Nursing

Please contact the secretary, RN Upward Mobility, at (605) 688-6186, for plan.

Nutrition and Food Science (NFS) Major and Minor

Marilyn A. Swanson
Department of Nutrition and Food Science
NFA 423
605-688-5161
e-mail: swansonm@mg.sdstate.edu

Requirements for Nutrition and Food Science Major – ADA Didactic Program in Dietetics
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
Chem 112-113, General Chemistry I and Lab	4		
Chem 114-115, General Chemistry II and Lab			4
Engl 101, Freshman Composition	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations	1		
Math 102, College Algebra	3	or	3
NFS 110, Perspectives in Nutrition*	3		
NFS 141-141A, Food Principles and Lab	4	or	4
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2

Sophomore Year	**F**	**S**
Acct 210, Principles of Accounting I	3	
Chem 120-121, Elementary Organic Chemistry &Lab	3-4	
Chem 361-361A, Biochemistry and Lab		4
Econ 202, Macroeconomics Principles		3
Micro 231-232, General Microbiology and Lab	4	
NFS 261, Food Service Operations*	3	
NFS 321, Human Nutrition		3
Psyc 101, General Psychology	3	
Zool 221-222, Anatomy and Lab	3	
Humanities Elective		4

Junior Year	**F**	**S**
CSc 105, Introduction to Computers	3	
HDCF 241, Family Relations		3
NFS 322, Assessment Skills in Nutrition*	4	
NFS 341-341A, Food Science and Lab*	4	
NFS 371, Food Service Purchasing*		3
NFS 381, Quantity Food Production and Service*		2
NFS 422, Advanced Human Nutrition*		4
Stat 341, Statistical Methods I		3
Zool 325-325A, Mammalian Physiology and Lab		4
NFS 497, Professional Practicum taken summer between Junior and Senior year		1-6

Senior Year	**F**	**S**
Engl 301, Advanced Composition	3	
FCS 401, Professional Perspectives		2
FCSE 421, Adult Education		2
NFS 391, Institution Organization and Management*	3	
NFS 423, Clinical Nutrition I*		5
NFS 424-424A, Community Nutrition and Consulting Diet and Lab*		3
NFS 425-425A, Clinical Nutrition II and Lab*		3
NFS 490, Seminar in Food and Nutrition*	1-2	
Elective	3	6
Humanities Elective		2

* These courses are only offered once a year. Check the semester.

NFS 423, 424 and 425 require many off campus experiences at lunch time and later in the day. Plan a light course load when taking these courses.

Requirements for Nutrition and Food Science Major – Food Science
Bachelor of Science in Family and Consumer Sciences

Freshman Year	**F**		**S**
Chem 112-113, General Chemistry I and Lab	4		
Chem 114-115, General Chemistry II and Lab			4
Engl 101, Freshman Composition	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations	1		
Math 113, College Algebra & Trigonometry	5		
NFS 110, Perspectives in Nutrition	3	or	3
NFS 151, Food Technology			2
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2

Sophomore Year	**F**	**S**
AS 241, Meat: Production to Consumption		3
Bio 101-102, Biology Survey I and Lab		3
Chem 120-121, Elementary Organic Chemistry & Lab	3-4	
DS 231, Dairy Foods	3	
NFS 141-141A, Food Principles and Lab	4	or 4
NFS 341-341A, Food Science and Lab	4	
Phys 111-112, Introduction to Physics I and Lab		4
Psyc 101, General Psychology	3	
Humanities Elective		3

Junior Year	**F**	**S**
Chem 232-233, Analytical Chemistry I and Lab		4
Chem 361-361A, Biochemistry and Lab	4	
DS 313-313A, Technical Control of Dairy Products I and Lab	3	
Engl 301, Advanced Composition		3
Math 222, Calculus for Non-Math Majors	5	
HDCF 241, Family Relations		3
Micr 231-232, General Microbiology and Lab		4
NFS 351-351A, Principles of Food Processing and Lab		3
NFS 360-360A, Food Chemistry and Lab		4
Stat 341, Statistical Methods I	3	

Senior Year	**F**	**S**
AST 443-443A, Food Process and Engineering Fundamentals and Lab	3	
DS 422-422A, Technical Control of Dairy Products II and Lab		4
FCS 401, Professional Perspectives		2
Micr 311-311A, Food Microbiology and Lab	4	
NFS 321, Human Nutrition	3	
NFS 450-450A, Food Analysis and Lab		4
NFS 451-451A, Advanced Food Processing and Lab		4
Humanities Elective		3
Social Science Elective		3
Electives		2

Requirements for Nutrition and Food Science Minor: 18-19 cr

Required courses include:

NFS 110, Perspectives in Nutrition **or** NFS 221, Survey of Nutrition	3
NFS 141-141A, Food Principles and Lab	4
NFS 321, Human Nutrition	3
NFS 422, Advanced Human Nutrition	4

plus one of the following:

NFS 322-322A, Assessment Skills in Nutrition and Lab **or**	4
NFS 423, Clinical Nutrition I **and**	2
NFS 425-425A, Clinical Nutrition II 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.

Park Management (PR) Major

Peter Schaefer
Department of Horticulture, Forestry, Landscape, and Parks
Northern Plains Biostress Laboratory 201A
605-688-5136
e-mail: hflp@mg.sdstate.edu

Requirements for Park Management Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab	3	or	3
Chem 106-107, Chemistry Survey and Lab			4
Engl 101, Freshman Composition	3	or	3
Ho 111-111A, General Horticulture and Lab	3		
Math 102, College Algebra	3	or	3
PR 101, Parks and Society	3		
PS 213-213A, Soils and Lab			3
Psyc 101, General Psychology	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Elective (see pages 35-36)	3	or	3

Sophomore Year	**F**		**S**
Bio 200-200A, Biological Diversity and Lab	4	or	4
Econ 202, Macroeconomics Principles	3		
Phys 101-102, Survey of Physics and Lab			4
PolS 100, American Government **or**			
PolS 210, State & Local Government	3	or	3
PR 202-202A, Outdoor Recreation Resource Management and Lab			3
PR 496, Field Experience (summer)	1		
PS 243-244, Geology and Lab			4
WL 110, Environmental Conservation **or**			
Bio 311, Principles of Ecology	2	or	3
Humanities Electives (see pages 35-36)	3	or	3
Ho 220-220A, Landscape Maintenance and Lab			3

Junior Year	**F**		**S**
AST 333-333A, Soil and Water Mechanics and Lab			3
Engl 301, Advanced Composition	3	or	3
Ho 250-250A, Woody Plants: Trees and Lab	3		
Ho 311-311A, Herbaceous Plants and Lab **or**			
Ho 413-413A, Arboriculture and Lab	3	or	3
PR 301-301A, Park Interpretation and Lab	3		
PR 302, Commercial Recreation Areas			3
PR 303, Forest Ecology and Management	3		
PR 496, Field Experience (summer)	1		
SpCm 315, Public Speaking	3	or	3
Economics/Business Electives	3	or	3
Electives			3

Senior Year	**F**		**S**
Engl 379, Technical Communication	3	or	3
Ho 314-314A, Turf Management and Lab	3		
PolS 320, Public Administration **or**			
PolS 428, Personnel & Budgetary Administration	3	or	3
PR 300-300A, Park Operations & Facility Management and Lab	3		
PR 401-401A, Advanced Park Management and Lab			3
Recr 440, Administration of Leisure Services			3
Economics/Business Electives	3		3
Land-use Planning Electives	3		3
Electives	2-3		

Park Management Economics/Business Electives
Choose 9 credits from the following:

Acct 210, Principles of Accounting I	3
Acct 211, Principles of Accounting II	3
BAdm 350, Legal Environment of Business and Contracts	3
BAdm 351, Business Law I	3
BAdm 360, Organization and Management	3
Econ 201, Microeconomics Principles	3
Econ 370, Marketing	3
Econ 433, Public Finance	3
Stat 341, Statistical Methods I	3

Park Management Land-use Planning Electives
Choose 6 credits from the following:

La 241, History of Landscape Architecture	3
La 201, Introduction to Landscape Design	3
La 322, Site Planning	3
La 324-324A, Planning Public Grounds and Lab	3
La 421-421A, City Planning and Lab	3
La 424, Recreational Facilities Design	3
Plan 471, Principles of State, Regional & Community Planning	3
Plan 472, Techniques of State, Regional & Community Planning	3
PS 310-310A, Soil Geography & Land-Use Interpretation & Studio	3

Park Management Suggested Electives

Geog 464, Geographic Aspects of Regional Planning	3
Hlth 250-250A, First Aid and Lab	2
Ho 260, Woody Plants: Shrubs and Vines	2
PE 321-321A, Water Safety Instructor and Lab	2
Phil 220, Introduction to Ethics	3
Recr 260, Recreation Leadership	2
Soc 310, Research Methods II	3

Students must obtain 2 to 4 credits of PR 494, 495, 496 Cooperative Education/Internship/Field Experience in Park Management by completing either (a) or (b):

a. Field Experience (PR 496). Work 2 summers or equivalent time unit between freshman and senior years in Department approved park or recreation system, agency or institution. 1 credit per each summer or semester completed.
b. Cooperative Education (PR 494), Internship (PR 495), Field Experience (PR 496). Work 1 summer or equivalent time unit as stated in (a) for 1 credit and participate in Department approved Professional Internship for 1 semester for 3-12 credits. Students are encouraged to use electives to broaden their perspective and/or to develop an area of specialization. Consult with your adviser. Students will have up to 7 credits of electives depending on their selection of specified electives and choice of PR 494, 495, 496 option (a) or (b).

Pest Management Minor

Dale Gallenberg
Department of Plant Science
Agricultural Hall 219
605-688-5121

Requirements for Pest Management Minor: 16 cr

PS 223-223A, Principles of Plant Pathology and Lab	3
PS 305-305A, General Entomology and Lab	3
PS 343-343A, Weed Science and Lab	3
PS 490, Undergraduate Seminar	1

Plus 6 additional credits from:

PS 307-307A, Insect Pest Management and Lab	3

PS 333-333A, Diseases of Field Crops and Lab 3
PS 334-334A, Diseases of Horticultural Crops and Lab 3
PS 415-415A, Mycology and Lab 3
PS 420-420A, Biological Control of Arthropods and Lab 3
PS 431-431A, Applied Insect Ecology and Lab 3
PS 450-450A, Field Studies in Plant Disease Diagnostic.....2
PS 492, Special Problems (in Pest Management Areas) 1-4
PS 493, Special Topics (in Pest Management Areas) 3

Pharmacy (Pha) Major

Danny Lattin
College of Pharmacy
Pharmacy 125
605-688-6197

Progression Standards for Class Standing

Some pharmacy courses have prerequisites such as 3rd Year Standing, etc. These are defined as follows:
(note: "completion" means a passing grade in each pharmacy course and maintaining semester and cumulative Pha GPA requirements)

3rd Year Standing – the student must have been admitted into the professional program.

4th Year Standing – completion of all Pha 300 level required courses.

5th Year Standing – completion of all Pha 400 level required courses and a B.S. in Pharmaceutical Sciences 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.

6th Year Standing – completion of all Pha 700 level required, non-clerkship courses.

Requirements for Entry Level Doctor of Pharmacy Degree

Pre-Pharmacy Courses:

First Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab	3	or	3
Chem 112-113, General Chemistry I and Lab	4		
Chem 114-115, General Chemistry II and Lab			4
Engl 101, Freshman Composition	3	or	3
Math 222, Calculus for Non-Math Majors	5	or	5
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities and Social Sciences	6		3

Second Year	**F**		**S**
Chem 326-327, Organic Chemistry and Lab	4		
Chem 328-329, Organic Chemistry and Lab			4
Econ 202, Macroeconomics Principles	3	or	3
Micr 231-232, General Microbiology and Lab	4	or	4
Stat 341, Statistical Methods I	3	or	3
Zool 221-222, Anatomy and Lab	3		
Zool 325-325A, Mammalian Physiology and Lab			4
General Electives*	3		3
Humanities and Social Sciences	3	or	3

Professional Program Courses:

Third Year	**F**	**S**
Engl 301, Advanced Composition		3
Pha 310-310A, Introduction to Pharmaceutical Care and Lab	3	
Pha 311-311A, Professional Communication Skills & Lab		3
Pha 313, Pharmaceutical Calculations	1	
Pha 323, Pharmaceutical Biochemistry	4	
Pha 324, Biomedical Science		4
Pha 331, Pharmaceutics I	3	
Pha 332-332A, Pharmaceutics II and Lab		4
Pha 340-340A, Principles of Drug Action I and Lab	4	
Pha 341-341A, Principles of Drug Action II and Lab		4
Pha 320, Intro to Pathophysiology	3	

Fourth Year**	**F**	**S**
Pha 415, Biopharmaceutics & Pharmacokinetics	5	
Pha 430, Pharmaceutical Jurisprudence	3	
Pha 441, Chemotherapeutic Agents	2	
Pha 442-442A, Principles of Drug Action III and Lab	5	
Pha 443-443A, Principles of Drug Action IV and Lab		5
Pha 445-445A, Drug Literature & Research Design &Lab		4
Pha 450-450A, Drug Distribution Systems and Lab		4
Pha 465-465A, Professional Resources Management & Lab		4
Pha 493, Pharmaceutical Care Experience Lab		1
General Electives*	2	

Fifth Year	**F**	**S**
Pha 719, Physical Assessment Laboratory	1	
Pha 722, Therapeutics-The Geriatric Patient		2
Pha 723, Ethics in Healthcare Practice	2	
Pha 732, Therapeutics-Renal/Fluids & Electrolytes	3	
Pha 733, Therapeutics-Gastrointestinal and Nutrition		3
Pha 734, Therapeutics-Endocrine/Reproduction		3
Pha 735, Therapeutics-Infectious Disease	2	
Pha 736, Therapeutics-Neurology/Psychiatry		3
Pha 737, Therapeutics-Cardiopulmonary	4	
Pha 738, Therapeutics-Hematology/Oncology	3	
Pha 739, Therapeutics-Rheumatology/Skin/Skeletal		2
Pha 742, Adverse Drug Reactions		2
Pha 784, Seminar I		1
Pha 728, Current Issues in Pharmacy Practice	3	
Pharmacy Electives	2	2

Sixth Year – Clerkships***	**Su/F/S**
Pha 714, Community Pharmacy	6
Pha 716, Institutional Pharmacy	6
Pha 770, Pediatrics	4
Pha 771, Geriatrics	4
Pha 772, Internal Medicine I	4
Pha 773, Internal Medicine II	4
Pha 774, Ambulatory Care	4
Pha 775, Psychiatry	4
Elective Clerkships (see below)	8

Elective Clerkships (choose 2)***

Pha 700, Directed Studies	4
Pha 701, Home Health Care/Hospice	4
Pha 702, Indian Health Service	4
Pha 703, Pharmacy Administration	4
Pha 704, Nutrition	4
Pha 705, Clinical Research	4
Pha 706, Critical Care	4
Pha 707, Infectious Disease	4
Pha 708, Surgery	4
Pha 709, Nephrology	4
Pha 710, Pharmacokinetics	4
Pha 711, Oncology	4
Pha 712, Nuclear Pharmacy	4
Pha 713, Managed Care	4
Pha 717, Community Pharmaceutical Care	4

* General Electives must not be natural science, math, health, nutrition science, or computer science, and a minimum of 5 must be 300 level or above.

** Eligible for Bachelor of Science degree in Pharmaceutical Sciences after completion of fourth year.

*** Clinical Clerkship Year completed during Summer Term, Fall and Spring Semesters.

Philosophy (Phil) Minor

Robert Burns
Department of Philosophy and Religion
Scobey Hall 308
605-688-4909

Requirements for Philosophy Minor: 16 cr

Phil 100, Introduction to Philosophy	4
Upper division courses.	6
Additional Phil courses	6

Physical Education (PE) Minor

Patty Hacker
Department of Health, Physical Education, and Recreation
Physical Education Center 269
605-688-5218
e-mail: hackerp@ur.sdstate.edu

All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of "C" is required in all courses taught by the HPER department.

Requirements for Physical Education Minor: 23 cr

Hlth 250-250A, First Aid and Lab	2
HPER 252-252A, Motor Learning and Development and Lab	2
PE 352, Adapted Physical Education	2
PE 360-360A, Methods of Elementary School Physical Education and Lab	2
PE 461-461A, Methods of Teaching Physical Education and Lab	2

Five hours from the following courses:

Danc 130, Dance Fundamentals	1
PE 200, Skill Concept: Fitness	1
PE 201, Skill Concept: Gymnastics	1
PE 202, Skill Concept: Individual/Dual Activities	1
PE 203, Skill Concept: Team Sport Activities	1
PE 204, Skill Concept: Rhythms and Dance	1
PE/Recr 205, Skill Concept: Recreational Activities	1

Eight hours from the following courses:

Danc 241-241A, Creative Movement for Children and Lab	2
HPER 180, Introduction to HPER	3
HPER 440, Organization & Administration of HPER	2
HPER 451-451A, Tests & Measurements in HPER and Lab	2
PE 241, Curriculum in Physical Education	2
PE 321-321A, Water Safety Instructor and Lab	2
PE/Recr 342, Recreation Sports Programming/Administration	2
PE 350, Exercise Physiology	3
PE 353, Biomechanics	3

Physics (Phys) Major and Minor

Oren Quist
Department of Physics
Crothers Engineering Hall 310A
605-688-5428

Requirements for Physics Major – College of Engineering
Bachelor of Science in Physics
Professional Physics Emphasis

Freshman Year	**F**	**S**
Chem 112-113, General Chemistry I and Lab	4	
Chem 114, General Chemistry II		3
EG 121, Engineering Design Graphics I	1	
EG 122, Engineering Design Graphics II **or** EG 123, Computer Aided Design & Graphics		1
Engl 101, Freshman Composition	3	
Math 123, Calculus I	5	
Math 224, Calculus II		4
Phys 211-212, University Physics I and Lab		4
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living and Lab	2	
*Non-technical Elective		2

Sophomore Year	**F**	**S**
CSc 213, Introduction to Programming with FORTRAN **or** CSc 218, Introduction to C/C++/UNIX for Engineers		3
EE 220, Circuits I	3	
EE 221, Circuits II		3
EE 222, Circuits I Laboratory	1	
EE 223, Circuits II Laboratory		1
Math 225, Calculus III	3	
Math 321, Differential Equations		3
Phys 213-214, University Physics II and Lab	4	
Phys 331, Introduction to Modern Physics		3
Non-technical Electives*	5	3

Junior Year	**F**	**S**
Engl 301, Advanced Composition or Engl 379, Technical Communications		3
Math 331, Advanced Engineering Mathematics **or** Math 327, Calculus of Several Variables	3	
Phys 312, Measurement Theory and Experiment Design	2	
Phys 314, Advanced Laboratory I		1
Phys 341, Thermodynamics and Statistical Mechanics	3	
Phys 351, Classical Mechanics		4
Phys 361, Optics	3	
Non-technical Electives*	5	
Technical Electives**		8

Senior Year	**F**		**S**
Phys 412, Advanced Lab II			1
Phys 421, Electromagnetism			4
Phys 435, Introduction to Nuclear Engineering or Phys 439, Physics of the Solid State			3
Phys 471, Quantum Mechanics	4		
Phys 490, Physics Colloquium	1	or	1
Technical Electives*	11		8

* Non-technical electives are provided to strengthen cultural growth and education in the humanities and social science areas. At least fifteen credits must be selected from the approved list found in the front of this catalog under Graduation Requirements and should be logical and purposeful selections.

** Technical electives will be selected with the assistance of the student's adviser from courses offered by the Biology, Chemistry, Computer Science, Electrical Engineering, Mathematics, Mechanical Engineering, and Physics Departments. A complete list of allowed electives is available in the Physics Department office. Any departure from this list must be approved by the Head of the Physics Department.

Requirements for Physics Major
Bachelor of Science in Physics
Flexible Emphasis

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 an adviser as emphasis courses are chosen.

Freshman Year	**F**	**S**
Chem 112-113, General Chemistry I and Lab **or** Chem 106-107, Chemistry Survey and Lab	4	
Chem 114, General Chemistry II **or** Chem 120, Elementary Organic Chemistry		3
Engl 101, Freshman Composition	3	
Math 123, Calculus I		5
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living and Lab		2
Social Science Electives*	3	3
Additional Electives**	5	

Sophomore Year	**F**	**S**
CSc 213, Introduction to Programming with FORTRAN **or** CSc 218, Introduction to C/C++/UNIX for Engineers	3	
Math 224, Calculus II	4	
Math 225, Calculus III		3
Phys 211-212, University Physics I and Lab **or** Phys 111-112, Introduction to Physics I and Lab	4	
Phys 213-214, University Physics II and lab **or** Phys 113-114, Introduction to Physics II and Lab		4
Humanities Electives*	2	4
Social Science Electives*	3	
Additional Electives**		5

Junior Year	**F**	**S**
Engl 301, Junior Composition		3
Math 321, Differential Equations	3	
Phys 312, Measurement Theory & Experiment Design	2	
Phys 331, Introduction to Modern Physics	3	
Physics Electives	6	
Additional Electives**	3	12

Senior Year	**F**		**S**
Phys 351, Classical Mechanics **or** Phys 471, Quantum Mechanics **or** Phys 421, Electromagnetism	4	or	4
Phys 490, Physics Colloquium	1	or	1
Physics Electives	4		
Additional Electives**	24		

* Non-technical electives are provided to strengthen cultural growth and education in the humanities and social science areas. At least fifteen credits must be selected from the approved list found in the front of this catalog under Graduation Requirements and should be logical and purposeful selections.

**Additional electives are to be chosen with the assistance of the student's adviser from approved areas such as: Biology, Chemistry, Computer Science, Electrical Engineering, Mathematics, Mechanical Engineering, and Physics. A complete list of suggested and allowed electives is available in the Physics Department office. Any departure from this list must be approved by the Head of the Physics Department.

Requirements for Physics Major
Bachelor of Science in Physics
Science Teaching Emphasis

Freshman Year	**F**	**S**
Bio-101-102, Biology Survey I and Lab **or** Bio 151-152, General Biology I and Lab	3	
Bio 103-104, Biology Survey II and Lab **or** Bio 153-154, General Biology II and Lab		3-4
Chem 112-113, General Chemistry I and Lab **or** Chem 106-107, Chemistry Survey and Lab	4	
Chem 114, General Chemistry II **or** Chem 120, Elementary Organic Chemistry		3
Engl 101, Freshman Composition	3	
Math 113, College Algebra & Trigonometry	5	
Math 123, Calculus I		5
SpCm 101-101A, Fundamentals of Speech and Lab		3
WEL 100, Skills for Healthy Living and Lab		2

Sophomore Year	**F**	**S**
CSc 213, Introduction to Programming with FORTRAN **or** CSc 218, Introduction to C/C++/UNIX for Engineers	3	
EdFn 375, Human Relations		3
GE 231, Technology and Society		3
Math 224, Calculus II	4	
Math 225, Calculus III		3
Phys 211-212, University Physics I and Lab **or** Phys 111-112, Introduction to Physics I and Lab	4	
Phys 213-214, University Physics II and Lab **or** Phys 113-114, Introduction to Physics II and Lab		4
Psyc 101, Introduction to Psychology **or** Soc 100, Introduction to Sociology	3	
SeEd 287, Practicum and Professional Lab		2
Humanities Electives*	3	

Junior Year	**F**	**S**
EdFn 365, Integrating Computers into the Curriculum	2	
Engl 301, Advanced Composition	3	
EPsy 302, Educational Psychology		2
Hist 368, History of the American Indians **or** Anth 421, Indians of North America		3
Math 321, Differential Equations	3	
Phys 185, Introduction to Astronomy		3
Phys 312, Measurement Theory and Experiment Design	2	
Phys 331, Introduction to Modern Physics	3	
SeEd 314, Supervised Clinical/Field Experience		1
SeEd 416, Strategies in Science Teaching	3	
SeEd 450, Teaching of Reading		3
Phys 351, Classical Mechanics, **or** Phys 421, Electromagnetism, **or** Phys 471, Quantum Mechanics	4	or 4

Senior Year	**F**	**S**
Phil 331, Philosophy of Science **or** Phil 235, Elementary Logic	3	
Phys 490, Physics Colloquium	1	
SeEd 400, Curriculum and Instruction in Secondary Schools		3
SeEd 410, Social Foundations, Management and Law		2
SeEd 420, Teaching Special Needs Students		1
SeEd 488, Supervised Teaching Internship		10
Chemistry Electives	4	or 4
Humanities Electives*	3	
Physics Electives	3	or 3
Social Science Electives*	3	

* Humanities and social science electives must be chosen to satisfy the University Core. Six credits must be taken in the area of International Studies and no more than six credits may be taken in any one discipline.

Requirements for Physics Minor: 17 credits in Physics (minimum)

Phys 111-112-113-114, Introduction to Physics I-II **and Labs or** Phys 211-212-213-214, University Physics I-II and Labs	8
Phys 331, Introduction to Modern Physics	3
Other Physics Department courses (except Phys 101)	6

Planning (Plan) Minor

Roger Sandness
Department of Geography
Scobey Hall 232
605-688-4511

Requirements for Planning Minor

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.

The Minor in Planning **(Master's Degree Level)** and teaching Planning courses are governed by a Coordinating Committee appointed by and responsible to the Vice President for Academic Affairs.

Political Science (PolS) Major and Minor

Robert Burns
Department of Political Science
Scobey Hall 308
605-688-4909

Requirements for Political Science Major
Bachelor of Arts or Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab (B.S. only)	3		
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra (or higher)	3-5	or	3-5
PolS 100, American Government **or** PolS 101, American Government Honors	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Foreign Language (B.A. only)	4		4
Biological Science Core (B.S. only)			3
PolS 100 or 200 level			3
Social Science Core	3	or	3

Sophomore Year	**F**		**S**
Foreign Language (B.A. only)	3		3
Humanities Core (B.S. only)	3		3
Physical Science Core Sequence	4		4
PolS 100 or 200 level	3		3-6
Social Science Core	3		3
Electives (consider Education, Second Major, or Minor)	3-6		3-6

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Humanities Core	3		3
PolS 300-400 level	6-9		6-9
Electives (consider Education, Second Major, or Minor)	6-9		6-9

Senior Year	**F**		**S**
PolS 300-400 level	6-9		0-9
Electives 300-400 level (consider Education, Second Major, or Minor)	6-9		6-16

Requirements for Political Science Minor: 18 cr

PolS 100, American Government **or** PolS 101, American Government Honors	3
Upper division (over 300) credits	9
Additional PolS courses	6

You may opt for a minor with a concentration in public law, public administration, or the international area by carefully choosing your courses.

Psychology (Psyc) Major and Minor

Allen R. Branum
Department of Psychology
Scobey Hall 338
605-688-4322

Requirements for Psychology Major – Psychological Services Option
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Psyc 102, Introduction to Psychology	4		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Core	3	&/or	3
Natural Science Core	4		4
Social Science Core	3	&/or	3
Electives	3	&/or	3

Sophomore Year	**F**		**S**
Psyc 202, Advanced General Psychology	3	or	3
Psyc 411, Physiological Psychology	3		
Psyc 362, Theories of Personality			3
Psyc 414, Drugs and Behavior			3
Stat 341, Statistical Methods I	3	or	3
Humanities Core (as needed)	3	&/or	3
International Studies Core (as needed)	3	&/or	3
Natural Science Core	3		3
Elective (as needed)	9	&/or	6

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Psyc 305, Simple Learning and Conditioning	3		
Psyc 315, Research Methods in Psychology			3
Psyc 358, Behavior Modification			3
Psyc 441, Social Psychology	3		
Psyc 451, Abnormal Behavior	3	or	3
Humanities Core (as needed)	3	&/or	3
International Studies Core (as needed)	3	&/or	3
Social Science Core (as needed)	3	&/or	3
Electives (as needed)	3	&/or	3

Senior Year	**F**		**S**
Psyc 356, Psychological Assessment	3		
Psyc 357, Psychological Therapies			3
Psyc 490, Psychology Seminar	1		
Psyc 495, Internship*	6	or	6
Electives (as needed)	10	&/or	10

* Six credits total of Internship required. May be taken as a 6 hour block or in smaller units over two semesters.

Requirements for Psychology Major – Preprofessional Option
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Psyc 102, Introduction to Psychology	4		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Core	3	&/or	3
Natural Science Core	4		4
Social Science Core	3	&/or	3
Electives	3	&/or	3

Sophomore Year	**F**		**S**
Psyc 202, Advanced General Psychology	3	or	3
Psyc 301, Sensation and Perception			3
Psyc 411, Physiological Psychology	3		
Psyc 362, Theories of Personality			3
Stat 341, Statistical Methods I	3	or	3
Humanities Core (as needed)	3	&/or	3
International Studies Core (as needed)	3	&/or	3
Natural Science Core	3		3
Electives (as needed)	6	&/or	9

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Psyc 302, Psychological Investigations	3		
Psyc 303, Experiments in Psychology			3
Psyc 305, Simple Learning and Conditioning	3		
Psyc 306, Human Learning and Cognitive Behavior			3
International Studies Core (as needed)	3	&/or	3
Humanities Core (as needed)	3	&/or	3
Social Science Core (as needed)	3	&/or	3
Electives (as needed)	3	&/or	3

Senior Year	**F**		**S**
Psyc 409, History and Systems of Psychology			3
Psyc 441, Social Psychology	3		
Psyc 451, Abnormal Behavior	3	or	3
Psyc 490, Psychology Seminar	1		
Psyc 492, Problems in Psychology	1-3	or	1-3
Electives (as needed)	9	&/or	9

Requirements for Psychology Major – Applied Option
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Psyc 102, Introduction to Psychology	4		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Core	3	&/or	3
Natural Science Core	4		4
Social Science Core	3	&/or	3
Electives	3	&/or	3

Sophomore Year	**F**		**S**
Stat 341, Statistical Methods I	3	or	3
Humanities Core (as needed)	3	&/or	3
International Studies Core (as needed)	3	&/or	3
Natural Science Core	3		3
Psychology Electives (as needed)	6	&/or	6
Electives (as needed)	9	&/or	9

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Psyc 315, Research Methods in Psychology			3
Humanities Core (as needed)	3	&/or	3
International Studies Core (as needed)	3	&/or	3
Psychology Electives (as needed)	6	&/or	6
Social Science Core (as needed)	3	&/or	3
Electives (as needed)	3	&/or	3

Senior Year	**F**		**S**
Psyc 490, Psychology Seminar	1		
Psychology Electives (as needed)	6		6
Electives (as needed)	10	&/or	10

Requirements for Psychology Major – Teaching Option
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Psyc 102, Introduction to Psychology	4		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Humanities Core	3	&/or	3
Natural Science Core	4		4
Social Science Core	3	&/or	3
Electives	3	&/or	3

Sophomore Year	**F**		**S**
EdFn 365, Integrating Computers into the Curriculum			2
Hist 368, History of the American Indians **or**			
Anth 421, Indians of North America	3	or	3
Psyc 202, Advanced General Psychology	3	or	3
Psyc 411, Physiological Psychology	3		
Psyc 362, Theories of Personality			3
SeEd 412, Methods of Teaching Social Studies	3	or	3
Stat 341, Statistical Methods I	3	or	3
Humanities Core (as needed)	3	&/or	3
Natural Science Core	3		3
PS I, the following courses to be taken concurrently:			
EdFn 375, Human Relations	3	or	3
SeEd 287, Practicum and Professional Lab	2	or	2

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Psyc 305, Simple Learning and Conditioning	3		
Psyc 306, Human Learning and Cognitive Behavior			3
Psyc 315, Research Methods in Psychology			3
Psyc 327, Child Psychology			3
Psyc 366, Psychological Gender Issues			3
Humanities Core (as needed)	3	&/or	3
International Studies Core (as needed)	3	&/or	3
Electives (as needed)	3	&/or	3
PS II, the following courses to be taken concurrently:			
EPsy 302, Educational Psychology	2	or	2
SeEd 314, Supervised Clinical/Field Experience	1	or	1
SeEd 450, Teaching of Reading	3	or	3

Senior Year	**F**		**S**
Psyc 441, Social Psychology	3		
Psyc 451, Abnormal Behavior	3		
Psyc 490, Psychology Seminar	1		
Psyc 492, Problems in Psychology	1-3	or	1-3
Electives (as needed)	6	&/or	6
PS III, the following courses to be taken concurrently:			
SeEd 400, Curriculum and Instruction in Secondary Schools			3
SeEd 410, Social Foundations, Management and Law			2
SeEd 420, Teaching Special Needs Students			1
SeEd 488, Supervised Teaching Internship			10

Requirements for Psychology Minor: 16 cr

Psyc 101, General Psychology **or** Psyc 102, Introduction to Psychology	3 or 4
Psyc 202, Advanced General Psychology	3
Psyc 409, History and Systems of Psychology	3
300-400 level courses	6-7

Public Recreation (Recr) Major and Minor

Linda Olson Sandness
Department of Health, Physical Education, and Recreation
Physical Education Center 253A
605-688-6163
e-mail: sandesl@mg.sdstate.edu

The Bachelor of Science degree may be earned by completing the curriculum outlined below. Programs are based on an interdisciplinary approach providing a broad, comprehensive background for leadership and administrative roles in the recreation profession. All students transferring into the Public Recreation major from within the university or from another institution will be evaluated on an individual basis by a departmental screening committee. Transfer students must have a 2.0 GPA to be accepted into the Public Recreation major program. Transfer students with less than a 2.0 GPA may petition for approval. If accepted, the transfer student will enter on probation for one semester. A Public Recreation major must have a 2.4 cumulative GPA to be recommended for the required 8-week internship experience. A minimum final grade of "C" is required in all courses taught by the HPER department.

Requirements for Pubic Recreation Major
Bachelor of Science in Arts and Science

Freshman Year	**F**		**S**
Bio-101-102, Biology Survey I and Lab **and** Bio 103-104, Biology Survey II and Lab	3		3
CSc 105, Introduction to Computers **or** CSc 130, BASIC Programming	3	or	3
Engl 101, Freshman Composition	3	or	3
HDCF 141, Individual and the Family	2	or	2
HPER 180, Introduction to HPER	3	or	3
Math 102, College Algebra	3	or	3
Mus 100, Music Appreciation	2	or	2
Recr 205, Skill Concept: Recreational Activities	1	or	1
Recr 260, Recreation Leadership			2
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Social Science Core	3	or	3

Sophomore Year	**F**		**S**
ArtH 100, Art & Design Appreciation **or** ArtH 211, Survey of World Art and Architecture **or** ArtH 212, Western Traditions in Art and Architecture	3	or	3
Chem 106-107 Chemistry Survey and Lab	4	or	4
Danc 130, Dance Fundamentals	1		
Econ 201, Microeconomics Principles **or** Econ 202, Macroeconomics Principles	3	or	3
Geog 131, Physical Geography I	4	or	4
Hist 121, History of Western Civilization to 1650 **or** Hist 122, History of Western Civilization since 1650	3	or	3
PE 135, Swimmers Swim Level 5-6	1	or	1
Recr 342, Recreation Sports Programming & Administration	2		
PR 101, Parks and Society	3		
Psyc 101, General Psychology	3	or	3
Soc 100, Introduction to Sociology	3	or	3

Junior Year	**F**		**S**
BAdm 350, Legal Environment of Business & Contracts	3	or	3
Engl 301, Advanced Composition	3	or	3
Hlth 250-250A, First Aid and Lab	2	or	2
NFS 221, Survey of Nutrition (3) **or** WL 110, Environmental Conservation (2)	2-3	or	2-3
Phil 100, Introduction to Philosophy	4	or	4
Recr 330, Therapeutic Recreation	3	(odd)	
Recr 350, Recreational Facilities and Area Design	3	(even)	
Recr 395, Practicum in Recreation	1-3	or	1-3
Recr 440, Administration of Leisure Services			3
SpCm 315, Public Speaking **or** SpCm 340, Oral Interpretation	3	or	3
Suggested Electives			

Senior Year	**F**		**S**
BAdm 360, Organization and Management	3	or	3
Econ 370, Marketing (3) **or** MCom 313, Publicity Methods (2)	2-3	or	2-3
PE 111, Canoeing/Hiking **or** PE 110, Camping Skills	1		
PolS 210, State and Local Government	3	or	3
Recr 414, Current Issues in Recreation			3
Recr 495, Recreation Internship	8-10	or	8-10
Suggested Electives			

Requirements for Public Recreation Minor: 23 cr

PE 135, Swimmer's Swim Level 5-6	1
PR 101, Parks and Society	3
HPER 180, Introduction to HPER	3
PE/Recr 205, Skill Concepts: Recreational Activity	1
Recr 260, Recreation Leadership	2
Recr 330, Therapeutic Recreation **or** Recr 350, Recreation Facilities & Area Design	3
Recr 440, Administration of Leisure Services	3

Students in the recreation minor will be counseled in selecting seven additional semester hours of course work from the suggested elective list.

Range Science (Rang) Major and Minor

Department of Animal and Range Sciences
Animal Science Complex 103A
605-688-5166

Requirements for Range Science Major
Bachelor of Science in Agriculture

Freshman Year	**F**		**S**
AS 101, Introduction to Animal Science	3	or	3
Bio-101-102, Biology Survey I and Lab	3		
Bio 103-104, Biology Survey II and Lab **or** Bot 201-202, General Botany and Lab			3
Chem 106-107 Chemistry Survey and Lab	4	or	4
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra **or** Math 113, College Algebra and Trigonometry	3or5	or	3or5
Rang 205, Introduction to Range Management	3		
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Electives and Option courses	0-2		0-2

Sophomore Year	**F**		**S**
AS 233, Applied Animal Nutrition	4	or	4
Phys 101-102, Survey of Physics and Lab **or** Phys 111-112, Introduction to Physics I and Lab	4	or	4
PS 213-213A Soils and Lab	3	or	3

Rang 210-210A, Range Plant Identification and Lab.....2
Stat 341, Statistical Methods I .....3 or 3
Humanities Electives** .....3 or 3
Electives and Option courses.....0-13 0-13

Junior Year	**F**	**S**
Bot 301-301A, Plant Systematics and Lab **or** Bot 305-305A, Agrostology and Lab	3	or 4
Engl 301, Advanced Composition	3	
Engl 379, Technical Communications		3
Social Science Elective*	3	or 3
Humanities Electives**	3	or 3
Electives and Option Courses	7-10	6-10

Senior Year	**F**	**S**
AS 490, Animal Science Senior Seminar	1	or 1
ABS 475, Integrated Natural Resource Management		3
Electives and Option Courses	16	12

* See approved list. Students taking the Technical Option are required to take Soc 240, Sociology of Rural America to fulfill this requirement.

** See approved list.

Technical Option (Resource Conservation)

AgEc 271, Farm and Ranch Management 4
AS 474-474A, Beef Cattle Production and Lab **or** AS 477-477A, Sheep and Wool Production and Lab ... 3
Bot 415-415A, Plant Ecology and Lab 4
Chem 120-121, Elementary Organic Chemistry w/lab **or** Bot 327-327A, Plant Physiology and Lab **or** Bot 421-421A, Plant Anatomy and Lab ..... 3 or 4
Econ 201, Microeconomics Principles **or** Econ 202, Macroeconomics Principles 3
Geog 487, Geographic Information Systems I **or** Geog 484, Remote Sensing **or** AST 333-333A, Soil and Water Mechanics and Lab **or** CEE 106-106A, Elementary Surveying and Lab 3
PS 310-310A, Soil Geography and Land Use Interpretation and Studio **or** PS 323, Soil Fertility and Fertilizers 3
Rang 321, Wildland Ecosystems 3
Rang 325-325A, Natural Resource Measurements and Lab 3
Rang 415, Range Improvements and Grazing Management... 3
Rang 425, Range Ecology Field Trip 3
SpCm 315, Public Speaking **or** SpCm 201, Interpersonal Communication **or** SpCm 334, Discussion 3
Natural Resource Management Electives* 5
General Electives 12-18

* Choose from WL 220, WL 411, WL 412, PR 202, PR 300, PR 401, PS 313, PS 362, or others as approved.

Science Option (Range Science/Research)

AS 474-474A, Beef Cattle Production and Lab **or** AS 477-477A, Sheep and Wool Production and Lab ... 3
Bio 371-372, Genetics and Lab **or** Bio 373, Evolution **or** Zool 301, Animal Behavior 3
Bot 327-327A, Plant Physiology and Lab* **or** Chem 361-361A, Biochemistry and Lab 4
Bot 415-415A, Plant Ecology and Lab 4
Chem 120-121, Elementary Organic Chemistry w/lab ... 4
Econ 201, Microeconomics Principles **or** Econ 202, Macroeconomics Principles 3
Math 222, Calculus for Non-Math Majors 5
PS 310-310A, Soil Geography and Land Use Interpretation and Studio **or** PS 323, Soil Fertility and Fertilizers 3
Rang 321, Wildland Ecosystems 3
Rang 325-325A, Natural Resource Measurements 3
Rang 415, Range Improvements and Grazing Management 3
Rang 425, Range Ecology Field Trip 3
Group I Elective** 3
General Electives 12-16

* If Bot 327 is selected, an additional 3 credits of Math, Chemistry, or Physics required.
** See approved list.

Business Option (Ranch/Business)

Acct 210, Principles of Accounting 3
AgEc 271-271A, Farm and Ranch Management and Lab 4
AgEc 354, Agricultural Marketing and Prices **or** Econ 370, Marketing 3
BAdm 360, Organization and Management 3
Chem 120-121, Elementary Organic Chemistry w/lab **or** Bot 327-327A, Plant Physiology and Lab **or** Bot 421-421A, Plant Anatomy and Lab ..... 3 or 4
Econ 201, Microeconomics Principles 3
Econ 202, Macroeconomics Principles..... 3
Rang 321, Wildland Ecosystems 3
Rang 325-325A, Natural Resource Measurements and Lab 3
Rang 415, Range Improvements and Grazing Management 3
Animal Science Production Electives* 6
Business Electives** 6
General Electives 13-17

* Select two (2) courses from AS 365-365A, AS 474-474A, AS 477-477A.
** See approved list.

Requirements for Range Science Minor: 18 cr
To include twelve (12) hours of Range Science courses as approved by the department.

Religion (Rel) Minor

Robert Burns
Department of Philosophy and Religion
Scobey Hall 308
605-688-4909

Requirements for Religion Minor: 15 cr

Rel 213, Introduction to Religion 3
Additional Religion Courses 12

Sociology (Soc) Major and Minor

James Satterlee
Department of Rural Sociology
Scobey Hall 224
605-688-4132

Requirements for Sociology Major – General
Bachelor of Science in Arts and Science (B.S.)
Bachelor of Arts in Arts and Science (B.A.)
(CJus minors may use any Option for their major)

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Soc 100, Introduction to Sociology	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Biological Science Electives (B.S. only)(from approved list)	3		3
Foreign Language (B.A. only)	4		4
Soc/Anth Electives			6
General Electives	6		

Sophomore Year	**F**		**S**
Foreign Language (B.A. only)	3		3
Humanities (B.S. only)(from approved list)	3	or	3
Natural Science Electives (B.A. only)(in sequence) (from approved list)	4		4
Physical Science Electives (B.S. only)(in sequence) (from approved list)	4		4
Social Science Electives (from outside major) (from approved list)	3		3
Soc/Anth Electives	3		3
General Electives (B.A. only)	3		3
General Electives (B.S. only)	6		3

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Soc 309, Research Methods I	3		
Soc 310, Research Methods II			3
Humanities Electives (B.A. only)(from approved list)	3		3
Soc/Anth Electives	3		3
General Electives (B.A. only)	6		6
General Electives (B.S. only)	9		9

Senior Year	**F**		**S**
Soc 401, Sociological Theory	3	or	3
Humanities Electives (B.S. only)(from approved list and two disciplines)	6	or	6
International Studies Electives (from approved list)	6	or	6
Soc/Anth Elective	3	or	3
General Electives (B.A. only)	17	or	17
General Electives (B.S. only)	16	or	16

Requirements for Sociology Major – Teaching+
Bachelor of Science in Arts and Science (B.S.)
Bachelor of Arts in Arts and Science (B.A.)

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Soc 100, Introduction to Sociology	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Biological Science Electives (B.S. only)(from approved list)	3		3
Foreign Language (B.A. only)	4		4
Soc/Anth Elective			3
General Electives	6		3

Sophomore Year	**F**		**S**
EdFn 375, Human Relations*	3	or	3
SeEd 287, Practicum and Professional Lab*	2	or	2
Foreign Language (B.A. only)	3		3
Humanities Elective (B.S. only)(from approved list)	3	or	3
Natural Science Electives (B.A. only)(in sequence) (from approved list)	4		4
Physical Science Electives (B.S. only)(in sequence) (from approved list)	4		4
Social Science Electives (from outside major) (from approved list)	3		3
Soc/Anth Electives	3		6

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
EPsy 302, Educational Psychology**	2	or	2
SeEd 314, Supervised Clinical/Field Experience**	1	or	1
SeEd 450, Teaching of Reading**	3	or	3
Soc 309, Research Methods I	3		
Soc 310, Research Methods II			3
Humanities Elective (B.A. only)(from approved list other than foreign language)	3		
International Studies Electives (from approved list)	3	or	3
Soc/Anth Electives	3		6
General Electives (B.S. only)	3	or	3
General Electives (B.A. only)	1	or	1

Senior Year	**F**		**S**
EdFn 365, Integrating Computers into the Curriculum	2		
SeEd 400, Curriculum and Instruction in Secondary Schools***			3
SeEd 410, Social Foundations, Management and Law***			2
SeEd 412, Methods of Teaching Social Studies	3		
SeEd 420, Teaching Special Needs Students***			1
SeEd 488, Supervised Teaching Internship***			10
Soc 401, Sociological Theory	3		
Humanities Electives (B.A. only)(from approved list other than foreign language)	3		
Humanities Electives (B.S. only)(from approved list and two disciplines)	6		
International Studies Electives (from approved list)	3		

* Must be in same semester.

** Must be in same semester.

*** Must be in same semester; no other courses this semester.

\+ Must have GPA of 2.2 to enter the program.

Requirements for Sociology Major – Social Work (SDSU/USD Cooperative Program)+
Bachelor of Science in Arts and Science (B.S.)
Bachelor of Arts in Arts and Science (B.A.)

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Soc 100, Introduction to Sociology	3	or	3
Soc 270, Introduction to Social Work			3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Biological Science Electives (B.S. only)(from approved list)	3		3

Foreign Language (B.A. only)	4		4
Social Science Electives – Support Courses	3		3

Sophomore Year	**F**		**S**
Engl 210, Introduction to Literature	3		
Engl 301, Advanced Composition			3
Foreign Language (B.A. only)	3		3
Humanities Elective (B.S. only)(from approved list)	3	or	3
Natural Science Electives (B.A. only)(in sequence) (from approved list)	4		4
Physical Science Electives (B.S. only)(in sequence) (from approved list)	4		4
Social Science Electives (from outside major) (from approved list)	3		3

Junior Year (Fall Semester Only)	**F**	**S**
Soc 370, Social Policy	3	
Humanities Elective (B.A. only)(from approved list)	3	
Humanities Elective (B.S. only)(from approved list and two disciplines)	3	
Soc Electives – Support Courses	6	
General Elective	3	

Transfer to University of South Dakota Program for spring semester and senior year.

Senior Year

Enrolled in USD Program

+ Must have GPA of 2.2 to enter the program.

Requirements for Sociology Major – Human Services+
Bachelor of Science in Arts and Science (B.S.)
Bachelor of Arts in Arts and Science (B.A.)

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Biological Science Electives (B.S. only)(from approved list)	3		3
Foreign Language (B.A. only)	4		4
Soc/Anth Elective			3
General Electives	3		3

Sophomore Year	**F**		**S**
Soc 270, Introduction to Social Work	3		
Foreign Language (B.A. only)	3		3
Humanities Elective (B.S. only)(from approved list)	3	or	3
Physical Science Electives (B.S. only)(in sequence) (from approved list)	4		4
Natural Science Electives (B.A. only)(in sequence) (from approved list)	4		4
Social Science Electives (from outside major) (from approved list)	3		3
Soc/Anth Elective			3
General Electives (B.S. only)	3		3
General Electives (B.A. only)	6		6

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Soc 309, Research Methods I	3		
Soc 310, Research Methods II			3
Soc 370, Social Policy	3		
Humanities Electives (B.A. only) (from approved list and two disciplines)	3		3
Soc/Anth Electives	3		3
General Electives	6		6

Senior Year	**F**		**S**
Soc 401, Sociological Theory	3	or	3
Soc 471, Social Work Skills & Methods I			3
Soc 495, Internship in Sociology (often taken during summer)	12	or	12
Humanities Electives (B.S. only)(from approved list and two disciplines)	6	or	6
International Studies Electives (B.S. only)(from approved list)	6	or	6
General Electives (B.A. only)	5	or	5
General Electives (B.S. only)	7	or	7

+ Must have GPA of 2.2 to enter the program.

Requirements for Sociology Major – Personnel Services+
Bachelor of Science in Arts and Science (B.S.)
Bachelor of Arts in Arts and Science (B.A.)

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3	or	3
Soc 100, Introduction to Sociology	3		
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Biological Science Electives (B.S. only)(from approved list)	3		3
Foreign Language (B.A. only)	4		4
Soc/Anth Elective			6
General Electives	6		

Sophomore Year	**F**		**S**
Acct 210, Principles of Accounting I	3		
Foreign Language (B.A. only)	3		3
Humanities Elective (B.S. only)(from approved list)	3	or	3
Physical Science Electives (B.S. only)(in sequence) (from approved list)	4		4
Natural Science Electives (B.A. only)(in sequence) (from approved list)	4		4
Social Science Electives (from outside major) (from approved list)	3		3
Soc/Anth Electives	3		3
General Electives Outside Sociology (from approved list – see adviser)	3		3

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Soc 309, Research Methods I	3		
Soc 310, Research Methods II			3
Soc 353, Sociology of Work	3		
Soc 453, Industrial Sociology			3
Humanities Elective (B.A. only)(from approved list)	3		
BAdm/Econ Elective	3		
Soc/Anth Elective			3
General Electives Outside of Sociology (from approved list – see adviser)	3		6

Senior Year	**F**		**S**
Soc 401, Sociological Theory	3	or	3
Soc 495, Internship in Sociology (strongly recommended)	12	or	12
Humanities Electives (B.S. only)(from approved list and two disciplines)	6	or	6
International Studies Electives (from approved list)	6	or	6

General Elective (B.A. only)	6	or	6
General Elective (B.S. only)	7	or	7

+ Must have GPA of 2.2 to enter the program.

Requirements for Sociology Minor: 18 cr

Soc 100, Introduction to Sociology	3
300 level or above	6
Additional Soc or Anth credits	9

It is recommended that students declare minor prior to junior year. Register with department.

Spanish (Span) Major and Minor

Karen Cárdenas
Department of Foreign Languages
NFA 121
605-688-5101

The major in Spanish requires a minimum of 36 credit hours in Spanish. The course work should include 101, 102, 201, 202, 311, 312, and 18 credit hours of upper-division (300-400) classes. Upper-division course work must include a minimum of four credit hours in literature, four credit hours in civilization and culture, and two credit hours in advanced language study.

The following schedules are very general. Please contact a Spanish adviser for more specific information.

Requirements for Spanish Major
Bachelor of Arts in Arts and Science

Freshman Year	**F**		**S**
Engl 101, Freshman Composition	3	or	3
Span 101-102, Introductory Spanish I-II*	4	and	4
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living and Lab	2	or	2
Mathematics Core	3	or	3
Natural Science Core	3-4	and	3-4
Social Science Core	3	or	3
Electives			

Sophomore Year	**F**		**S**
Span 201-202, Intermediate Spanish I-II	3	and	3
Span 311-312, Spanish Composition and Conversation	2	and	2
Humanities Core	3	and	3
Social Science Core	3	and	3
Electives (Second major/minor)			

Junior Year	**F**		**S**
Engl 301, Advanced Composition	3	or	3
Spanish course work (300-400 level)	3-6	and	3-6
Social Science Core	3	or	3
Electives			

Senior Year	**F**		**S**
Spanish course work (300-400 level)	3-6	and	3-6
Electives			

Requirements for Spanish Minor: 20 cr

Span 101-102*, Introductory Spanish I-II	8
Span 201-202, Intermediate Spanish I-II	6
Span 311-312, Spanish Composition and Conversation	4
Span 300-400 level Electives	2

* Students who have a background in foreign 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, completion of appropriate paperwork, and the payment of the established fee.

Teaching Minors

Kathryn Penrod
College of Education and Counseling
Wenona Hall 201
605-688-6258
e-mail: penrodk@ur.sdstate.edu

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 Dean of the College of Education and Counseling who is the minor adviser. These minors are listed below:

Social Science Minor

The minimum requirement for a Social Science Minor at South Dakota State University is 24 credit hours. The student must have an emphasis in two of the three following subject areas:

Geog 200, Geog 210 – Geography, elective	9
Hist 151, Hist 152 – U.S. History, elective	8
PolS 100, PolS 102, PolS 210 – American Government	9

A student may choose the remaining 8 credits from one of the following subject areas or the remaining third area from above:

Econ 201, Econ 202 – Economics, elective
Hist 121, Hist 122 – History of Western Civilization, elective
Psyc 202 – Psychology, elective
Soc 100, Soc 150 – Sociology elective

Language Arts Minor

Engl 101, & 301, Freshman & Advanced Composition	6
English electives	7
MCom 210-210A, Newswriting & Reporting and Studio	3
Journalism elective	2
SpCm 101-101A, Fundamentals of Speech and Lab	3
Speech electives	3

General Science Minor*

Bio 101-102, 103-104, Biology Survey I-II and Labs	6
Chem 106-107 & 120-121 **or** 112-113 & 114-115, General Chemistry and Labs	7
Phys 101-102 & 185 **or** 111-112 & 113-114, Introductory Physics	7
Electives	4

Any physical geography course:
AE 353-353A, Physical Climatology and Meteorology and Lab
Bio 353, Introduction to Oceanography
PS 243-244, Geology and Lab
PS 305-305A, General Entomology and Lab
WL 110, Environmental Conservation
Zool 221-222, Anatomy and Lab

Biological Science Minor*

Bio 101-102, 103-104, Biology Survey I-II and Labs	6
Bio 311, Principles of Ecology	3
Bio 343-343A, Cell Biology and Lab	3
Bio 371-372, Genetics and Lab	3
Electives in Botany, Zoology, Biology, Microbiology, or Wildlife	9

Physical Science Minor*

Chem 112-113, 114-115, General Chemistry and Labs	8
Chem 120-121, Elementary Organic Chemistry and Lab	3-4
Phys 111-112, 113-114, Introduction to Physics I-II and Labs	8
Phys 331, Introduction to Modern Physics	3
Physics elective	1

Strategies in Science Teaching, SeEd 416 strongly recommended as an elective for all science teaching minors.

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 and Cultural Affairs. At the time of this writing those requirements are still undergoing revision. Please contact the department head or certification officer to obtain the latest information regarding certification requirements.

Veterinary Science (Vet)

David Zeman
Department of Veterinary Science
Animal Disease Research 105
605-688-5172

Suggested Pre-Veterinary Medicine Plan of Study

Freshman Year	**F**		**S**
Bio 151-152, General Biology I and Lab **and** Bio 153-154, General Biology II and Lab	4		4
Chem 112-113, General Chemistry I and Lab **and** Chem 114-115, General Chemistry II and Lab	4		4
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra **or** Math 113, College Algebra & Trigonometry **or** Math 120, Trigonometry **or** Math 222, Calculus for Non-Math Majors			3-5
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
Wel 100, Skills for Healthy Living and Lab	2	or	2

Sophomore Year	**F**		**S**
Chem 120-121, Elementary Organic Chemistry and Lab	4	or	4
Micr 231-232, General Microbiology and Lab			4
Phys 111-112, Introduction to Physics I and Lab **and** Phys 113-114, Introduction to Physics II and Lab	4		4
Electives	8		5

Junior Year	**F**		**S**
Bio 371-372, Genetics and Lab	4	or	4
Chem 361-361A, Biochemistry and Lab	4		
Chem 461-462, Intermediate Biochemistry and Lab			3
Engl 301, Advanced Composition	3	or	3
Electives	6-10		7-11

Senior Year
Electives
Major requirements
Specific requirements for various veterinary colleges

This curriculum meets the pre-veterinary requirements of many Colleges of Veterinary Medicine. The student and his or her adviser may alter the pre-veterinary curriculum to meet specific requirements of certain colleges.

Vocational Technical Education (VTE) Major

Dann Husmann
Department of Undergraduate Teacher Education
Wenona Hall 110
605-688-6798
e-mail: husmannd@ur.sdstate.edu
www:sdstate.edu/ed18/http/index.html

Requirements for Vocational Technical Education Major
Bachelor of Science in Education

Individuals enrolled in the VTE major are often under a demanding schedule. Typically participants are scattered across the state and find it challenging to take a significant amount of course work in a particular semester. Traditional freshman/sophomore/junior and senior years at college are a remote possibility due to full-time employment, scheduling, and location. Individuals are encouraged to contact a person in the VTE program at SDSU to begin drafting a schedule and timeline needed to complete an undergraduate program. There is a five year schedule of the required courses in VTE and individuals are asked to visit the VTE homepage for the latest on the course rotations. 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 undergraduate curriculum in VTE, along with additional educational information, can be found at the VTE homepage at the address listed above.

Wildlife and Fisheries Sciences (WL) Major

Charles Scalet
Department of Wildlife and Fisheries Sciences
Northern Plains Biostress Laboratory 138C
605-688-6121

Requirements for Wildlife and Fisheries Sciences Major
Bachelor of Science in Biological Science

Freshman Year	**F**		**S**
Bio 101-102, Biology Survey I and Lab (or Bio 151-152)	3-4		
Bio 103-104, Biology Survey II and Lab (or Bio 153-154)			3-4
Chem 112-113, General Chemistry I and Lab			4
Engl 101, Freshman Composition	3	or	3
Math 102, College Algebra	3		
Soc 100, Introduction to Sociology	3	or	3
SpCm 101-101A, Fundamentals of Speech and Lab	3	or	3
WEL 100, Skills for Healthy Living	2	or	2
WL 220, Introduction to Wildlife and Fisheries Management	2		
Humanities Elective	3	or	3

Sophomore Year	**F**		**S**
Bio 311, Principles of Ecology	3		
Chem 120-121, Elementary Organic Chemistry and Lab	4		
Econ 202, Macroeconomics Principles (or Econ 201)	3	or	3
Computer Science Elective	3	or	3
Math 222, Calculus for Non-Math Majors (or Math 123)	5	or	5
WL 230, Wildlife and Fisheries Techniques			3
WL 490, Undergraduate Seminar	1		
Chemistry Elective (Chem 232, 361, or 380)			4
Humanities Elective	3	or	3
Social Science Elective	3	or	3

Junior Year	F		S
Engl 301, Advanced Composition	3	or	3
Stat 341, Statistical Methods I	3	or	3
WL 363-363A, Ornithology and Lab			4
WL 367-367A, Ichthyology and Lab	3		
WL 412-412A, Principles of Fisheries Management and Lab			3
Zool 355-355A, Mammalogy and Lab	3		
Botany Elective (Bot 201-202, 301-301A, 305-305A, 415-415A, or PR 303)	3-4	or	3-4
Phys 101-102, Survey of Physics (or Phy 111-112)	4	or	4
Communications Elective (SpCm 201, 315, or 334)	3	or	3

Senior Year	F		S
ABS 475-475A, Integrated Natural Resource Management and Lab			3
Bio 371, Genetics	3	or	3
WL 411-411A, Principles of Wildlife Management & Lab	4		
WL 430-430A, Human Dimensions in Wildlife and Fisheries and Lab			3
WL 490, Undergraduate Seminar			1
Botany Elective (Bot 201-202, 301-301A, 305-305A, 415-415A, or PR 303)	3-4	or	3-4
Communications Elective (Engl 379, MCom 210-210A, or MCom 313)	2-3	or	2-3
Biological Science Elective*	3-4	or	3-4

Remaining hours of 128 hour requirement are electives.

* List of Biological Science Electives from which to elect one course.
- Biol 343-343A, Cell Biology and Lab
- Biol 373, Evolution
- Bot 327-327A, Plant Physiology and Lab
- Micr 231-232, General Microbiology and Lab
- PS 305-305A, General Entomology and Lab
- Vet 223-223A, Anatomy and Physiology of Livestock and Lab
- Vet 403, Animal Diseases and their Control
- WL 370-370A, Limnology and Lab
- Zool 325-325A, Mammalian Physiology and Lab
- Zool 357-358, Invertebrate Zoology and Lab
- Zool 383-383A, Embryology and Lab
- Zool 441-441A, Vertebrate Histology and Lab
- Zool 467-467A, Parasitology and Lab

Women's Studies (WmSt) Minor

Virginia Norris
Department of Psychology
Scobey Hall 325
605-688-4322

Requirements for Women's Studies Minor: 18 cr

WmSt 101, Introduction to Women's Studies	3
WmSt 492, Special Problems in Women's Studies	3
Choose one course from the following:	3
Hist 349, Women in History	
PolS 305, Women and Politics	
Psyc 366, Psychological Gender Issues	
Soc 383, Sociology of Sex Roles	
Choose one course from the following*:	3
Engl 248, Women in Literature	
Rel 331, Feminism and Theology	
Elective Courses	6
Courses can be selected from the required list above and from the following:	
CA 340, Work, Time, and Energy Decisions	
HDCF 250, The Development of Human Sexuality	
Soc 325, Domestic Violence	
WmSt 300, Topics in Women's Studies	

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 Coordinator.

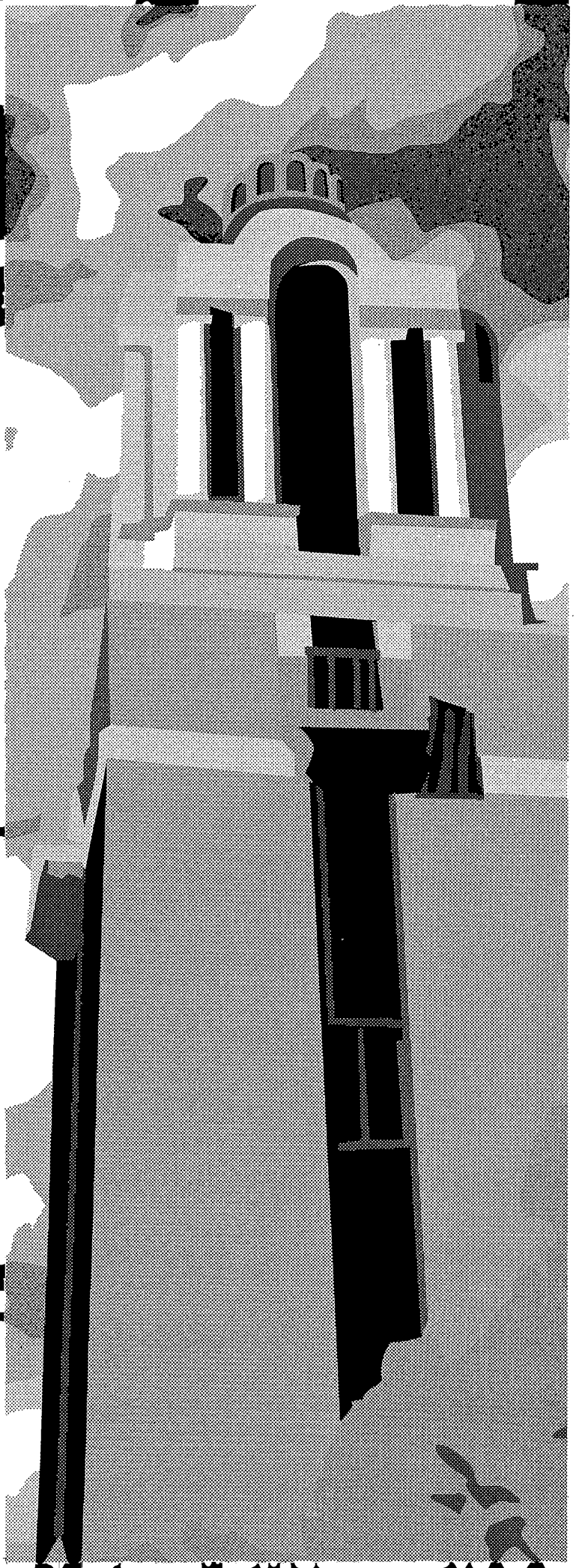
* Appropriate courses in the Humanities and Fine Arts may be substituted with the approval of the Coordinator.

Zoology (Zool) Minor

Charles McMullen
Department of Biology and Microbiology
Agricultural Hall 306
605-688-6141

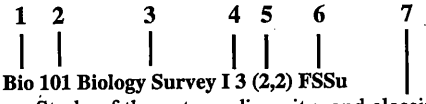
Requirements for Zoology Minor: 16 cr

The minor in Zoology consists of Bio 101-102 or 151-152, and additional courses with a Zool prefix for a total of at least 16 credits. Two courses must be at the 300 level or above.



Curriculum Entries

Course Descriptions



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;
   1 Freshman;
   2 Sophomore;
   3 Junior;
   4 Senior.
3. Name of the course.
4. Number of credits assigned to the course. One credit is usually interpreted as one hour of class work per week or as two to three hours of lab work per week.
5. The first number inside the parenthesis indicates the number of recitation/lecture hours per week and the second number is the number of laboratory hours per week that the course requires.
6. Semesters in which the course is taught. F Fall; S Spring; Su Summer.
7. 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)
Open to senior students for **graduate credit** under the following conditions:
Within 15 credits of completing Bachelor's degree;
Have an overall grade point average of 2.5 or higher, or a Junior-Senior grade point average of 3.0 or higher;
Enroll for no more than 18 credits (9 credits during Summer Term);
The course or courses are not required for the Bachelor's degree.
700-799 Graduate level (graduate students only)
800-899 Doctoral and post-doctoral level (doctoral and post-doctoral students only)

Experimental Courses

Courses at the 100-800 levels ending in 98, or 99 are experimental and may be active for two years from the date of the first offering, at which time they end or must become permanent courses.

Colleges, Departments and Program Abbreviations

ABS, Agriculture & Biological Sciences
Acct, Accounting
AE, Agricultural Engineering
AgEc, Agricultural Economics
AgEd, Agricultural Education
AgEx, Agricultural Extension
AHEd, Adult Higher Education
Air, Aerospace Studies
AM, Apparel Merchandising
Anth, Anthropology
Art, Art
ArtD, Art Design
ArtE, Art Education
ArtH, Art History
AS, Animal Science
AST, Agricultural Systems Technology
AT, Athletic Training
Avia, Aviation
BAdm, Business Administration
Bio, Biology
BioS, Biological Sciences
Bot, Botany
CA, Consumer Affairs
CEE, Civil and Environmental Engineering
Chem, Chemistry
Chin, Chinese
CHRD, Counseling and Human Resource Development
CJus, Criminal Justice
CM, Construction Management
CSc, Computer Science
CScA, Computer Science Applications
CST, Communication Studies and Theatre
Danc, Dance
DCom, Communication Disorders
DS, Dairy Science
Econ, Economics
EdAd, Educational Administration
EdER, Education Evaluation & Research
EdFn, Educational Foundations
EE, Electrical Engineering
EG, Engineering Graphics
ElEd, Elementary Education
EM, Engineering Mechanics
Engl, English
Ent, Entomology
EnvM, Environmental Management
EPsy, Educational Psychology
ES, Engineering Shops

ET, Electronics Engineering Technology
EurS, European Studies
FCS, Family and Consumer Sciences
FCSE, Family and Consumer Sciences Education
FL, Foreign Languages
Fren, French
GCom, General Communication
GE, General Engineering
Geog, Geography
Germ, German
Gero, Gerontology
GIS, Geographic Information Systems
HDCF, Human Development, Child & Family Studies
Hist, History
Hlth, Health
Ho, Horticulture
Hon, Honors
HPER, Health, Physical Education & Recreation
HSc, Health Science
ID, Interior Design
Japn, Japanese
La, Landscape Design
LAAS, Latin American Area Studies
Lak, Lakota
Ling, Linguistics
Math, Mathematics
MCom, Mass Communication
ME, Mechanical Engineering
MedT, Medical Technology
MET, Manufacturing Engineering Technology
Micr, Microbiology
Mil, Military Science
MuAp, Music Applied
MuEn, Music Ensemble
Mus, Music
NFS, Nutrition & Food Science
Nurs, Nursing
PE, Physical Education
Pha, Pharmacy
Phil, Philosophy
Phys, Physics
Plan, Planning
PolS, Political Science
PR, Park Management
Prtg, Printing
PS, Plant Science
Psyc, Psychology
PT, Physical Therapy
Rang, Range Science
Recr, Recreation
Rel, Religion
RTVF, Radio, Television & Film
Russ, Russian
SeEd, Secondary Education
Soc, Sociology
Span, Spanish
SpCm, Speech Communication
Stat, Statistics
Thea, Theater
Vet, Veterinary Science
VTE, Vocational Technical Education
Wel, Wellness
WL, Wildlife
WmSt, Women's Studies
Zool, Zoology

Miscellaneous Abbreviations

admin, administration
adv, advanced
Ag, Agriculture
Am, American
AV, Audio-Visual
AY, alternate years
&, and
CAI, Computer Assisted Instruction
chem, chemistry
comp, composition
Conc, Concurrent
CRN, 5 digit course reference number
dev, development
econ, economics
ed, educational
F, fall semester
fr, freshman
fund, fundamentals
gen, general
Hum, Humanities
intro, introduction
jr, junior
prin, principles
L, or lab, laboratory
R, recitation (lecture)
S, spring semester
Schd, Schedule Type
Sec, Section
S.D., or SD, South Dakota
soph, sophomore
sr, senior
Su, summer term
TBA, time and/or credit to be arranged
U.S., or US, United States

Course Types

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.

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.

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.

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.

Discussion/Recitation

A course, or a section of a larger course, designed for group discussion or student recitation.

Ensemble

Large group musical performance courses, meaning group of more than 10 performers. Includes: orchestra, bands, and choruses.

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.

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.

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.

Laboratory

Courses meeting in a defined physical setting (i.e. laboratory) for the purpose of the application of methods and principles of a discipline.

Lecture

Faculty members give oral presentations of facts, principles, context, or interpretation. Instruction takes place in a traditional classroom setting.

Modified Physical Education Activity

A course type limited to accommodate students with physical disabilities where numbers are very limited.

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.

Private Instruction

The courses involve individual instruction. One-to-one demonstration, performance critique, music, fine arts or performing arts, or flight instruction are examples.

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.

Special Topics

A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors.

Studio Course/Small Group Instruction/Small Ensemble

Course involves the demonstration and application of design and theory in a defined physical setting (i.e., studio). The Studio Course is characterized by significant one-on-one student/instructor interaction. Students explore and experiment under the guidance of an instructor.

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.

Tracking Courses

This course type is used to track students for zero credit hours.

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.

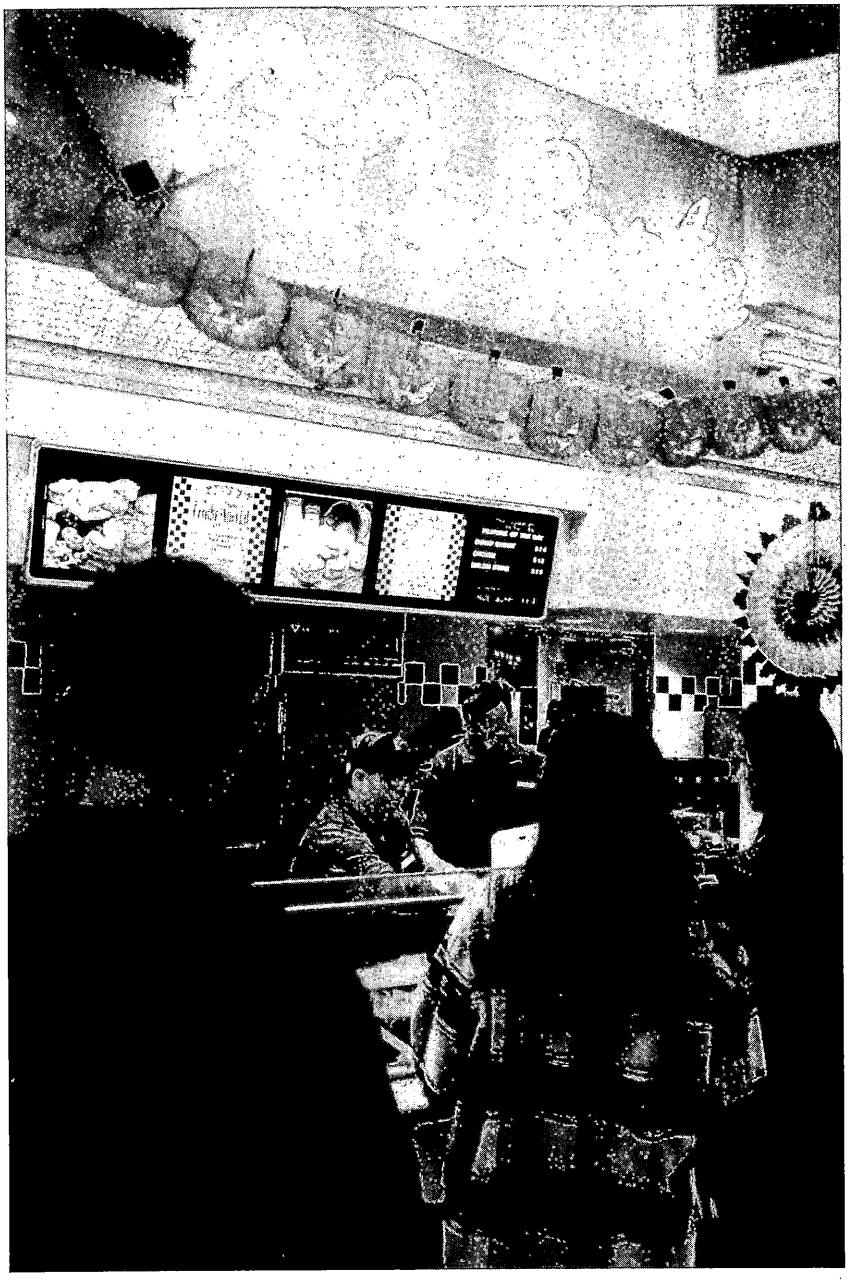
Workshop

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.

Other Important Definitions

Multiple-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.

Crosslisted – A crosslisted course is a course which carries more than one course prefix (i.e., Hist, PolS, Geog) with credit being offered under any one of the listed prefixes at the same time. Students choose to take the course under the prefix that is more beneficial to their course of study. All students meet at the same time in the same place, with the same instructor(s). A crosslisted course may also be multi-numbered.



ABS (Agriculture & Biological Sciences)

Undergraduate Course

ABS 475 Integrated Natural Resource Management .....3 S
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. P, dependent on major.

ABS 475A Integrated Natural Resource Management Lab 0

Acct (Accounting)

Undergraduate Courses

Acct 210 Principles of Accounting I .....3 FS
Basic accounting cycle; financial statements; asset valuation; accounting controls and concepts, payrolls, payroll taxes and an introduction to the corporate capital accounts. Fundamental procedure and accounting theory.

Acct 211 Principles of Accounting II .....3 FS
Accounting for partnerships and corporations; cost accounting, budgeting, and other accounting reports for management, creditors, and investors. P, 210.

Acct 310 Intermediate Accounting I .....3 F
Financial accounting relating to preparation and analysis of financial statements, corporate accounting, current and fixed assets, and working capital items. P, 211.

Acct 311 Intermediate Accounting II .....3 S
Financial accounting relating to tangible properties, investments, liabilities, stockholders' equity, statements from incomplete records, tax allocation, price level impacts. P, 310.

Acct 320 Cost Accounting .....3 S
Cost accounting for planning and control. Budgets, standards, and profitability analysis. Job-order, process, and standard accounting systems. P, 211.

Acct 430 Income Tax Accounting .....3 F
Internal Revenue Service Codes and Regulations for individuals, including all supporting schedules. P, 211.

Acct 450 Auditing 3
The theory and practice of auditing. Topics covered include generally accepted auditing standards, ethical responsibilities and legal liabilities of auditors, internal control, audit evidence, audit programs, preparation of working papers and the audit report. P, Acct 311, or consent.

Acct 493 Special Topics 1-4
Organized by an instructor in consultation with his or her department head and a group of students. A medium through which a specific topic can be pursued. Normally experimental and may be a "one shot deal" for a particular semester and the unique group of students. Maximum: 4 credit hours per semester, 7 credit hours per degree.

AE (Agricultural and Biosystems Engineering)

Undergraduate Courses

AE 122 Introduction to Agricultural and Biological Engr. .....2 F
An introduction to applications of engineering to biological systems. Emphasis is on engineering with plant, animal, and soil based systems and on the properties of biological materials.

AE 311 Design Project I .....1 F
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. Junior standing.

AE 314 Ag Power & Machines .....4 F
Analysis of factors affecting field machines and tractor performance, engine design, transmissions, traction, hitches, hydraulic systems, economics. P, EM 222, concurrent with ME 314.

AE 314A Ag Power & Machines Lab 0

AE 321 Design Project II .....1 S
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. Junior standing.

AE 324 Ag Structures and Indoor Environment .....4 S
Construction materials and agricultural structures design using wood, plywood, and connectors. Agricultural environmental fundamentals, modification, control and ventilation. Environmental requirements for livestock and livestock housing systems design. P, ME 314 and EM 321 concurrent.

AE 324A Ag Structures and Indoor Environment Lab 0

AE 343 Physical Properties of Biological Materials .....3 F
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.

AE 343A Physical Properties of Biological Materials Lab 0

AE 353 Physical Climatology & Meteorology .....3 FS
Physical description of daily weather changes and circulation of the atmosphere. Long time means and variation from means of climatological parameters. Application of meteorological and climatological principles to various problem areas.

AE 353A Physical Climatology & Meteorology Lab 0

AE 372 Microcomputer Applications in Agricultural Engineering .....2 S
Data collection, computer aided engineering and processing using a microcomputer based system. Performing monitoring and controlling functions for electrical and electronic equipment using microcomputer technology. Offered first half of semester. P, CSc 218.

AE 372A Microcomputer Applications in Agricultural Engineering Lab 0

AE 411 Design Project III .....2 F
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. Senior standing.

AE 422 Design Project IV .....2 S
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. Senior standing.

AE 434 Soil & Water Engineering .....4 F
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. P, EM 331.

AE 434A Soil & Water Engineering Lab 0

AE 463 Applied Instrumentation .....3 F
The generalized measurement system consisting of the detector-transducer, intermediate modifying stage and terminating stage is considered. Applied use of oscilloscopes, oscillographs, potentiometers, operational amplifiers, x-y plotters and other basic instruments. Electronic instrumentation and microprocessor based data acquisition systems. P, EE 305.

AE 463A Applied Instrumentation Lab 0

AE 490 Seminar & Inspection Trip .....1 F
Review of current technical literature in agricultural and biosystems engineering. Oral and written reports and discussion. P, senior standing.

AE 492 Special Problems in Ag Engineering .....1-3 FSSu
The solution must be written up in a final report. P, must have approval of the adviser and head of department.(on demand) Individual or group study. P, consent.

AE 493 Special Topics 1-4

AE 494-495-496 Cooperative Education/Internship/Field Experience .....1-6 FSSu

Planned and supervised professional experience related to agricultural and biosystems engineering which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

AE 444-544 Unit Operations of Biological Materials Processing .....4 S
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. P, senior standing or consent.

AE 444A-544A Unit Operations of Biological Materials Processing Lab 0

AE 454-554 Advanced Unit Operations in Food/Biomaterials Processing 4
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. P, senior standing or consent.

AE 454A-554A Advanced Unit Operations in Food/Biomaterials Processing Lab 0

Graduate Courses

AE 503 Energy & Environment 3
AE 512 Advanced Agricultural Tractors & Machines 2
AE 522 Bio-environmental Engineering 2
AE 533 Advanced Irrigation Engineering 3
AE 533A Advanced Irrigation Engineering Lab 0
AE 700-701 Seminar 0-1
AE 732 Advanced Hydrology in Agriculture 2
AE 733 Ground Water Engineering in Ag 3
AE 752 Theoretical Micro-Climatology 2
AE 763 Instrumentation 3
AE 763A Instrumentation Lab 0
AE 770 Special Problems in Ag Engineering .....(1-2 on demand)
AE 771 Graduate Seminar 1
AE 772 Similitude 2
AE 772A Similitude Lab.....0
AE 773 Programming Agricultural Systems 3
AE 773A Programming Agricultural Systems Lab 0
AE 790 Thesis .....1-7 FSSu
AE 791 Thesis Sustaining .....0 FSSu
AE 792 Research Report/Design Paper .....1-2 FSSu (on demand)
AE 793 Engineering Research/Design Paper Sustaining 0
AE 795 Special Topics .....1-3 (on demand)
AE 797 Research 1-9
AE 890 Dissertation, Ph.D. 1-12
AE 891 Dissertation, Ph.D. Sustaining 0

AEWR (Atmospheric, Environmental, and Water Resources)

Graduate Courses

AEWR 793 Research Seminar.....1
AEWR 890 Dissertation Ph.D. 1-12
AEWR 891 Dissertation Ph.D. Sustaining 0

AgEc (Agricultural Economics)

Undergraduate Courses

AgEc 271 Farm & Ranch Management .....4 FS
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. P, Math 102.

AgEc 271A Farm & Ranch Management Lab 0

AgEc 352 Agricultural Law .....3 F
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. P, BAdm 350, junior standing.

AgEc 354 Agricultural Marketing and Prices .....3 F (even years), S
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. P, Econ 201 or 202.

AgEc 373 Rural Real Estate Appraisal .....3 F
Principles and practices of rural real estate appraisal. Principles of soils valuation and their application for farmland appraisal. Cost, market data and income approaches to farmland and building appraisal. Tax, loan and other specialized rural appraisal procedures. Half-day field trips to area farms are required. P, 271 and PS 213. Crosslisted with PS 373.

AgEc 373A Rural Real Estate Appraisal Lab 0

AgEc 421 Production Economics .....3 S
Input-output analysis involving single and multiple inputs and products; types of production functions; technological changes; short run vs. long run supply; returns to scale and size; decision theory. P, Econ 301.

AgEc 454 Economics of Grain and Livestock Marketing .....3 F
Advanced grain and livestock marketing principles in U.S. and World Markets. Marketing management alternatives for producers, processors and handlers. Cooperative's role in domestic and international marketing. P, 354 or AS 285 with Econ 201 recommended.

AgEc 478 Agricultural Finance .....3 F
Capital and credit needs in agriculture; principles and problems in extending and using credit; developing information flows, capital budgeting, cost of capital, the role of financial intermediaries; control of land and depreciable assets; application of financial software packages in agriculture. P, 271, Econ 201, Acct 210, with Acct 211 recommended.

AgEc 478A Agricultural Finance Lab.....0

AgEc 479 Agricultural Policy .....3 FS
Economic policies affecting agricultural prosperity, with special emphasis on farm programs, food assistance programs, agricultural trade, finance, bargaining and other institutional forces affecting agriculture and agri-business. Implication of agricultural policy alternatives on people living in rural and urban areas. P, Econ 201, 202.

AgEc 492 Agricultural Economics Problems .....1-3 FS
Individual study of special topics or problems of concern to agriculture and agri-business. May involve case studies, special readings, and reports. Maximum of 4 hours. P, consent.

AgEc 493 Special Topics 1-4
Organized by an instructor in consultation with his or her department head and a group of students. A medium through which a specific topic can be pursued. Normally experimental and may be a "one shot deal" for a particular semester and the unique group of students. Maximum: 4 credit hours per semester, 7 credit hours per degree.

Dual Numbered Courses

AgEc 471-571 Advanced Farm & Ranch Management .....3 S
Leasing arrangements, capital investment, computerized accounting and budgeting. Linear programming as a tool for planning and organizing the farm business. P, senior standing, 271, Econ 301, or consent.

Graduate Courses

AgEc 621 Advanced Production Economics.....3
AgEc 630 Advanced Agricultural Marketing & Prices 3
AgEc 690 Special Problems .....1-3 FS

AgEd (Agricultural Education)

Undergraduate Courses

AgEd 404 Program Planning in AgEd .....4 FS
FFA, Adult Education, and supervised occupational experience programs; policy development.
AgEd 434 Special Methods in AgEd .....3 FS
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. P, PSII - Professional Semester II, (EPsy 302, SeEd 450) VTE 287 and 405.
AgEd 454 Teaching Ag Mech .....2 FS
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. P, senior in Agricultural Education. Offered first six weeks of semester.
AgEd 454A Teaching Ag Mech Lab 0
AgEd 475 Supervised Teaching Internship 10
Assigned in the individual student's major, or if appropriate, 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. P, Professional Semester I courses, Professional Semester II courses, acceptance and admittance into the Teaching Internship Program.
AgEd 492 Problems In AgEd 1-3
Selected studies and activities to meet the needs of undergraduate students. Written permission of Department Head required.
AgEd 494-495-496 Cooperative Education/Internship/ Field Experience .....1-12 FSSu
Planned and supervised professional experience related to Agricultural Education which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator. Written permission of Department Head required.

Dual Numbered Courses

AgEd 406-506 Problems .....1-3 FSSu
Directed reading and research in selected agricultural education topics.

Graduate Courses

AgEd 605 Seminar .....1-2 FSSu
AgEd 706 Adult Ed in Ag .....2 Su
AgEd 707 Supervised Occupational Experiences & Student Groups in .....2 Su
AgEd 776 Curriculum in AgEd .....2 Su
AgEd 792 Research Problems in AgEd .....2 FSSu

AHEd (Adult Higher Education)

Undergraduate Course

AHEd 496 Field Practice Training in Extension .....2-5 FSSu
Available to a limited number of majors in agriculture or home economics interested in Extension work who have completed the junior year. Students will be assigned to a county during the summer for a period of time at the student's convenience.Written permission of Department Head required. Written permission of Department Head required.

Graduate Courses

AHEd 600 Special Problems in Extension 2-6
AHEd 681 Workshop in Adult & Continuing Education ....1-3 FSSu
AHEd 691 Problems .....1-3 FSSu
AHEd 710 Adult Curriculum and Instruction .....3 F
AHEd 711 Organization and Administration of Adult Education 3 S
AHEd 751 Principles of College Teaching .....3 S
AHEd 772 Administration and Leadership in Student Affairs 3
AHEd 782 Seminar .....1-3 FSSu
AHEd 789 Internship in Education .....1-6 FSSu
AHEd 792 Research Problems in Adult Ed .....2 FSSu

Air (Aerospace Studies)

General Military Courses

Air 101 Aerospace Studies 100 .....1 F
Professional appearance, customs and courtesies, officership/core values, basic communication, officer opportunities/benefits, and Air Force installations.
Air 101A Aerospace Studies 100 Lab 0
Air 102 Aerospace Studies 100 .....1 S
Interpersonal communication, macro U.S. military history, Air Force organizations/chain of command, cadet/officer candidate/officer, oral communication, and group leadership problems.
Air 102A Aerospace Studies 100 Lab 0
Air 201 Aerospace Studies 200 .....1 F
Air Power from balloons and dirigibles through 1947; Air Force mission, concepts, doctrine and use of air power.
Air 201A Aerospace Studies 200 Lab 0
Air 202 Aerospace Studies 200 .....1 S
History of air power from 1947 to present. Air Force relief missions and civic action programs in the late 1960's.
Air 202A Aerospace Studies 200 Lab 0

Professional Officer Courses

Air 301 Aerospace Studies 300 .....3 F
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.
Air 301A Aerospace Studies 300 Lab 0
Air 302 Aerospace Studies 300 .....3 S
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.
Air 302A Aerospace Studies 300 Lab 0
Air 401 Aerospace Studies 400 .....3 F
Commissioned military service as a profession. The complex interaction between military and civilian society. Theory and workings of National Defense policy. Roles and mission of the Air Force.
Air 401A Aerospace Studies 400 Lab 0
Air 402 Aerospace Studies 400 .....3 S
Evolution of defense strategy and the methods of managing conflict. Analysis of the system of Military Justice.
Air 402A Aerospace Studies 400 Lab 0

AM (Apparel Merchandising)

Undergraduate Courses

AM 112 Clothing Construction Principles 2
Demonstrations and sample models of construction techniques. Principles for selection and use of professional sewing equipment.

AM 121 Apparel in Popular Culture 3
Social, psychological and cultural factors affecting dress; aesthetic aspects of clothing and personal appearance, selection and coordination of wardrobe.

AM 121A Apparel in Popular Culture Lab 0

AM 172 Introduction to Apparel Merchandising 3
Introduction to organization and operation of businesses which plan, produce and distribute apparel and fashion goods for men, women and children. Examination of the impact of mass media in the communication of merchandising information.

AM 231 Ready-to-Wear Analysis 3
Analysis of construction, fabric, fit, defects and pricing of ready-to-wear. Examination of consumer attitudes toward product quality.

AM 231A Ready to Wear Analysis Lab 0

AM 272 Fashion Forecasting 2
Study of selected fashion trends of the 20th century and their relationship to social, political, economic and lifestyle trends. Experience with trend analysis.

AM 274 Fashion Promotion and Visual Merchandising.....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 fashion shows (events). P. AM 173, ArtS 121.

AM 274A Fashion Promotion and Visual Merchandising Studio 0

AM 293 Current Topics 1-3
Discussion of current literature and issues. Investigation of topics for which there is a current need but are not part of any class. P, consent.

AM 315 Apparel Design .....3 S (alternate years)
Course develops aesthetic judgement and design literacy of students. Fashion design for various levels of the industry including protective and functional clothing markets are studied. P. Arts 122, AM 121, AM 172.

AM 315A Apparel Design Studio 0

AM 331 Apparel Manufacturing .....3 F
Survey of methods used in production of apparel and sewn products. Product knowledge including garment classifications, technical development and marketing of equipment used in apparel manufacturing, product specifications and standards. P. AM 231.

AM 342 Textiles I 3
An investigation of fiber, yarn, fabrication, finishes and their interrelationship to specific end use and consumer satisfaction. P, sophomore standing.

AM 342A Textiles I Lab 0

AM 350 Dress in World Cultures .....3 (alternate years)
Cross-cultural study of world dress and adornment practices relating the clothing characteristics of selected cultures to their technical and material bases, to manufacture and trade, and to other major social phenomena. P, Soc 100 recommended.

AM 352 History of Dress/Western World .....3 (alternate years)
Development of costumes from ancient times; social significance, symbolic meanings, and functions are investigated. Costume collection in College of Family and Consumer Sciences serves as resource material. P, Hist 121 or 122 recommended.

AM 372 International Trade in Text/Apparel .....3 (alternate years)
Examination of the textiles and apparel industries in a global context including history and development, organization and operation, domestic and international trade policies. P. Econ 201.

AM 442 Textiles II .....2 (alternate years)
Effect of fiber blends on fabric properties and performance with emphasis on textile needs of specialty markets. Comparison of origin and cost relative to quality in apparel and household textiles. P. AM 342.

AM 442A Textiles II Lab 0

AM 453 Socio-Psychological Aspects of Dress .....3 S (alternate years)
Examination of clothing behavior from sociological, psychological and cultural perspectives. P, Soc 100 and Psyc 101.

AM 472 Retailing.....3 F
Principles of retailing as applied to textiles, apparel and furnishings retailing. Study of customer demand, buying, inventory control and promotion. Field trip to market center is required.

AM 473 Merchandise Planning and Control ..... 3 S
Analysis of practicum experience; executive leadership for retail personnel, merchandise planning and management. Case study approach. P, 497 - 5 credits.

AM 487 Pre-practicum in Apparel Merchandising 1 F (1/2 semester)
Discussion of professional practices and issues. Experience in goal setting, reporting and evaluation. Organization and preparation of professional documents. P, 472 or concurrently.

AM 497 Professional Practicum .....1-12 F (1/2 semester)
Planned and supervised work experience in a cooperating retail firm provides opportunity for integration of course work in the occupational setting. P, 472, 487; 90 sem. cr. and consent of the department; GPA 2.2.

Dual Numbered Courses

AM 480-580 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. P, consent of department.

AM 492-592 Special Problems 1-3
Problems for independent study selected according to special interests and needs. Arranged by contract with instructor.

AM 493-593 Current Topics 1-3
Discussion of current literature and issues. Investigation of topics for which there is a current need but which are not part of any class. P, consent.

Graduate Courses

AM 770 Seminar in Apparel Merchandising & Textiles 1-2

AM 792 Special Problems 1-3

Anth (Anthropology)

Undergraduate Courses

Anth 200 General Anthropology .....3 S
Physical anthropology, archaeology and linguistics, analysis of concepts of society and culture. Emphasis on non-literate peoples of the world.

Anth 310 Cultural Anthropology .....3 F
Meaning of culture, its significance for humans, its diverse forms among peoples, past and present.

Anth 410 North American Ethnology .....3 S (alternate years)
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.

Anth 421 Indians of North America .....3 FSSu
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.)

Anth 495-496 Internship/Field Experience in Anthropology .....1-12 FSSu
Planned and supervised professional experience related to Anthropology which takes place outside the formal classroom with business, industry, public agencies. Credit will not count toward meeting minimum requirements of the major or minor. May be repeated until 12 credits are

earned. Graded P or F. P, major, consent of department program coordinator.

Dual Numbered Courses

Anth 490-590 Special Problems .....1-3 FSSu
P, open to undergraduate and graduate students with sufficient background and consent of instructor.

Anth 497-597 Topics in Anthropology .....1-3 (on demand)
Selected topics pertaining to theory and methods in cultural, physical anthropology and archaeology. P, undergraduate/graduate and consent of instructor.

Art (Art Studio)

Undergraduate Courses

Art 111 Drawing I .....3 FS
Development of visual perception in representational and expressive drawing in various media, stressing visual thinking through observation, analysis and expression. No prerequisites.

Art 112 Drawing II .....3 FS
Continuation of Drawing I with additional emphasis on developing conceptual and critical abilities related to the expression of visual ideas. P, 111, or consent of the instructor.

Art 121 Design I .....3 FS
Introduction to the studio and approaches of the creative design process through a variety of media and techniques. The elements and principles of two-dimensional composition will be explored through studio projects, discussion, and critiques. No prerequisites.

Art 123 Three Dimensional Design .....3 FS
History, theory, aesthetics and materials of the three dimensional design language. Organization of mass, plane, texture, color, space in visual problem-solving experiences. No prerequisite required.

Art 212 Figure Drawing 3
A continuation of Drawing I with an emphasis on developing the visual intellectual and technical aspects by drawing the human figure. *P, 111 or consent of the instructor.

Art 222 Color Theory .....3 FS
An emphasis on studio problems that explore the physical and psychological properties of color and color relationships as they pertain to individual visual expression. P, 121; recommend 111 or consent of the instructor.

Art 231 Painting I – Beginning Level .....3 FS
Combine studio experience in drawing and painting with demonstrations and discussion on style, technique, color and composition as they relate to the expression of visual ideas. P, 111, or consent of the instructor.

Art 241 Sculpture I – Beginning Level .....3 S
An introduction to sculpture approaches through projects involving various 3-D traditional and contemporary materials and techniques. P, 123 or consent of the instructor.

Art 251 Ceramics I – Beginning Level .....3 FS
The study of the ceramic heritage from various cultures in relation to contemporary clay objects. Projects expose students to hand-building, throwing, glazing and firing. P, 123 or 121 recommended.

Art 281 Printmaking I – Beginning Level 3
Creative use of basic printmaking techniques and processes in relief, intaglio and serigraphy to develop conceptual abilities for the solution of individual problems in visual communication. P, 111 or consent of the instructor.

Art 331 Painting II - Intermediate Level .....3 FS
A continuation of Art 231, Painting I, with an increased emphasis on composition and expression. P, Art 231, or consent of the instructor.

Art 332 Painting III – Intermediate Level .....3 FS
Continuation of Painting II. Emphasis on composition and expression. P, 331, or consent of the instructor.

Art 341 Sculpture II–Intermediate Level .....3 S
A continuation of Sculpture I. Exploring individual concepts and various techniques and materials. P, 241, or consent of the instructor.

Art 342 Sculpture III – Intermediate Level ..... 3 S
A continuation of Sculpture II. Further exploration of individual concepts and various techniques and materials. P, 341.

Art 351 Ceramics II–Intermediate Level .....3 FS
A continued exploration of clay through individual concepts, techniques and glazing and firing methods. P, consent of the instructor.

Art 352 Ceramics III – Intermediate Level .....3 FS
Continuation of Ceramics II. Emphasis on individual concepts developed through hand-building and/or throwing techniques. Also more advanced glazing, firing techniques, and kiln maintenance. P, 351.

Art 381 Printmaking II–Beginning Level 3
A continuation of Printmaking I. P, 281 or consent of the instructor.

Art 382 Printmaking – Advanced 3
Continuation of Printmaking II. Creative use of advanced printmaking techniques and processes in relief, intaglio, and serigraphy. P, 381.

Art 430 Watercolor 3
Creative experience in developing and evaluating visual ideas expressed through the watercolor medium. Discussion and utilization of master artists' watercolor approaches and techniques. *P, 111 or consent of the instructor.

Art 431 Painting IV–Advanced Level .....3 FS
Continuation of Painting III with more emphasis on self-directed and experimental approaches in developing subject matter and content. Emphasis on concepts in art history, art criticism, and issues in contemporary art. *P, 332, or consent of the instructor.

Art 441 Sculpture IV–Advanced .....3 S
Continuation of Sculpture III. Advanced exploration of sculpture concepts. *P, 342, or consent of the instructor.

Art 451 Ceramics IV–Advanced .....3 FS
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. *P, 352, or consent of the instructor.

Art 481 Printmaking IV–Advanced Level..... 3
A continuation of Printmaking III. *P, 382, or consent of the instructor.

Art 491 Directed Studies Program.....1-12
P, permission of Department Head and the instructor. Limited to no more than 6 semester hours under any single instructor. May be continued with more than one instructor (or under different sponsor).

Art 492 Problems in Visual Arts 3
Independent study in art area arranged in consultation with the instructor. Limited to seniors with a 3.0 average in art and a working background in the art problem they wish to undertake.

Art 493 Topics in Visual Arts 1-5
Selected topics of current interest in the discipline. P, permission of the Department Head.

Art 497 Internship .....1-9 FSSu
You may elect to initiate and complete a major problem off campus. All Visual Arts majors may gain experiential work experience in coop jobs with selected employers and/or artists (students may be engaged as studio apprentices). Graphic Design majors may only take three credit hours. These work experiences are to be held concurrently with the regular study periods and may be arranged through the Department's Cooperative Education Coordinator. P, junior standing, consent of Department Head and adviser.

* Course may be repeated once.

ArtD (Art Design)

Undergraduate Courses

ArtD 251 Graphic Design I .....3 FS
Introduction to visual communications and graphic design theory. Primary emphasis on basic visual design language and process. No prerequisite.

ArtD 255 Introduction to Computer Graphics .....3 FS
A non-programming introduction to drawing, painting and page layout design software with an emphasis on the production of computer-generated design projects. P, 251 and permission of instructor.
ArtD 350 Graphic Design II 3
The exploration of typographic form and theory for graphic designers. Emphasis on historical and current typographic usage and an introduction to computer-generated letter forms. P, 251 or consent of instructor.
ArtD 351 Graphic Design III 3
The study of design systems, typography as visual communications, and the continuation of computer graphics. Emphasis on problem-solving. P, 350 and 355.
ArtD 352 Design Media I 3
Introduction to multimedia and electronic prepress.. P, ArtD 355.
ArtD 355 Computer Graphics II 3
A non-programming intermediate computer graphics course focusing on digital-imaging and page-layout applications for graphic designers. P, 251, 350.
ArtD 452 Design Media II 3
A continuation of Design Media I with emphasis on completed Design Media projects as portfolio works. P, ArtD 352.
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 471.) P, 351 for Visual Arts majors or MCom 371 for Journalism majors.

ArtE (Art Education)

Undergraduate Course

ArtE 415 Methods of Teaching Art in Public Schools 3
P, art major and junior standing.

Dual Numbered Course

ArtE 492-592 Special Problems in Visual Arts 1-3

ArtH (Art History)

Undergraduate Courses

ArtH 100 Art & Design Appreciation 3
Introduction to traditional and new visual media in art and design with a stress on practical knowledge. Primarily for non-art majors. No prerequisite.
ArtH 211 Survey of World Art and Architecture .....3 F
Principal periods in the history of major world civilizations up to the 15th century A.D. and selected arts of indigenous cultures. Emphasis on international studies and cultural diversity. Recommend 100.
ArtH 212 Western Traditions in Art and Architecture .....3 S
Principal artistic styles in western culture: Renaissance to present. Emphasis on international studies and cultural diversity. Recommend 100.
ArtH 310 History of U.S. Art and Architecture 3
From colonial times to the present. Recommend 100 or 212.
ArtH 320 Modern Art and Architecture Survey 3
Survey of Modern Art and Architecture from its beginnings in the 19th century. Emphasis on international studies and cultural diversity. P, junior or senior standing; recommend 100 or 212.
ArtH 493 Topics in Art or Design History and Criticism 1-3
Reading and discussion of criticism and aesthetics in visual art and design. Analyses of various critical stances and instruction in writing about visual arts. P, junior or senior standing; recommend 100 or 212.

AS (Animal Science)

Undergraduate Courses

AS 100 Opportunities in Animal Science .....1 F
An overview of opportunities in Animal Science.
AS 101 Introduction to Animal Science ..... 3 FS
Adaptation, breeding, feeding, marketing, behavior, classification, growth, genetics, reproduction and animal health as they apply to farm animals.
AS 101A Introduction to Animal Science Lab 0
AS 105 Light (Saddle) Horses .....1 FS
Breeds of horses, gaits, grooming, equipment, diets; basic instruction with suitable equipment.
AS 106 Heavy (Draft) Horses .....1 S
Breeds of draft horses, gaits, grooming, handling, safety, equipment, diets; basic instruction with suitable equipment (single and team).
AS 200 Introduction to Livestock, Meats and Wool Judging .....1 F
Livestock terminology, selection criteria for beef, sheep and swine, EPD's and performance data. Beef yield and quality grading, pork and lamb carcass evaluation, beef wholesale cut selection. Written and oral reasons. P, 101 and sophomore standing or instructor consent.
AS 233 Applied Animal Nutrition .....4 FS
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. P, 101.
AS 233A Applied Animal Nutrition Lab 0
AS 241 Meat: Production to Consumption .....3 FS
Survey of meat industry. Composition of meat animals. Product identification, preservation, cooking, nutritive value, pricing and curing.
AS 285 Livestock Evaluation and Marketing .....4 FS
Live and carcass evaluation of market animals. Methods of marketing and pricing livestock and carcasses. P, 101.
AS 285A Livestock Evaluation and Marketing Lab 0
AS 322 Junior Livestock Judging Team .....1 S
Type studies and selection for individual excellence; judging and oral discussion of classes of beef cattle, horses, sheep and swine. P, 200, 285.
AS 323 Advanced Animal Nutrition .....3 FS
Functions of various nutrients; digestion and metabolism of nutrients by different animal species. Chem 120 desirable antecedent. P, 233.
AS 332 Principles of Animal Breeding .....4 F
Application of genetics to improvement of farm animals. Emphasis on occurrence, origin, use and control of variation in economically important traits of farm livestock. P, Bio 371.
AS 332A Principles of Animal Breeding Lab 0
AS 341 Fresh Meat Operations .....3 S
Observation and/or hands on experience of marketing, fabrication, quality control, harvest and grading of meat animal products and by-products. Evaluation of products and value/price relationships. P, sophomore standing and 241 or instructor consent. Desirable antecedent, 285.
AS 345 Processed Meat Technology .....3 S (odd years)
Relate use as a food to structure, composition and function of muscle and connective tissues. Principles and practices of meat processing, product evaluation and quality control in food industry. P, 241.
AS 345A Processed Meat Technology Lab 0
AS 365 Horse Production .....3 S
Feeding, breeding and management principles for horses. P, 101.
AS 365A Horse Production Lab 0
AS 390 Animal Science Junior Seminar .....1 FS
Review of current research, discussions and reports. P, junior standing.
AS 400 Judging Teams
Section 1—Meats .....1 F
Identifying, judging and grading carcasses and cuts; training in writing

reasons; participation in intercollegiate meat judging contests. P, 200, 341.

Section 2—Livestock .....1 F
Trips to purebred herds; training in Oral Reasons; participation in American Royal and International Livestock Judging contests. P, 322.

Section 3—Wool .....1 S
Wool judging and grading, training in written reasons, participation in National Western Wool Judging contests. P, 200.

Section 4—Range Plant ID .....1 S
Instruction and practice in identification of important range plants of North America.

AS 433 Livestock Reproduction .....3 F
Basic physiological processes of reproduction in domestic animals, factors affecting and methods of improving reproductive efficiency. P, Vet 223.

AS 433A Livestock Reproduction Lab 0

AS 474 Beef Cattle Production ..... 3 FS
Feeding, breeding and management principles of beef cattle production under farm and ranch conditions. P, 101, 233. Desirable antecedents 323, 332.

AS 474A Beef Cattle Production Lab..... 0

AS 477 Sheep and Wool Production .....3 F
Feeding, breeding and management principles for maximum production of meat and wool in farm and range flocks. P, 101, 233. Desirable antecedents 323, 332.

AS 477A Sheep and Wool Production Lab.....0

AS 478 Swine Production .....3 S
Feeding, breeding and management principles for swine production. Breeds, production trends and equipment. Student participation in management techniques. P, 101, 233. Desirable antecedents 323, 332.

AS 478A Swine Production Lab 0

AS 490 Animal Science Senior Seminar: Current Issues .....1 FS
Review of current research, discussions and reports. Limit 2 credits. P, senior standing.

AS 494-495-496 Cooperative Education/Internship/Field Experience .....1-12 SSU
Supervised experience with a livestock enterprise or related agribusiness for exposure to industry problems and solutions, evaluation of career objectives and final career preparation.

Dual Numbered Courses

AS 491-591 Research Problems .....1-3 FSSu
Investigation of problems in following areas with results submitted as technical paper: Animal Breeding, Nutrition, Meats, Livestock Production, Reproductive Physiology, Wool Technology, Poultry. Maximum of 3 credits for student program.

AS 492-592 Special Topics .....1-6 FS
Advanced study of one or more selected topics: breeding, management, product technology, physiology, nutrition, research methods or marketing.

Graduate Courses

AS 711 Ruminology .....3 F (odd years)
AS 712 Ruminant Nutrition .....3 S (even years)
AS 723 Population Genetics .....3 S (odd years)
AS 731 Experimental Procedures .....2 S(even years)
AS 732 Advanced Physiology of Reproduction .....3 S (even years)
AS 732A Advanced Physiology of Reproduction Lab 0
AS 733 Vitamins and Minerals .....3 S (odd years)
AS 734 Protein and Energy Nutrition .....3 F (even years)
AS 736 Monogastric Nutrition .....3 F(even years)
AS 750 Animal Growth and Development .....3 S (even years)
AS 753 Meat Science .....3 F (odd years)
AS 753A Meat Science Lab 0
AS 781 Graduate Seminar .....1 FS
AS 790 Thesis. .....1-7 FSSu (as arranged)
AS 791 Thesis Sustaining, M.S. .....0 FSSu (as arranged)
AS 890 Dissertation, Ph.D. .....1-12 FSSu (as arranged)
AS 891 Dissertation Sustaining, Ph.D. .....0 FSSu (as arranged)

AST (Agricultural Systems Technology)

Undergraduate Courses

AST 202 Construction Techniques and Materials .....2 FS
Wood and concrete building materials; efficient construction procedures; hand tools, portable and stationary power tools; safe working practices.

AST 202A Construction Techniques and Materials Lab 0

AST 213 Agricultural, Industrial, and Outdoor Power .....3 FS
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. P, Math 101.

AST 213A Agricultural, Industrial, and Outdoor Power Lab 0

AST 252 Auto Mechanics .....2 FS
Engine tune-up, servicing and repairing engine accessories; testing valves, carburetors, ignition systems; installing new rings, valves, and general work required of mechanics.

AST 252A Auto Mechanics Lab 0

AST 262 Environmental Safety and Society .....2 F
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 S
Basics of micro/transducer/control interfacing used for farm machinery and equipment. Popular agricultural software, data management for agricultural applications. Practical experience in monitoring and controlling agricultural processes, equipment and systems.

AST 273A Microcomputer Applications in Agriculture Lab 0

AST 303 Design Management Experience .....3 S
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. P, ES 131 or 121, EG 121and 123.

AST 313 Farm Machinery Systems Management .....3 S
Farm machine selection and operation (including power requirements) tillage, spraying, planting, harvesting, storage, and ergonomics.

AST 313A Farm Machinery Systems Management Lab.....0

AST 333 Soil & Water Mechanics .....3 FS
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.

AST 333A Soil & Water Mechanics Lab 0

AST 342 Applied Electricity .....3 FS
Basic wiring, electrical circuits, controls, lighting, electric motor selection and operation. National Electric Code covering residential, farm and light industrial applications.

AST 342A Applied Electricity Lab 0

AST 423 Rural Structures .....3 FS
Stud-frame and post-frame design specifications and techniques. Snow and wind loads, truss and header design, mechanical properties of lumber, plywood, and composite wood materials, insulation and concrete reinforcement.

AST 423A Rural Structures Lab.....0

AST 443 Food Process and Engineering Fundamentals..... 3 F
Mechanics, refrigeration, heat transfer, instrumentation, and equipment operation as applied to materials, handling, storing, preserving, packaging and processing agricultural products.

AST 443A Food Process and Engineering Fundamentals Lab 0

AST 452 Teaching Agricultural Mechanics .....2 F
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. P, senior in agricultural education. Offered first half of semester. P, 202.

AST 452A Teaching Agricultural Mechanics Lab.....0

AST 463 Agricultural Waste Management .....3 F
Agriculturally 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. P, PS 213, Phys 101 or 111, Instructor consent.

AST 492 Special Problems 1-3
Must have approval of adviser and department head.

AST 493 Special Topics 1-4

AST 494-495-496 Cooperative Education/Internship/ Field Experience .....1-12 FSSu
Planned and supervised professional experience related to mechanized agriculture which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

AST 412-512 Hydraulic and Pneumatic Systems and Controls .....2 Su (even years)
Principles of fluid power, hydraulic and pneumatic components and system function. Component selection and off-the-shelf system design. Manual, microprocessor and electronic control of systems.

AST 412A-512A Hydraulic and Pneumatic Systems and Controls Lab 0

AST 422-522 Environmental Control in Structures .....2 Su (even years)
Study of heat and moisture balance, gases, dust, and odors. Selection and design of fans, ducts, diffusers and efficient ventilation patterns.

AST 422A-522A Environmental Control in Structures Lab 0

AST 462-562 Advanced Irrigation Mechanics & Practices .....2 Su (odd years)
Sprinkler, surface and trickle irrigation systems and equipment. Irrigation scheduling, management, and economics. Water laws and irrigation program financing. Water quality and environmental impact of irrigation.

AST 462A-562A Advanced Irrigation Mechanics & Practices Lab..0

AST 482-582 Advanced Farm Engines .....2 Su (odd years)
Operation, selection, care, adjustment, and new development of internal combustion engines as applied to farm power units.

AST 482A-582A Advanced Farm Engines Lab 0

Graduate Courses

AST 792 Special Problems .....1-3 FSSu

AST 793 Special Topics .....1-4 FSSu

AT (Athletic Training)

Undergraduate Courses

AT 164 Introduction to Athletic Training .....2 FS
A basic introductory course designed to acquaint students interested in athletic training with all aspects of the profession.

AT 361 Athletic Training Techniques I .....3 F
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. AT 361 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/ fractures, athletic injuries related to environmental stress and on/off field injuries/management related to the spine (including a posture and neurological assessment). P, formally admitted to athletic training program; permission.

AT 362 Athletic Training Techniques II .....3 S
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. AT 362 includes techniques related to the prevention, recognition, and management of athletic injuries to the upper and lower extremities. Related topics include preseason screening, preparticipation physicals, and appropriate weight training techniques. P, 361.

AT 363 Athletic Training Techniques III .....3 F
This course is the third of the intermediate athletic training courses designed to meet all of the guidelines and competencies required by the National Athletic Trainers' Association. These courses should be taken in sequence. AT 363 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. P, 362.

AT 364 Athletic Training Techniques IV .....3 S
This course is designed to meet the guidelines and competencies required by the National Athletic Trainers' Association in regards to emergency care issues related to athletic injuries. The course content of this class meets the standards set by the Department of Transportation and the National Safety Council. Skills will include assessing an emergency situation, CPR, airway management, rescue breathing, care for a choking person, taking and recording vital signs, techniques for working with athletic equipment, i.e., airway management with a football helmet, C-spine stabilization, applying cervical collars, and spine boarding techniques. This course meets the first aid competencies required by the NATA. P, permission.

AT 371 Athletic Training Clinical Experience I .....2 F
Clinical application of course content presented in AT 361. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to each area taught in AT 361 and according to the requirements established by the National Athletic Trainers Association. Graded pass/fail. P, Acceptance into the program.

AT 372 Athletic Training Clinical Experience II .....2 S
Clinical application of course content presented in AT 362. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to athletic injury assessment and according to the requirements established by the National Athletic Trainers Association. Graded pass/fail. P, 371.

AT 373 Athletic Training Clinical Experience III .....2 F
Clinical application of course content presented in AT 474. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to athletic rehabilitation according to the requirements established by the National Athletic Trainers Association. Graded pass/fail. P, 372.

AT 374 Athletic Training Clinical Experience IV .....2 S
Clinical application of course content presented in AT 464. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to therapeutic modalities and according to the requirements established by the National Athletic Trainers Association. Graded pass/fail. P, acceptance into the program.

AT 454 Athletic Injury Assessment 3F
This course is designed to have the student athletic trainers develop a sound understanding of the assessment of athletic related injuries and conditions. The course will incorporate anatomy of the various body

areas, the athletic related injuries or conditions which may occur, and evaluation techniques used to assess the body part involved.

AT 464 Therapeutic Modalities in Athletic Training .....2 S
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 Football Clinical Experience .....1 Su
This course is designed to meet the clinical experience competencies required during fall football 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 pass/fail. P, senior status and consent.

AT 474 Rehabilitation of Athletic Injuries .....2 F
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.

AT 490 Senior Seminar in Athletic Training .....2 S
This course is designed to be the culminating class for those students enrolled in the athletic training major. Students should have completed most of the required coursework and be in their final year on campus. In this course, students will discuss a variety of contemporary issues and problems confronting the athletic trainer; review the NATA guidelines and competencies; and examine the legal, medical, and ethical protocols governing the athletic training profession. In addition, students will have the opportunity to review previous coursework in preparation for the athletic training exit and NATA certification examinations.

Avia (Aviation Education)

Undergraduate Courses

Avia 270 Introduction to Aviation .....3 FS
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 Introduction to Flight I .....1 FSSu
Individual flight instruction leading to Federal Aviation Administration Student Pilot Certification. Topics include aircraft preflight, weather briefings, basic flight maneuvers, take-offs and landings, and basic flight regulations. Students must complete a minimum of 18 flight hours, as assigned, under the supervision of SDSU flight instructors to complete this course. P, 270. Instructor consent required. Fees as required by the cost of aircraft operation.

Avia 273 Introduction to Flight II .....1 FSSu
Individual flight instruction leading to Federal Aviation Administration Private Pilot Certification. 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. Students must complete a minimum of 18 flight hours, as assigned, under the supervision of SDSU flight instructors to complete this course. P, 272 or equivalent. Instructor consent required. Fees as required by the cost of aircraft operation.

Avia 274 Introduction to Flight III .....1 FSSu

Avia 275 Introduction to Flight IV .....1 FSSu

Avia 370 Complex Aircraft Systems and Operations .....3 F
Performance, flight characteristics, and the safe operation of complex and high performance propeller driven aircraft. Students completing this course will be ready to challenge the Federal Aviation Administration Commercial Pilot written and oral exams. P, 270; Phys 111 is also recommended.

Avia 371 Instrument Aircraft Operations .....3 S
Radio navigation principles and procedures, aircraft operations within the Air Route Traffic Control system, FAA regulations, and meteorology as pertinent for the safe operation of aircraft in restricted visibility. Students completing this course will be ready to challenge the Federal Aviation Administration Commercial Pilot written and oral exams. P, 370; Geog 337 or AE 353 also recommended.

Avia 372 Advanced Flight Training .....1-8 FSSu
Individual instruction in preparation for advanced Federal Aviation Administration certificates (Commercial, Flight Instructor, and Airline Transport Pilot) and ratings (Single-engine, Multi-engine, and Instrument). Students will be expected to complete a minimum of 25 hours of flight training, as assigned, under the supervision of SDSU flight instructors for each credit hour the student has enrolled. Repetitive registration will be allowed for a total of 8 credit hours. Instructor consent required. Fees as required by the cost of aircraft operation.

BAdm (Business Administration)

Undergraduate Courses

BAdm 310 Business Finance .....3 FS
Capital and credit needs of business firms; extending and using business credit; analysis of financial statements; financial management; planning and financing capital structure; market for and investing in debt and equity securities. P, Acct 210, 211, junior standing or consent.

BAdm 324 Operations Research .....4 FS
Selected 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. P, Econ 301, Stat 341.

BAdm 334 Small Business Management .....3 F
Fundamentals of forming and managing a successful small business enterprise. Includes initiation of new enterprise, financial and administrative control, store location, promotion, personnel, and finance. Market research or business plan term paper.

BAdm 350 Legal Environment of Business and Contracts .....3 FS
Survey of judicial system and process, legal aspects of criminal law, torts, contracts, landlord/tenant law and domestic relations. Emphasis is on South Dakota law.

BAdm 351 Business Law I .....3 F
Legal rights and duties of parties to business transactions — sales security devices and insurance, partnerships, corporations, real property, estates and bankruptcy. P, 350.

BAdm 360 Organization and Management .....3 FS
Management, including planning, organizing, directing, controlling, and coordinating. Other disciplines such as finance and marketing are discussed as they apply to the basic functions. P, junior standing or consent.

BAdm 380 Personal Finance .....3 S
Survey of individual investment opportunities, including common and preferred stock and corporate bonds; auto, health and life insurance; home ownership; wills and estate planning.

BAdm 416 Commercial Bank Management ..... 3 S (alternate years)
Comprehensive introduction to the principles of commercial bank financial management. It will cover contemporary financial institution management issues as well as bank risk analysis, lending, investments, liquidity, and asset-liability management. P, 310, Econ 330 or AgEc 478.

BAdm 474 Principles of Selling .....3 F
Philosophy and techniques of personal selling in a free enterprise economy. Preparation, prospecting, presentation, handling objections, and closing are examined in depth, with emphasis on "how to." Concepts from the behavioral sciences are explored to show their applications in sales interactions.

BAdm 482 Business Policy and Strategy .....3 FS

Applications of Accounting, Finance, managerial concepts, quantitative techniques, and Business Law to management problem situations. Case study approach. P, 360, senior standing.

BAdm 483 Seminar in Business Consulting .....3 FS
Consulting program in which students, working under faculty guidance, assist businesses by researching and developing possible solutions to specific problems, business start-up, and expansion. Junior/senior standing.

BAdm 493 Special Topics 1-4
Organized by an instructor in consultation with his or her department head and a group of students. A medium through which a specific topic can be pursued. Normally experimental and may be a "one shot deal" for a particular semester and the unique group of students. Maximum: 4 credit hours per semester, 7 credit hours per degree.

Bio (Biology)

Undergraduate Courses

Bio 101 Biology Survey I .....3 FSSu
Study of the nature, diversity, and classification of life; ecology; cells and cell cycles, Mendelian and modern Genetics evolution and evolution theory. Intended for those not majoring in Biology. Duplicate credit for 101 and 151 not allowed.

Bio 102 Biology Survey I Lab 0

Bio 103 Biology Survey II .....3 FSSu
Study of energetics, plant growth, development, and reproduction; animal structure and function. Intended for those not majoring in Biology. Duplicate credit for 103 and 153 not allowed. P, 101 or 151.

Bio 104 Biology Survey II Lab 0

Bio 105 Human Biology .....3 F
Presents key biological principles that are characteristic of living things in general and human beings in particular, focusing on the application of these principles to the concerns of contemporary life. Not intended for life science majors.

Bio 151 General Biology I .....4 F
The introductory course for those majoring in Biology and Microbiology. Presents the concepts of cell biology, evolution, heredity, molecular genetics and ecology.

Bio 152 General Biology I Lab 0

Bio 153 General Biology II .....4 S
A continuation of Bio 151, the introductory course for those majoring in Biology and Microbiology. Presents the concepts of animal and plant structure and function, energetics, and reproduction. P, 151 or 101 with B or higher.

Bio 154 General Biology II Lab 0

Bio 200 Biological Diversity .....4 FS
Investigate the five kingdoms comprising the living world focusing on biological diversity, systematics, reproductive patterns, principles of structure and function, ecology and evolutionary relationships. P, 101 or 151.

Bio 200A Biological Diversity Lab 0

Bio 290 Undergraduate Seminar .....1 F
Student will explore the various career opportunities in the biological sciences and procedures for employment.

Bio 292 Special Problems .....1-4 FSSu
Independent study in specialized area of the biological sciences. Objectives, scope of work and plan of study specified by instructor and student(s). P, 101 or 151 and consent of instructor and department.

Bio 311 Principles of Ecology .....3 F
Environmental interactions with organisms, populations and communities; population interactions and evolution, community organization and succession, energy flow, biogeochemical cycles; human ecology. P, 101 or 151 and 3 hours bioscience.

Bio 343 Cell Biology .....3 S
Cell structure and function with laboratory techniques of culturing and handling cells. P, 101 or 151, Chem 120.

Bio 343A Cell Biology Lab 0

Bio 353 Introduction to Oceanography .....3 S
Physical chemical, geological and biological aspects of oceanography. Ocean resource use. P, 1 year college science.

Bio 371 Genetics .....3 FSSu
Principles governing the nature, transmission and function of hereditary material with application to plants, animals, humans, and microorganisms. P, 101 or 151.

Bio 372 Genetics Laboratory .....1 FS
Experiments with Drosophila and other organisms, illustrating probability, meiosis, sex linkage, independent assortment, crossing over, interference and biochemical genetics. To be taken concurrently with Bio 371, but not required for 371.

Bio 373 Evolution .....3 S
Provides an understanding of the processes which have brought about long-term changes in living systems. Surveys evidences of plant and animal evolution, achievement in evolution theory and examines mechanisms responsible for genetic change. P, 101 or 151.

Bio 383 Bioethics .....4 F
Ethical, social and policy dilemmas in medicine and biology. P, 101 or 151. Crosslisted with Phil 383.

Bio 440 Restoration Ecology .....4 F (alternate years)
Scientific principles involved in restoration of natural ecosystems. P, Bio 311 Prin Ecol or equiv. Crosslisted with La 440.

Bio 440A Restoration Ecology Lab 0

Bio 475 Water Quality in Agriculture .....3 S
An integration of a wide variety of topics intended to give students an introduction to the complex interactions between water supplies demands, and water quality. P, 101 or 151 and Chem 106. Crosslisted with PS 475.

Bio 490 Senior Seminar .....1 FS
Presentation of topics based on biological literature in scientific journals. P, three years of coursework.

Bio 492 Biological Problems .....1-4 FSSu
Individually assigned investigative problems in biology. P, 101 or 151.

Bio 494-495-496 Cooperative Education/Internship/Field Experience .....1-12 FSSu
Student will have an opportunity to become involved in on-or off-campus activity which promises to contribute to his or her education. Acceptance based on availability of experiences and permission of departmental staff.

Dual Numbered Courses

Bio 415-515 Mycology .....3 F (odd years)
Comprehensive taxonomic survey of the Kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship of fungi to human affairs. Crosslisted with PS 415-515.

Bio 415A-515A Mycology Lab 0

Bio 425-525 Biology of Aging .....3 F
Physical, sensory, and physiological changes with age, aging of cells and tissues. Cellular, developmental, endocrine and other theories of aging. Pathologies of aging. P, physiology course.

Bio 445-545 Histological Techniques .....3 S
Preparation and observation of animal and plant tissues for microscopic and photomicroscopic study. Emphasis will be given to various techniques used in current research areas.

Bio 445A-545A Histological Techniques Lab 0

Bio 453-553 Advanced Genetics .....3 F (even years)
Procedures in genetic studies as they relate to molecular and classical genetic applications. P, 371. Crosslisted with PS 453-553.

Bio 462-562 Molecular Biology I .....2 F
Charge, partitioning migration of molecules; protein structure, enzymes; DNA structure and properties, pro-caryotic and eukaryotic conjugation,

transduction and transformation; DNA replication and repair; genetic recombination; RNA structure and properties; RNA replication and repair; mRNA synthesis and processing; kinetics; chromosomes and chromosome replication. P, Micr 436, Chem 361, or consent. Crosslisted with PS 462-562.

Bio 464-564 Molecular Biology II .....2 S
Structure of the nucleus; endocytosis; genome of mitochondria and chloroplasts; cell growth and division; cancer; immune system; pattern formation; homeoboxes; intracellular transport; gene expression and regulation. P, 462-562 or consent of instructor. Crosslisted with PS 464-564.

Bio 465-565 Molecular Biology II Lab .....2 S
Screening recombinant DNA libraries; DNA sequencing; analysis of proteins; detection of proteins; RNA transfer and hybridization analyses; use of nucleic acid and protein databases. P, 462-562, 463-563, or consent of the instructor. Crosslisted with PS 465-565.

Bio 480-580 Environmental Stress Physiology .....3 S (even years)
Physiological and cellular response of plants to environmental stresses. P, Bot 327.

Bio 497-597 Special Topics .....1-5 FS
Field Ecology, Human Ecology, Mammalian Developmental Genetics.

Graduate Courses

Bio 740 Metabolic Responses to Environmental Stress .....3 F (even years)
Bio 751 Biology of Algae .....4 F (odd years)
Bio 751A Biology of Algae Lab 0
Bio 773 Cytogenetics .....3 F (odd years)
Bio 773A Cytogenetics Lab 0
Bio 780 Developmental Genetics .....3 S
Bio 782 Special Problems .....1-4 FSSu
Bio 790 Thesis .....1-7 FSSu
Bio 791 Thesis Sustaining .....0 FSSu
Bio 792 Graduate Seminar .....1 FSSu
Bio 793 Biological Research Problems .....1-3 FSSu

BioS (Biological Sciences)

BioS 890 Dissertation—Ph.D. .....1-7 FSSu
BioS 891 Dissertation Sustaining .....0 FSSu
BioS 892 Ph.D. Seminar .....1 FS

Bot (Botany)

Undergraduate Courses

Bot 201 General Botany .....3 F
Introductory treatment of the structural organization and related functions of plant cells, tissue systems, leaves, roots, stems, flowers, fruits and seeds. P, Bio 101 or 151.

Bot 202 General Botany Lab 0
Bot 301 Plant Systematics .....4 S
Principles of phylogeny, classification and nomenclature; demonstrations, field study and laboratory practice in collecting, preserving and identifying plants. P, 201 or Bio 103 or 153.

Bot 301A Plant Systematics Lab 0
Bot 305 Agrostology .....3 F
Systematic study of grasses, their classification and nomenclature; laboratory practice in recognition and identification of grasses. P, 201 or Bio 103 or 153.

Bot 305A Agrostrology Lab 0
Bot 327 Plant Physiology .....4 S
Plant functions and adjustments. P, 201 or Bio 101-103 or 151-153; desirable antecedent Chem 120.

Bot 327A Plant Physiology Lab 0
Bot 415 Plant Ecology .....4 F
Descriptions of plant communities, their dynamics and distribution. Environmental factors and their relationships with plants. Field trips. P, 201 or Bio 103 or 153.

Bot 415A Plant Ecology Lab 0
Bot 421 Plant Anatomy .....3 F
Developmental anatomy of seed plant axis and its appendages. Structural fitness of tissues and organs for functions they perform. P, 201 or Bio 103 or 153.

Bot 421A Plant Anatomy Lab 0
Bot 492 Special Problems .....1-4 FSSu
Independent study in specialized area of the botanical sciences. Objectives, scope of work and plan of study specified by instructor and student(s). P, Bio 101 or 151 and consent of instructor and department.

Dual Numbered Courses

Bot 412-512 Morphology of Non-Vascular Plants 1-3 F (odd years)
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. P, Bot 301, or consent of instructor.

Bot 412A-512A Morphology of Non-Vascular Plants Lab 0
Bot 413-513 Morphology of Vascular Plants ..... 3 S (even years)
Bot 413A-513A Morphology of Vascular Plants Lab 0
Morphology has been defined as philosophical anatomy. This course addresses comparative structure and evolutionary patterns existing in the diverse vascular plant groups including club mosses, ferns, gymnosperms and angiosperms. The student will gain insight into unity from homeostasis and diversity through evolution of this group of plants.

Graduate Courses

Bot 705 Aquatic Plants .....3 F (odd years)
Bot 705A Aquatic Plants Lab 0
Bot 715 Advanced Plant Ecology .....4 S
Bot 715A Advanced Plant Ecology Lab 0
Bot 727 Advanced Plant Physiology .....4 F (even years)
Bot 727A Advanced Plant Physiology Lab 0
Bot 730 Plant Molecular Biology .....3 F (odd years)
Bot 781 Plant Tissue Culture .....3 F (even years)
Bot 781A Plant Tissue Culture Lab 0
Bot 782 Special Problems .....1-4 FSSu
Bot 785 Growth and Development .....4 F (odd years)
Bot 785A Growth and Development Lab 0
Bot 797 Special Topics .....1-5 FS

CA (Consumer Affairs)

Undergraduate Courses

CA 130 Coping Skills for Consumers .....2 F
Principles of consumer education applied to various areas of consumer information. Decision making skills needed for competent purchasing. Open to all students.

CA 291 Consumers and the Market .....3 FS
Factors important to families as purchasing agents and consumers, information about advertising, fraud, issues and consumer practices affecting cost, analysis of programs for consumer protection, the market structure. Principles of maximization of consumer satisfaction.

CA 292 Special Problems 1-3
Problems selected according to students' special needs and interests. P, Consent of instructor.

CA 293 Current Topics 1-3
For students needing additional study of a topic or experience not offered as part of a regular class.

CA 340 Work, Time and Energy Decisions .....3 S
Study and evaluation of decision making in relation to specific time, energy and work patterns. Relationship of household production and consumption decisions to outside employment. Impact of decisions on present and future. Investigation of relevant work-time-energy and decision making theory and research.

CA 341 Management Personal/Family Living .....3 F
Resource management related to the economic aspects of family decision-making and financial planning. P, Junior or consent.

CA 361 Household Technology .....2 S
Selection, principles of operation, use and care of household equipment. Impact of technology on individuals and families.

CA 361A Household Technology Lab 0

CA 371 Issues in Consumer Affairs .....2 F
Investigation of problems and issues facing consumers throughout the consumer life cycle. Consumer education competencies and resources are analyzed, consumer materials and networks are evaluated. Educational strategies are developed as they relate to the wide variety of audiences encountered in consumer affairs. Consumer issues are discussed as they relate to individuals, families, and the global community.

CA 381 Social Skills in the Business Environment .....2 FS
Discover how social skills are cost effective and increase the quality of life in the workplace. Topics include first impressions, professional image, introductions, written, verbal and non-verbal communication, relationships in the workplace, business travel in the United States, international business behavior, protocol, dining etiquette, and executive entertaining.

CA 412 Preparation for Consumer Affairs Practicum .....3 S
Preparation for the practicum experience. Includes professional ethics, employer/employee communications, formal and informal communication networks, discussion of profit and nonprofit organizations, problem solving by using the planning process. Action plans for achieving goals and expectations for the student's individual practicum will be completed. Shadowing and/or site visit experiences in the workplace will be required. P, 487; 2.5 GPA; Senior standing in Consumer Affairs or consent of instructor. Concurrent with FCS 495 Internship.

CA 412A Preparation for Consumer Affairs Practicum Lab 0

CA 421 Diversity in the Workplace .....3 F
Course addresses the role of culture and its effect on organizational behavior. Issues in the workplace include personal and cultural values, group norms, workplace policies and procedures, and diversity in culture, gender, age and physical differences. P, NFS 391 or BAdm 360. Crosslisted with NFS 421.

CA 442 Family Resource Management Lab .....3 FS
Application of management concepts as related to families of varying structures and conditions. Experiences designed to meet individual professional needs. Recommended for junior/senior level, following completion of all 100/200 level required courses. P, CA 341.

CA 450 Consumer Protection .....3 F (alternate years)
Examination of consumer protection laws, regulations, and agencies at the federal and state levels. Analysis of the necessity for and effectiveness of consumer protection efforts. Examination of the role of business and the consumer in consumer protection.

CA 487 Orientation to Consumer Affairs Internship .....1 F
Orientation to Consumer Affairs Internship will identify expectations of the Consumer Affairs Internship experience. Students will further develop effective written and verbal communication skills as related to consumer affairs work experiences and analyze various issues in the workplace. Students will investigate and locate an approved consumer affairs internship site and set appropriate professional goals for work responsibilities. P, Senior standing or consent, to be taken prior to Internship.

CA 492 Special Problems 1-3
Problems selected according to students' special needs and interests. Consent of instructor.

CA 495 Professional Internship .....10 S
A minimum of ten weeks during the Spring Semester. Explores roles and responsibilities of the consumer affairs professional. Student will have field experience in approved business or agency. P. CA 487, 2.5 GPA and senior standing in Consumer Affairs. Concurrent with CA 412.

Dual Numbered Courses

CA 493-593 Current Topics 1-3
For students needing additional study of a topic or experience not offered as part of a regular class.

Graduate Courses

CA 792 Special Problems 1-3

CA 793 Current Topics 1-3

CEE (Civil & Environmental Engineering)

Undergraduate Courses

CEE 106 Elementary Surveying .....3 FS
Use, adjustment, and care of surveying instruments; analysis of errors in observation. P, Math 120 or 113 and EG 121.

CEE 106A Elementary Surveying Lab 0

CEE 208 Engineering Surveys .....3 FSu
Topographic surveys and mapping elements of photogrammetry, land and construction surveys, principles of curve and earth work calculations and other advanced topics in surveying. P, 106.

CEE 208A Engineering Surveys Lab 0

CEE 211 Materials of Construction .....2 F
(For non-CEE students.) Sources, applications, and properties of materials used in construction. Laboratory tests to determine these properties. P, sophomore standing.

CEE 216 Materials .....3 FS
Basic structure of materials and its effect on material properties. Laboratory tests on materials, principles of concrete mixes. P, Phys 211, Chem 112.

CEE 216A Materials Lab 0

CEE 304 Land Surveying .....3 F
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. P, 208.

CEE 306 Photo Interpretation and Photogrammetry .....3 S
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. P, 208, or consent.

CEE 306A Photo Interpretation and Photogrammetry Lab 0

CEE 311 Structural Materials Lab .....1 FS
Laboratory tests on structural materials and elements, and interpretation of test results. Careful laboratory techniques are emphasized. P, 216 with EM 321.

CEE 327 Water Supply Engineering .....3 FS
Hydrologic cycle, surface water and ground water, water consumption and demand, quality of water, pumping, treatment and distribution of water supplies. P, Chem 112, EM 331 or consent.

CEE 327A Water Supply Engineering Lab 0

CEE 331 Fluid Mechanics Lab .....1 FS
Measurement of properties of common fluids, and tests on fluids in motion.

CEE 333 Hydrology .....3 F
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. P, EM 331, Stat 341 or 381 or concurrent.

CEE 333A Hydrology Lab 0

CEE 336 Engineering Geology 3
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. P, 216.

CEE 336A Engineering Geology Lab 0

CEE 353 Structural Theory .....3 FS
Reactions, internal forces, use of influence lines for beams, frames, and trusses for moving loads. P, EM 321.

CEE 363 Highway Engineering .....3 S
Highway administration, traffic characteristics, highway standards, drainage, geometric design, construction methods. P, 208.

CEE 363A Highway Engineering Lab 0

CEE 423 Waste Water Engineering .....3 FS
Systems for collecting waste water, waste water disposal and treatment processes, solid waste disposal. P, 327.

CEE 423A Waste Water Engineering Lab 0

CEE 433 Hydraulic Engineering .....3 F
Development of fundamental principles related to closed conduit flow, flow in open channels, open channel transitions and controls, introduction to wave mechanics, hydraulic structures. P, EM 331.

CEE 446 Geotechnical Engineering .....4 F
Soil principles, index properties, moisture density relations, compressibility, stresses, embankments, foundations, soil compaction and stabilization, laboratory tests on fundamental soil properties. P, 216, 336, senior standing.

CEE 446A Geotechnical Engineering Lab 0

CEE 455 Steel Design .....3 FS
Design of steel members subjected to tensile, compressive flexural, and combinations of forces. Member design. Elementary concepts of frame design. Design of simple bolted and welded connections. P, 353.

CEE 455A Steel Design Lab 0

CEE 456 Concrete Theory and Design .....3 FS
Principles of analysis and design of reinforced concrete structures based on strength design methods for ACI Code. Design of flexural members, columns and footings. P, 353.

CEE 456A Concrete Theory and Design Lab 0

CEE 457 Indeterminate Structural Analysis .....3 S
Analysis of deflections and indeterminate structures, double integration, moment areas, conjugate beam, energy methods, graphical integration, numerical methods, slope deflection, moment distribution, and matrix methods. P, 353.

CEE 457A Indeterminate Structural Analysis Lab 0

CEE 458 Design of Timber Structures .....2 (alternate years)
Physical and mechanical properties of wood. Design of columns, beams, trusses, curved members, connections and common structural systems. Loadings and deflection of structural members. Design using dimension lumber, plywood, and laminated members will be discussed. P, 353.

CEE 464 Senior Design Project I .....1 FS
Development of a comprehensive civil engineering project design. P, senior standing and consent.

CEE 465 Senior Design Project II .....2 FS
Completion of a comprehensive civil engineering project design. P, 464.

CEE 467 Transportation Engineering .....3 F
Engineering principles in various common modes of transportation. P, 208, and CSc 213.

CEE 475 Engineering Administration .....3 S
Law of contracts, agency, and other legal aspects of engineering. Preparation of specifications. Economic aspects of engineering. P, senior standing.

CEE 483 Municipal Engineering .....3 F
Design/construction of municipal facilities including subdivisions, drainage, streets, water and wastewater systems, and solid waste disposal. Duties and responsibilities of city engineer. P, 208, 333.

CEE 483A Municipal Engineering Lab 0

CEE 490 Seminar .....0 FS
Current literature on professional and technical aspects of Civil Engineering. P, junior standing. Pass/Fail Grading.

CEE 492 Special Problems .....1-3 FSSu
Individual investigation. P, consent.

CEE 494-495-496 Cooperative Education/Internship/ Field Experience .....1-6 FSSu
Planned and supervised professional experience related to civil engineering which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

CEE 411-511 Bituminous Materials .....3 F (alternate years)
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. P, 216.

CEE 411A-511A Bituminous Materials Lab 0

CEE 424-524 Industrial Waste Treatment .....2 S
Characteristics and composition of industrial wastes, sampling and methods of analysis of these wastes and remedial measures for treatment and disposal. P, 423 or consent.

CEE 427-527 Environmental Engineering Instrumentation .....3 F
Analysis of water and waste water samples, using environmental laboratory instrumentation. Design of treatment facility process instrumentation and controls. P, 423 or consent.

CEE 427A-527A Environmental Engineering Instrumentation Lab 0

CEE 428-528 Solid Waste Engineering and Management .....3 S
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. P, 446.

CEE 428A-528A Solid Waste Engineering and Management Lab ..0

CEE 435-535 Water Resources Engineering .....3 S
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. P, 433.

CEE 436-536 Foundation Engineering 3
Bearing capacity, load induced pressures and settlements, soil exploration and sampling, lateral-earth pressure, retaining walls, sheet pile structures, pile formations and caissons. P, 446.

CEE 436A-536A Foundation Engineering Lab 0

CEE 443-543 Matrix Analysis of Structures 3
Theory and application of matrix methods in structural analysis. P, 353.

CEE 444-544 Precast Concrete Structures .....3 (alternate years)
Advantages of precast concrete. Structural and architectural precast elements. Building systems. Design concepts and structural design. Connections, specifications, and detailing. P, 456.

CEE 447-547 Advanced Soils Engineering 3
Application to engineering problems. Stability, compaction, embankments, seepage, draining, stabilization. P, 446.

CEE 447A-547A Advanced Soils Engineering Lab 0

CEE 452-552 Prestressed Concrete 3

Theory and design of prestressed concrete including pre-tensioning and post-tensioning. P, 456.

CEE 459-559 Advanced Structural Mechanics ..3 S (alternate years)
Review of principal moments of inertia; relationship of plain 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. P, 353.

CEE 459A-559A Advanced Structural Mechanics Lab 0

CEE 472-572 Geosynthetics 2
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, tiltration and reinforcement applications (P, CEE 336).

CEE 493-593 Special Topics .....1-3 FSSu
P, consent.

Graduate Courses

CEE 623 Advanced Sanitary Engineering .....3 (alternate years)
CEE 625 Environmental Engineering Planning 3 S (alternate years)
CEE 632 Advanced Foundation Engineering .....3 (alternate years)
CEE 632A Advanced Foundation Engineering Lab 0
CEE 633 Open Channel Hydraulics .....3 F (alternate years)
CEE 634 Fluvial Hydraulics .....3 S (alternate years)
CEE 639 Geotechnical Testing .....3 (alternate years)
CEE 639A Geotechnical Testing Lab 0
CEE 654 Advanced Design of Steel Structures ....3 (alternate years)
CEE 656 Advanced Reinforced Concrete Design .....3 (alternate years)
CEE 664 Highway Capacity Analysis .....3 S (alternate years)
CEE 664A Highway Capacity Analysis Lab 0
CEE 693 Special Topics .....1-3 FSSu
CEE 700-701 Seminar 0-1
CEE 721 Environmental Engineering .....3 (alternate years)
CEE 722 Hazardous/Toxic Waste Disposal .....3 (alternate years)
CEE 722A Hazardous/Toxic Waste Disposal Lab 0
CEE 724 Land Treatment of Wastes .....3 (alternate years)
CEE 724A Land Treatment of Wastes Lab 0
CEE 725 Biological Principles of Environmental Engineering 3
CEE 725A Biological Principles of Environmental Engineering Lab 0
CEE 726 Physical/Chemical Principles in Environmental Engineering 3
CEE 726A Physical/Chemical Principles in Environmental Engineering Lab 0
CEE 727 Water Treatment Plant Design .....3 F (alternate years)
CEE 727A Water Treatment Plant Design Lab.....0
CEE 728 Waste Water Treatment Plant Design .....3 S (alternate years)
CEE 728A Waste Water Treatment Plant Design Lab.....0
CEE 733 Advanced Water Resources Engineering .....3 S (alternate years)
CEE 734 Surface Water Quality Modeling .....3 (alternate years)
CEE 737 Hydraulic Design .....3 F (alternate years)
CEE 738 Advanced Hydraulics .....3 S (alternate years)
CEE 738A Advanced Hydraulics Lab.....0
CEE 749 Structural Dynamics .....3 (alternate years)
CEE 756 Reinforced Masonry Design .....3 (alternate years)
CEE 762 Pavement Management and Rehabilitation .....3 F (alternate years)
CEE 762A Pavement Management and Rehabilitation Lab 0
CEE 765 Pavement Design .....3 S (alternate years)
CEE 769 Design of Steel and Concrete Bridges ....3 (alternate years)
CEE 770 Engineering Research or Design Paper 1-2
CEE 790 Thesis .....1-7 FSSu
CEE 791 Thesis Sustaining .....0 FSSu
CEE 792 Special Engineering Problems .....1-3 FS
CEE 793 Special Topics 1-3
CEE 795 Engineering Research or Design Paper Sustaining 0
CEE 797 Research 1-9

Chem (Chemistry)

Undergraduate Courses

Chem 100 World of Chemistry I .....4 F
Introduction to chemistry in the home, garden, environment, world of art and everyday living in a non-mathematical context designed specifically for liberal arts majors with limited scientific training. Duplicate credit for 100, 106, and 112 not allowed.

Chem 100A World of Chemistry I Lab.....0

Chem 102 World of Chemistry II .....4 S
Continuation of 100. P, 100.

Chem 102A World of Chemistry II Lab.....0

Chem 106 Chemistry Survey .....4 FSSu
A one-semester introduction to chemistry. Not intended for those needing extensive chemistry background. Duplicate credit for Chem 106 and 112 not allowed.

Chem 107 Chemistry Survey Lab 0

Chem 108 Organic and Biochemistry .....5 FSSu
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. Duplicate credit for Chem 108 and 120, 326 or 361 not allowed. P, 106.

Chem 109 Organic and Biochemistry Lab 0

Chem 112 General Chemistry I .....4 FS
Comprehensive coverage of general chemistry. Preferred for those needing extensive background in chemistry. Duplicate credit for Chem 106 and 112 not allowed.

Chem 113 General Chemistry I Lab 0

Chem 114 General Chemistry II .....3 or 4 FS
Continuation of 112. P, 112 or a B in 106.

Chem 115 General Chemistry II Lab 0

Chem 116 Experimental General Chemistry II.....1
The laboratory portion of Chem 114 for those who have completed 114 for 3 credits. P, 114 (3 credits).

Chem 120 Elementary Organic Chemistry ..... 3 or 4 FSSu
Compounds of carbon with emphasis on those of interest to students of Agriculture, Family and Consumer Sciences. P, 106 or 112. Duplicate credit for Chem 108, 120, and 326 not allowed.

Chem 121 Elementary Organic Chemistry Lab 0

Chem 122 Experimental Elementary Organic Chemistry 1
The laboratory portion of Chem 120 for those who have completed 120 for 3 credits. P, 120 (3 cr).

Chem 232 Analytical Chemistry I .....4 FS
Fundamental principles and laboratory practice in gravimetric and volumetric analysis; introduction to instrumental analysis. P, 114 (4 credits).

Chem 233 Analytical Chemistry I Lab 0

Chem 326-328 Organic Chemistry .....4 FS
Fundamentals of organic chemistry. P, 114 (4 credits). Duplicate credit for Chem 120, 326 not allowed.

Chem 327-329 Organic Chemistry Lab 0

Chem 342-344 Physical Chemistry .....3, 5 FS
Fundamentals of physical chemistry. P, 232, 1 year physics, 1 year calculus.

Chem 342A-344A Physical Chemistry Lab 0

Chem 352 Inorganic Chemistry .....4 F
Theoretical and periodic aspects of inorganic chemistry. P, 232.

Chem 352A Inorganic Chemistry Lab 0

Chem 361 Biochemistry ....4 FSSu
Introduction to biochemical processes and the study of compounds of biological interest. P, 120 (4 credits) or equivalent. Duplicate credit for Chem 108 and 361 not allowed.
Chem 361A Biochemistry Lab 0
Chem 380 Environmental Chemistry ....4 S
Emphasis on the role of chemistry in understanding and solution of environmental problems. P, 112, 114 (4 credits) or 106, 120 (4 credits).
Chem 382 Techniques in Clinical Laboratory Technology ....3 S
Introduction to techniques used in the clinical laboratory including urinalysis, hematology and clinical chemistry.
Chem 382A Techniques in Clinical Laboratory Technology Lab 0
Chem 434 Instrumental Analysis 4
Theory and practice in instrumental analysis. P, 232, 328, 344, or consent.
Chem 434A Instrumental Analysis Lab 0
Chem 461 Intermediate Biochemistry ....3 S
Intermediate level study of biochemical processes of plants and animals, emphasizing the integration and control of their metabolic processes. P, 361.
Chem 492 Special Problems ....1-9 FSSu
P, consent.
Chem 495 Internship ....1-4 FSSu
Planned and supervised professional experience related to chemistry which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Graduate Courses

(if not listed, see department for schedule of offerings)
Chem 616 Chemical Literature ....3 S
Chem 622 Advanced Organic Chemistry I ....3 F
Chem 632 Advanced Analytical Chemistry ....3 S
Chem 642 Advanced Physical Chemistry ....3 F
Chem 654 Advanced Inorganic Chemistry ....3 F
Chem 662 Principles of Biochemistry ....3 F
Chem 691 Special Problems ....1-4 FS
Chem 720 Special Topics in Organic Chemistry 1-6
Chem 722 Synthesis of Natural Products 3
Chem 724 Structural Determination of Organic Compounds 3
Chem 724A Structural Determination of Organic Compounds Lab 0
Chem 725 Polymer Chemistry 4
Chem 725A Polymer Chemistry Lab 0
Chem 726 Advanced Organic Chemistry II 3
Chem 728 Bioorganic Chemistry 3
Chem 730 Special Topics in Analytical Chemistry 1-6
Chem 732 Analytical Ag and Environmental Chemistry 4
Chem 732A Analytical Ag and Environmental Chemistry Lab 0
Chem 734 Analytical Spectroscopy 3
Chem 736 Chromatography and Separations 3
Chem 738 Electroanalytical Chemistry 3
Chem 740 Special Topics in Physical Chemistry 1-6
Chem 741 Quantum Chemistry I 3
Chem 742 Quantum Chemistry II 3
Chem 744 Chemical Thermodynamics 3
Chem 745 Statistical Thermodynamics 3
Chem 746 Atomic and Molecular Structure 3
Chem 748 Chemical Kinetics 3
Chem 750 Special Topics in Inorganic Chemistry 1-6
Chem 752 Descriptive Inorganic Chemistry 3
Chem 752A Descriptive Inorganic Chemistry Lab 0
Chem 753 Organometallic Chemistry 3
Chem 754 Physical Methods of Inorganic Chemistry 3
Chem 760 Special Topics in Biochemistry 1-6
Chem 764 Biochemistry I 3
Chem 766 Biochemistry II 3
Chem 767 Biophysical Chemistry 3
Chem 768 Plant Biochemistry 3
Chem 769 Nutritional Biochemistry 3
Chem 772-773 Seminar ....1 FS
Chem 781 Bioinorganic Chemistry 3
Chem 782 Radioisotope Techniques ....4 S
Chem 782A Radioisotope Techniques Lab 0
Chem 790 Thesis 1-7
Chem 791 Thesis Sustaining (M.S.) 0
Chem 890 Dissertation (Ph.D.) 1-12
Chem 891 Dissertation Sustaining (Ph.D.) 0

The following Physics courses may be used in either the Chemistry graduate major or minor program. See complete descriptions under Department of Physics.
Phys 743 Statistical Mechanics 2
Phys 775 Tensors & General Relativity 3
Phys 779 Group Theory in Quantum Mechanics 3

Chin (Chinese)

Undergraduate Courses

Chin 101-102 Introductory Chinese I-II 4
Introduction to the Chinese language and culture. Classwork may be supplemented with required aural/oral practice outside of class.

CHRD (Counseling and Human Resource Development)

Undergraduate Courses

CHRD 101 Academic and Career Exploration 1 FS (alternate years)
The course applies developmental theory to assist students in exploring career and major options and helps them prepare for academic, career and employment transitions. Includes 15 lecture hours and up to 8 out of class advising sessions.

Dual Numbered Courses

CHRD 430-530 Gender Issues in Counseling 3
CHRD 471-571 Gerontology Issues in Counseling 3

Graduate Courses

CHRD 601 Introduction to Counseling ....3 F
CHRD 603 School Counseling ....3 F
CHRD 610 Developmental Issues in Counseling ....3 FSSu
CHRD 651 Mental Health and Personality Development 3
CHRD 661 Theories of Counseling ....3 FS
CHRD 681 Workshop ....1-3 FSSu
CHRD 682 Seminar ....1-3 FSSu
CHRD 690 Special Topics ....1-3 FSSu
CHRD 706 Counseling the Victim ....3 SSu (even years)
CHRD 713 Administration and Management of Mental Health Organizations ....3 S
CHRD 716 Human Resource Management in Business and Industry ....3 S
CHRD 722 Administration and Management of School Counseling Programs ....3 S
CHRD 723 Counseling the Family ....3 F
CHRD 736 Appraisal of the Individual ....3 FS
CHRD 742 Career Counseling & Planning ....3 FS
CHRD 755 Clinical Diagnosis and Treatment Planning ....3 F
CHRD 756 Counseling the Addictive Client 3

CHRD 766 Group Counseling .....3 FSSu
CHRD 770 Student Development: Theory and Practice .....3 F
CHRD 771 Student Personnel Services .....3 S
CHRD 772 Administration and Leadership in Student Affairs.... 3 S
CHRD 786 Pre-Practicum 3
CHRD 787 Counseling Practicum .....3-5 FSSu
CHRD 788 Group Counseling Practicum 3
CHRD 789 Internship .....2-6 FSSu
CHRD 790 Thesis .....1-6 FSSu
CHRD 791 Thesis Sustaining .....0 FSSu
CHRD 792 Research Problems in Counseling and Guidance.....2 FSSu
CHRD 793 Problems .....1-3 FSSu

CJus (Criminal Justice)

Undergraduate Courses

CJus 201 Introduction to Criminal Justice .....3 FS
An overview of the criminal justice system focusing primarily on the institutions involved in the operations of the criminal law including the police, the attorney in the legal system, the bail system, the trial, the guilty pleas, sentencing, and corrections. A limited portion of the course is devoted to an analysis of the purposes of the criminal law in terms of ascertaining why we make certain kinds of conduct criminal in our society. (Recommend taking CJus 201 prior to other CJus courses.)

CJus 203 Police and Community Relations .....3 F (alternate years)
Examination of the historical development of policing; the role and function of policing; the process of policing; administration and evaluation of the police organization; police-community relations; the organization and control of policing; other related issues.

CJus 331 Civil Rights and Liberties .....3 S
Individual First Amendment guarantees, constitutional right of the accused in the criminal process and equal protection of the law as interpreted through U.S. Supreme Court decisions. P, PolS 100 (or 101) or consent. Crosslisted with PolS 331.

CJus 333 Fundamentals of Criminal Procedure .....3 S (alternate years)
Constitutional analysis of the criminal procedure that focuses primarily on the Fourth, Fifth, and Sixth Amendments; the right to be free from unreasonable search and seizure, the privilege against self-incrimination, and the right to counsel. The course examines the need to protect the public and enhance law enforcement efficiency and the need to protect individual defendants from abuse at the hands of the state.

CJus 334 Criminal Law .....3 F (alternate years)
Examination of the substantive criminal law and a unique opportunity to explore the larger issues concerning the relationship of the individual to the state. Includes analysis of the following topics: the nature of criminal liability and the functions and justifications for criminal punishment, legal limitations upon criminalization, the general principles of criminal liability such as the "act" and "state of mind" requirements, specific offenses against persons and property, and law of attempt, the law of complicity, and conspiracy.

CJus 335 Criminal Prosecution and Defense .....3 F
Behavioral and legal analysis of the stages and procedures of a criminal case including initial appearance, bail, preliminary hearing, grand jury, arraignment, suppression hearings, trial and sentencing. Emphasis is on bail reform, plea bargaining, screening, diversion, speedy trial, insanity defense, discovery, and the role of the defense attorney, prosecutor, and judge. Included is an examination of the court system as a social institution of human actors who exercise discretion within and without the boundaries of the law.

CJus 336 Juvenile Justice .....3 F (alternate years)
Historical, philosophical, and legal examination of the separate system created in our society to handle juvenile justice in this country. Traces the development of the juvenile justice system in the country and examines the various stages of the juvenile justice process and critical issues currently facing the system.

Dual Numbered Courses

CJus 416-516 Problems in Criminal Justice .....3 S
An examination of selected contemporary problems in the administration of criminal justice. Topic will change each semester. May be repeated for credit. Course descriptions available prior to term course is offered.

CM (Construction Management)

Undergraduate Courses

CM 101 Introduction to Construction.....1 F
Students are introduced to the concept of being a professional and the ethics required of a professional person with influence on the construction industry. A breadth of ideas are presented to the students which helps them in their career choice.

CM 106 Elementary Surveying .....3 FSSu
Use, adjustment, and care of surveying instruments; analysis of errors in observation. P, Math 120 or 113 and EG 121.
Crosslisted with CEE 106.

CM 106A Elementary Surveying Lab.....0

CM 200 Project Visiting Construction Sites .....1 F
Field trips to local construction sites. P. Sophomore standing. This course meets the first eight weeks of the semester.

CM 208 Construction Surveying .....3 F
Elements of construction surveying including topographic surveys and mapping elements of photogrammetry, land and construction surveys, principles of curve and earth work calculations and other advanced topics in surveying. P, 106.

CM 208A Construction Surveying Lab 0

CM 216 Construction Materials.....3 S
Source, processing, applications and testing of construction materials. P, concurrent enrollment in GE 223.

CM 216A Construction Materials Lab 0

CM 232 Planning and Blueprint Reading.....2 FS
Introduction to the micro-computer, word processing, data base, and spreadsheets and their applications in the construction industry. Specific construction applications of the micro-computer in planning, scheduling, estimating, communications, and design as well as software and new/future technology will be covered.

CM 294 Cooperative Education/Internship/Field Experience .....1-3 FSSu

CM 321 Strength of Materials .....3 F
Applied mechanics with analytical and graphical application of physical principles to engineering related problems. Applications of: stress and strain relationships; Mohr's circle; centric, torsional, and flexural loadings; and deflections of beams. P,GE 223, Math 222 and Phys 113.

CM 321A Strength of Materials Lab 0

CM 332 Building Systems in Construction .....3 F
The study of the structural, electrical, and mechanical building systems and their components. Emphasis is placed upon the understanding of: 1) the fundamental vocabulary of construction in both verbal and graphic terms, 2) the relationship of the individual building systems to the functional value of the total building. P, junior standing or instructor approval.

CM 332A Building Systems in Construction Lab 0

CM 333 Practical Hydrology/Hydraulics .....3 S
The principles of precipitation, run-off, stream flow and ground water flow will be covered in the hydrology segment of this course. Both closed and open channel flow, hydraulic structures, fluid mechanics, flow measurements, and pumps will be covered in the hydraulics

segment of this course. P, junior standing or instructor approval. P, GE 223.

CM 336 Engineering Geology .....3 FS
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. Crosslisted with CEE 336.

CM 336A Engineering Geology Lab 0

CM 352 Cost Estimating Techniques .....3 S
To gain knowledge of estimating the cost of projects to be constructed. Interpretation of plans and specifications for the purpose of preparing a bid. Topics include: approximate and detailed estimates of materials, equipment and labor costs, lump sum and unit cost estimates, overhead, profit, and production rates. P, 232, 332, CEE 211.

CM 353 Structural Theory for Technologists .....3 S
Reactions, internal forces and use of influence lines. P, 321.

CM 374 Construction Method and Equipment 3
Detailed study of the various methods, equipment and techniques of construction. Interaction between contractor, design engineer, inspector and owner will be emphasized. P, junior standing or consent.

CM 374A Construction Method and Equipment Lab.....0

CM 400 Risk/Loss Control in Construction .....3 S
Emphasis on business aspects of construction. 1) Organizational and administration: industry structure; construction contracts, arbitration, bonds and insurance; accounting and cost control; labor relations. 2) Construction estimating: quality takeoff and pricing; labor and equipment estimates; estimating excavation, concrete, masonry and carpentry; proposal preparation. Students prepare detailed estimate of a building. P, BAd, 350, senior standing.

CM 443 Project Management .....3 S (alternate years)
A case-oriented capstone course designed to integrate the technical, managerial, analytical, and communication skills which have been acquired. P, 352 and BAdm 334.

CM 452 Cost Estimating II.....2 F
A project oriented course where a bid is performed on a local project including site visits, take off, computerized estimates and the presentation of the bid. P. 352

CM 473 Construction Engineering 3
Construction management, payroll, labor relations, company structure, and operating characteristics. P, senior standing or consent.

CM 475 Engineering Administration 3
Law of contracts, agency, and other legal aspects of engineering. Preparation of specifications. Economic aspects of engineering. P, senior standing. Crosslisted with CEE 475.

CM 492 Special Problems .....1-3 FSSu

CM 493 Special Topics .....1-3 FSSu

CM 494 Cooperative Education/Internship/Field Experience .....1-3 FSSu

CSc (Computer Science)

Undergraduate Courses

CSc 105 Introduction to Computers .....3 FSSu
Computer literacy will be stressed and microcomputers will be used. Topics covered will include history, impact on social and cultural environment and daily life, professional opportunities, ethics, hardware, software, applications to other disciplines and elementary topics on WIN 95 as well as the use of a wordprocessor, spreadsheet, graphics and data base manager. P, 1 year of high school math.

CSc 130 BASIC Programming 3
The fundamental concepts of the Computer and the Computer language BASIC will be introduced. That is, decision statements, string manipulation, loops, flow of control, subroutines, user defined functions, random generators, sequential and random access files will be topics covered in the course. P, 1 year of high school math.

CSc 150 Computer Science I .....3 FSSu
This is an introductory course on the topics of structured programming. Topics covered will be top-down design, step-wise refinement, procedures, functions, decision statements, loops, one dimensional arrays, strings, and the use of external files. All topics when covered will stress good problem solving, documentation, debugging and testing. P, 2 years high school algebra or consent.

CSc 210 Introductory SAS Programming .....1 FS
An overview of SAS Programming with an emphasis on getting data into data sets, manipulating the data sets and using some of the more simple procedures SAS already employs to modify and display data.

CSc 213 Introduction to Programming with FORTRAN .....3 FS
FORTRAN programming for engineering and computer science majors. P, 2 years of high school algebra or equivalent of Math 113.

CSc 218 Introduction to C/C++/UNIX for Engineers .....3 FSSu
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. P, two years of high school algebra or equivalent of Math 113.

CSc 241 Computer Logic .....3 F
An introduction to computer operating principles, information storage and logic gates. Boolean algebra and other methods of simplifying boolean functions are covered to provide an elementary understanding of computer logic analysis and design, suitable for a student at the sophomore level. P, 250 or 213 and Math 113.

CSc 250 Computer Science II .....3 FS
The topics in this course will be introduced as needed in the context of one or more projects involving larger programs. Structured programming techniques will be utilized with a strong emphasis toward good programming style, expression and documentation. The course will extend the concepts of stepwise refinement, top-down programming, debugging, testing, string processing, arrays, searching, sorting and recursion. The concepts of stacks, queues, linked lists and linked allocation will be introduced. P, 150.

CSc 285 Data Structures .....3 F S
A more advanced study of such topics as strings, arrays, linked lists, stacks, queues, trees, graphs, search and sorting. Other topics covered will be introductory algorithm analysis, design and comparison of different structures and algorithms. P, 250.

CSc 290 Programming Languages .....3 S
A systematic approach to the study of programming languages, their data and their behavior at execution time. Methods for specifications of syntax and semantics. Global properties and algorithmic languages including the scope of declarations, grouping of statements, binding time storage allocation. P, 285.

CSc 303 Introduction to Ethical Issues in Computer Science .....2 S
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. P, 105 and junior status.

CSc 312 Advanced Microcomputer Applications .....3 FSSu
Covers advanced topics in DOS as well as advanced topics of a word processor, spreadsheet, graphics and database manager from an individual package point of view as well as from an integrated package point of view. Macros, a fourth generation language, file transfer between packages and communications will also be covered. P, 105 or consent.

CSc 314 Assembly Language .....3 F
ASSEMBLY language programming, organization and operating principles of the IBM computer, and others. For students seriously interested in computers or computer programming. P, 250 or 213.

CSc 316 PL/1 Programming 3
Introduction to PL/1 programming. Includes scientific and business oriented programming applications, data structures, structured programming and file processing. P, 150 or 213.

CSc 318 Object Oriented Programming in C++ .....3 FS
The study of object oriented methodologies using C++ in a UNIX environment. Advanced data structures, I/O and file management will be implemented using polymorphism, inheritance and encapsulation. P, 285.

CSc 325 Management Information Systems 3
Introduction to application software development and design methods. Data base and management information systems are also presented. P, 312.

CSc 328 Introduction to Automata Theory .....3 F
Turing machines, computational functions, unsolvability of the halting problem, recursive functions. Finite state models, equivalence, minimization, properties, decision questions, characterizations. Regular expressions. Survey of other automata. P, 250 and Math 253 and 345.

CSc 330 COBOL Programming .....3 F
An introduction to COBOL Programming. The topics of structured programming style, data structures, file processing concepts and techniques both sequential and random organization, and documentation are presented. Programming problems are from typical business applications. P, 213 or 150.

CSc 331 Advanced COBOL Programming .....3 S
Advanced programming features of the COBOL Language. Topics include string manipulation, multi-dimensional arrays, subprograms, file processing concepts utilizing sequential, random and dynamic access to indexed files with primary and alternate keys. Programming problems deal with transaction processing in typical business applications. P, 330.

CSc 354 Introduction to Systems Programming .....3 F
The study of macros, subroutines, subroutine linkage, conditional assembly, input-output, interrupt processing, assemblers, loaders and linkers. P, 285 and 314.

CSc 410 Programming Using SAS .....3 FS
The Base SAS System will be covered as it applies to information storage and retrieval; data input, modification, and programming; report writing, descriptive and simple statistics and file handling. Additional SAS packages will be explored dealing with SAS/FSP (interactive facility for data entry, editing, and retrieval), SAS/ASSIST (menu-driven, task-oriented interface), and SAS/Graph (information and presentation graphics).

CSc 426 Computer Architecture and Organization .....3 S
Elementary computer architecture, gates and digital logic, register transfer, microprocessors and micro operations, computer arithmetic and processor studies of existing systems. P, 241 and 314.

CSc 428 Compiler Construction .....3 S
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. P, 285 and 328.

CSc 456 Operating Systems .....3 F
Operating systems structure; memory, process and I/O management; concurrent processes and case studies of existing operating systems. P, 285 and 314 and Stat 341 or Math 381.

CSc 470 Software Engineering .....3 S
The principles, techniques and tools used to design and construct accurate, reliable, maintainable and dependable software will be studied. P, 285.

CSc 480 Methods for Teaching Computer Science .....3 FS
The principles, methods and theories in teaching computer science subjects to secondary school students will be studied. P, 285.

CSc 484 Database Management Systems .....3 S
Introduction to the fundamental concepts of database systems. The relational, hierarchical, and network approaches. The underlying design of a database system and the characteristics of widely used database packages. Emphasis on project using a database package. P, 285.

CSc 494-495-496 Cooperative Education/Internship/Field Experience 1-6
Planned and supervised professional experience related to computer science which takes place outside the formal classroom with private business or industry or public agencies. P, consent of department head.

Dual Numbered Courses

CSc 472-572 Artificial Intelligence .....3 Su
Introduction to ideas, issues and applications of Artificial Intelligence. Knowledge representation, problem solving, search, inference techniques, theorem proving. Expert systems. Artificial intelligence programming languages. P, 290.

CSc 474-574 Computer Networks .....3 S
Analysis of current and future computer networks with emphasis on the OSI model. Local and wide area networks. TCP/IP, SNA, token ring, ethernet and other common networks will be covered. Protocol and interfaces within and across networks including the OSI layers, routers, bridges and gateway. P, 285, Math 381 or Stat 341.

CSc 476-576 Computer Graphics .....3 F
Principles of computer graphics. A study of the algorithms used to generate raster and vector graphics. P, 285, Math 215 and 224.

CSc 493-593 Special Topics in Computer Science 1-3
Individualized problems determined by mutual agreement between instructor and student. Programming language optional. P, consent of department head.

Graduate Courses

CSc 630 Principles of Data Base System Design 3
CSc 643 System Analysis and Design 3
CSc 700-701 Seminar 0-1
CSc 705 Design and Analysis of Computer Algorithms .....3 S
CSc 710 Structure and Design of Programming Languages .....3 F
CSc 720 Theory of Computation .....3 S
CSc 740 Management Information Systems 3
CSc 750 Recent Advances in Parallel Processing 3
CSc 770 Software Engineering Management .....3 F
CSc 790 Thesis 1-7
CSc 791 Thesis Sustaining 0
CSc 792 Research Report/Design Paper 1-2
CSc 793 Special Topics in Computer Science 1-2
CSc 794 Special Problems in Computer Science .....1-3 (max 6)
CSc 795 Computer Science Research or Design Paper Sustaining ..0
CSc 797 Research .....1-9 Repeatable P/F

CScA (Computer Science Applications)

The following courses, which all carry the CScA prefix, can be applied to the Certificate Program in Microcomputer Applications offered through the Capital University Center.

CScA 100 Keyboarding/Introduction to Computers .....1-3 FSSu
An introductory course emphasizing the development of basic keyboarding skills. Course content includes experience in building keyboarding skills, computer terms, functions of the different keys, entering and printing material, and introduction to several types of software programs.

CScA 120 Introduction to Microsoft Windows .....1 FSSu
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, 100 or permission of instructor.

CScA 142 Introduction to Microcomputer Software Applications .....3 FSSu

Latest state-of-the-art software packages to introduce word processing in order to illustrate the use of the computer for writing letters, memos, reports, etc.; the use of modern spreadsheet for bookkeeping purposes and an introduction to the concept of a database management software package with business applications in mind. P, 100, 120, or permission of instructor.

CScA 242 Word Processing Applications .....2 FSSu
An in-depth study of a word processing software package such as DisplayWrite, WordStar, WordPerfect, etc., will be presented. Microcomputers will be utilized. P, 100, 120, 142, or permission of instructor.

CScA 243 Spreadsheet Applications .....3 FSSu
An explanation of graphic capabilities, the spreadsheet commands and the macro command language. The course includes an overall look at worksheet organization, dates and some frequently used functions. P, 100, 120, 142, or permission of instructor.

CScA 244 Database Applications .....3 FSSu
A presentation of information necessary to design an application, create a structure and build a database. Topics include: global alterations and deletions, labels and reports, statistics commands and memory variables, indexing, searching, automation, writing menus, screen formatting and relating databases. P, 100, 120, 142, or permission of instructor.

CScA 263 Advanced Topics in Microcomputer Applications .....1-3 FSSu
Courses on such topics as desktop publishing, networking, and advanced software applications in word processing, database, spreadsheet and graphics, or programming microcomputers. Microcomputers will be used. P, permission of instructor.

CScA 264 Integrated Software .....3 FSSu
A tightly integrated software program that offers a word processor, a database manager, data communications and a spreadsheet with charting. P, 100, 120, 142, or permission of instructor.

CScA 265 Artificial Intelligence Integrated Software Packages .....3 FSSu
A data filing program that combines word processing, report generation, and artificial intelligence in a tightly integrated package. Content includes terminology, structures, design concepts, and automation. P, 100, 120, 142, or permission of instructor.

Danc (Dance Education)

Undergraduate Courses

Danc 130 Dance Fundamentals .....1 FS
Basic skills course required of all physical education majors. Includes analysis and skill development of round, folk, square and social dances, traditional and contemporary. P, sophomore standing. Professional Skills for Majors course.

Danc 240 Multicultural Dance Activities .....1 S
Folk and square dances from around the world, including cultural background, costumes, skill differences for elementary, middle and high school, or adults. P, sophomore standing.

Danc 241 Creative Movement for Children .....2 F
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. P, sophomore standing.

Danc 241A Creative Movement for Children Lab.....0

Danc 420 Techniques of Teaching Dance .....2 S (even years)
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. P, 130, 240.

Danc 492 Special Problems in Dance 1-3
Independent studies and/or research activities related to Dance. P, consent.

Danc 493 Topics in Dance 1-5

DCom (Communication Disorders)

Undergraduate Courses

DCom 112 Voice and Articulation .....3 F (alternate years)
The study of vocal production and phonology/articulation.

DCom 131 Introduction to Communication Disorders .....3 F (even years) S
A study of the basic processes of speech, language, and hearing, and the major speech, language and hearing disorders.

DCom 200 Observation of Clinical Practicum .....1 S
Supervised observation of evaluation and management procedures of speech, language, and hearing disorders.

DCom 212 Language Development .....3 S
Emphasis on the acquisition and development of language, verbal and non-verbal, as children learn to communicate effectively by selecting the most appropriate communication strategies.

DCom 310 Phonological & Articulation Disorders .....3 F
The nature, etiology, assessment, and remediation of disorders of phonology/articulation. P, 131, consent.

DCom 312 Language Disorders .....3 F
The nature, etiology, and clinical management of language disorders. P, 212, consent.

DCom 321 Audiology .....4 S (even years)
The study of hearing and hearing disorders. Administering and interpreting audiological tests. P, consent.

DCom 330 Clinical Procedures of Speech—Language Pathology .....3 F (odd years)
Management procedures utilized by the speech-language pathologist for operating a speech/language/hearing program. P, 131, consent.

DCom 336 Diagnostic Methods in Communication Disorders .....3 S (odd years)
Evaluation/assessment tools used for speech and language disorders. P, 131, consent.

DCom 341 Clinical Practicum in Speech—Language Pathology .....3 FS
May be repeated for total of 9 credits. P, consent.

DCom 441 Clinical Practicum in Audiology .....1-2 FS
May be repeated for a total of 2 credits. P, consent.

DCom 492 Special Problems .....1-2 FSSu
May be repeated to a total of 6 credits. P, consent.

DCom 493 Topics in Communication Disorders 1-5

DS (Dairy Science)

Undergraduate Courses

DS 130 Introduction to Dairy Science .....3 FS
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.

DS 130A Introduction to Dairy Science Lab 0

DS 202 Dairy Products Judging .....1 S
Quality of milk, cheddar, cheese, ice cream, and cottage cheese.

DS 212 Dairy Cattle Evaluation .....2 S
Fundamental aspects of evaluation of dairy cattle for type; type classification of dairy cattle.

DS 231 Dairy Foods .....3 F
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.

DS 301 Dairy Microbiology .....3 S (odd years)
Quality control problems during the production and processing of fluid milk for human use, including role of regulatory agencies and quality standards. P, Micr 231.

DS 301A Dairy Microbiology Lab 0

DS 311 Dairy Cattle Judging .....1 F
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. P, 212.

DS 313 Technical Control of Dairy Products I .....3 F
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. P, 130, Chem 106.

DS 313A Technical Control of Dairy Products I Lab 0

DS 321 Dairy Product Processing I .....5 F (odd years)
Principles and practices in assembling, receiving, processing, and packaging milk and cream for beverage use; cultured milk and cream, frozen milk and cream; concentrated milks; and ice cream. Sanitation procedures. P, 130, 313 (or concurrent) and Micr 231 or consent.

DS 321A Dairy Product Processing I Lab 0

DS 322 Dairy Product Processing II .....5 S (even years)
Processing or manufacturing of relatively nonperishable dairy products such as butter, cheese, dried milk, casein, lactose, and anhydrous milkfat. P, 130, 313 (or concurrent) and Micr 231 or consent.

DS 322A Dairy Product Processing II Lab.....0

DS 401 Advanced Dairy Products Judging .....1 F
Quality evaluation of dairy products. Usually includes participation in regional and national collegiate dairy products contest. P, 202 and written consent. Maximum of 2 credits.

DS 411 Dairy Breeds & Breeding .....2 S (even years)
Origin, genetics, characteristics, and development of major breeds of dairy cattle. Breeding and selection based on pedigrees, production records, type classification, and sire analysis. P, 130.

DS 412 Dairy Farm Management .....3 S (odd years)
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. P, 130 or consent.

DS 421 Dairy Plant Management .....3 F (even years)
General costs, buildings, equipment, merchandising, personnel, other management factors of dairy processing plants. P, junior standing or consent.

DS 422 Technical Control of Dairy Products II .....4 S
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. P, 221, Chem 120 or equivalent.

DS 422A Technical Control of Dairy Products II Lab 0

DS 432 Dairy Cattle Feeding .....3 F (even years)
Practical considerations involved in feeding dairy cattle. P, AS 233 and AS 323 desired.

DS 490 Dairy Seminar .....1 F
Review of scientific literature and other items of special interest to dairy majors. P, senior standing.

DS 492 Special Problems in Dairy Science ..1-3 (As arranged) FSSu
Investigation of problems in dairy production or dairy manufacturing. Results to be submitted as a technical paper. P, Junior or Senior standing plus consent. Maximum of 3 cr. for B.S. degree.

DS 493 Special Topics 1-4
Selected topics to provide specific knowledge and technical experience in current areas of research and development. Topics may include new processing, breeding or nutrition techniques or product development. P, consent and junior or senior standing.

DS 494-495-496 Cooperative Education/Internship/Field Experience .....3-12 FSSu
On the job experience to supplement knowledge gained in the classroom. A written job description and work plan will be required. Emphasis will be on total educational value of the experience for the student. Written reports will be submitted to a designated departmental faculty member who will serve as major adviser during the time of the practicum. P, permission of department program coordinator.

Dual Numbered Courses

DS 413-513 Physiology of Lactation .....3 S (odd years)
Anatomy, physiology, and biochemistry of mammary glands. Factors affecting quality and quantity of milk. P, Vet 223 or equivalent.

Graduate Courses

DS 702 Seminar .....1 S

DS 711 Ruminology .....3 F (odd years)

DS 722 Advanced Dairy Microbiology .....3 S (even years)

DS 722A Advanced Dairy Microbiology Lab.....0

DS 731 Laboratory Techniques in Dairy Science ....2 F (even years)

DS 780 Dairy Science Problems .....1-4 FSSu

DS 790 Thesis .....1-7 (as arranged)

DS 791 Thesis Sustaining 0

DS 890 Dissertation – Ph.D. .....1-12 (as arranged)

DS 891 Dissertation Sustaining 0

Econ (Economics)

Undergraduate Courses

Econ 201 Microeconomics Principles .....3 FS
Price as it allocates resources and distributes income. Theory of firm, supply and demand, economic efficiency, types of competition in markets, marginal productivity and wage determination; public interest in industry, agriculture, labor and individual welfare. P, Math 102 or equivalent.

Econ 202 Macroeconomics Principles .....3 FS
U.S. economy. Money and banking. Federal Reserve policy, national income, government spending, taxation, business fluctuations, and levels of employment and prices. Supply and demand, business organization, world trade, economic growth, and economic systems. P, Math 102 or equivalent.

Econ 301 Intermediate Microeconomics .....3 FS
Economic analysis. Pricing process under varying degrees of competitive conditions and role of price in allocation of resources. Income distribution. P, 201, Math 222 or equivalent.

Econ 302 Intermediate Macroeconomics .....3 FS
Determinants of national income, employment and price level in free enterprise system. Aggregate consumption, investment and government spending. Methods of maintaining a high level of employment and income and related aspects of economic policy. P, 201, 202, Math 102 or equivalent.

Econ 330 Money & Banking .....3 FS
Money, banking, and credit; financial institutions, their significant functions and policies. P, 202, sophomore standing.

Econ 370 Marketing .....3 FS
Marketing; market organization and cooperative marketing functions; pricing; efficiency, and role and management of marketing activities. P, 201.

Econ 405 Comparative Economic Systems .....3 FS
Philosophy, organization, and operation of various economic systems – Capitalism, Socialism, Communism, Fascism, etc. Impact of various levels of industrial and agricultural development on the structure of selected economic systems. P, 201 plus 9 hours of Hist, Econ, PolS, and/or Soc.

Econ 423 Statistics II .....3 F
Probability, point and interval estimation, tests of hypotheses, multiple regression and correlation, chi-square analysis, and analysis of variance. P, Stat 341, Math 222 or equivalent.

Econ 428 Mathematical Economics .....3 F
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. P, 301, 302, Math 222.

Econ 433 Public Finance .....3 FS
Public revenues and expenditures. Attaining equitable distribution of burdens and benefits. P, 201, 301.

Econ 453 Risk Management—Personal & Business 3
(Offered on demand) Protection against or adaptation to risk and uncertainty. Principles and practices of fire, casualty, surety and life insurance and other risk management techniques.

Econ 467 Labor, Law & Economics.....3 S
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. P, 201 or 202, junior standing.

Econ 476 Marketing Research 3
(Offered on demand) Marketing problems confronting agribusinesses and businesses. Descriptive and analytical techniques in a research methods approach. Marketing research techniques. P, 370, Stat 341.

Econ 492 Economics Problems .....1-3 FS
Individual study. May involve case studies, special reports, assigned readings, analysis of data and report preparation. Maximum of 4 hours. P, consent.

Econ 493 Special Topics 1-4
Organized by an instructor in consultation with his or her department head and a group of students. A medium through which a specific topic can be pursued. Normally experimental and may be a "one shot deal" for a particular semester and the unique group of students. Maximum: 4 credit hours per semester, 7 credit hours per degree.

Econ 495-496 Internship/Field Experience .....1-3 FSSu
On-the-job experience to supplement knowledge gained in the classroom. Variety and educational value are emphasized. Job description by employer and a written and/or oral report are required. Approval of the experience by internship adviser is required before the activity begins. The student must be registered for credit during the entire internship period. May be repeated to a maximum of 6 credits.

Dual Numbered Courses

Econ 404-504 History of Economic Thought .....3 F
The historical development of economic ideas. Various schools of economic thought and the economic environment which produced them. P, 301, 302 or consent.

Econ 420-520 Economics of the Public Sector 3
Governmental operations, policies, and revenues as related to employment, productivity and economic welfare. Alternatives that would affect social services, education, commerce and trade, fiscal policies, and quality of life. P, 201 or consent.

Econ 431-531 Managerial Economics .....3 S
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. P, 301, Math 222, Stat 341, or equivalent.

Econ 440-540 Economics of the 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. P, 201, 202, 330 or consent.

Econ 450-550 Industrial Organization 3
The elements involved in market power and how they function. How the structure of institutions and conduct of sellers and buyers affect economic performance. P, 301 and 302 or consent.

Econ 460-560 Economic Development 3
Developing and developed national economies. Factors impacting economic development. Role of public policies in development. Agricultural and rural development issues emphasized. P, 201, 202, or consent.

Econ 472-572 Resource and Environmental Economics 3
Allocation, conservation, and development of natural resources. Environmental economics, water and land use, and methods of evaluating projects and programs. P, 201.

Graduate Courses

Econ 601 Economic Study in Industrial Management .....3 F
Econ 610 Financial Management 3
Econ 624 Advanced Mathematical Economics.....3
Econ 653 Advanced Market Research 3
Econ 660 Operations Management 3
Econ 690 Special Problems .....1-3 FS
Econ 701 Research Methods .....2 S
Econ 703 Advanced Macroeconomics .....3 S
Econ 704 Advanced Microeconomics .....3 F
Econ 705 Econometrics .....3 S
Econ 782 Personnel and Labor Relations 3
Econ 790 Thesis .....1-7 (as arranged)
Econ 791 Thesis Sustaining 0
Econ 792 Research Paper 2
Econ 793 Graduate Special Topics 1-4

EdAd (Educational Administration)

Graduate Courses

EdAd 700 Public School Administration .....3 FSu
EdAd 710 Elementary School Administration .....3 Su
EdAd 711 Secondary School Administration .....3 SSu
EdAd 715 Supervision .....3 SSu
EdAd 730 School Finance 2
EdAd 732 School Buildings & Grounds 2
EdAd 735 School Law .....3 SSu
EdAd 781 Workshop .....1-3 FSSu
EdAd 782 Seminar .....1-3 FSSu
EdAd 789 Internship in Education .....1-6 FS
EdAd 792 Research Problems in Ed Administration .....2 FSSu
EdAd 793 Problems .....1-3 FSSu
EdAd 795 Special Topics 1-3

EdER (Education Evaluation and Research)

Dual Numbered Courses

EdER 490-590 Special Topics .....1-3 FSSu
Advanced courses will be taught upon sufficient demand covering such topics as Least Restrictive Environment, computers in education, observation techniques for classroom evaluation.

Graduate Courses

EdER 691 Problems 1-3
EdER 711 Educational Assessment .....3 SSu
EdER 761 Research and Writing .....3 FSSu

EdFn (Education Foundations)

Undergraduate Courses

EdFn 143 Mastering Lifetime Learning Skills .....2 FS
Learn, develop and apply lifetime learning skills relevant to the individual's collegiate/professional career and/or personal life.

EdFn 338 Foundations of American Education .....2 FS
Historical, philosophical, psychological, and sociological backgrounds for education in America. Aims and functions of American education. Organization and administration on federal, state, and local levels in America. Teaching as a profession. An overview of education in American Society for classroom teachers. Education elective.

EdFn 365 Integrating Computers into the Curriculum .....2 FSSu
An overview of the application of computer technology in the classroom. Topics include computer literacy, educational software, applications in special education, and introductions to word processing, databases, spreadsheets, and presentation software.

EdFn 375 Human Relations 3
This Human Relations course will use four content strands focusing first on characteristics, contributions, and strengths of a pluralistic society; second on various cultural perspectives and specific information about cultures; third on the dehumanizing impact of biases and negative stereotypes; and fourth on the human relations approach to teaching.

Dual Numbered Courses

EdFn 427-527 Middle School: Affective Applications .....2 SSu
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. P, admitted to teacher education program, junior standing, an adolescent psychology/development course of 3 credits.

EdFn 428-528 Middle School Curriculum and Instruction .....3 SSu
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. P, admitted to teacher education program, junior standing, adolescent developmental/psychology course of 3 credits.

EdFn 451-551 Curriculum and Instruction in Gifted Education .....3 Su
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 490-590 Special Topics 1-3
Advanced study covering such topics as Introduction to Multi-Cultural Education, Introduction to Law Related Education, and Interpretation and Implementation of Individuals with Disabilities Act (IDEA).

Graduate Courses

EdFn 605 Computers in the Classroom 2
EdFn 648 Learning Styles .....3 (alternate years)
EdFn 700 Working with Exceptional Children .....3 S
EdFn 720 History and Philosophy of Education .....3 FSu
EdFn 725 Education in a Pluralistic Society .....3 SSu
EdFn 727 Group Processes.....3 SSu
EdFn 744 Research on School Improvement .....3 FSu
EdFn 745 Effective Teaching: Theory Into Practice .....3 SSu
EdFn 751 Teaching Reading Across Disciplines ..3 (alternate years)
EdFn 752 Foundations of Reading 3
EdFn 753 Diagnosis and Remediation of Reading Problems 3
EdFn 754 Clinical Practice in Reading 2
EdFn 782 Seminar 1-3
EdFn 789 Internship 1-6

EE (Electrical Engineering)

Undergraduate Courses

EE 220 Circuits I 3
Ohm's law, Kirchhoff's laws, mesh and nodal equations, source transformations, superposition, RLC circuits, and introduction of PSPICE and MATLAB. P, Math 224, Phys 211.

EE 221 Circuits II 3
Sinusoidal analysis including the sinusoidal forcing function, phasor concepts, sinusoidal steady-state response, average power, root-mean-square value, and polyphase power; complex frequency and frequency response; two-port networks. Use of PSPICE and MATLAB. P, 220, 222 (both with C or better).

EE 222 Circuits I Laboratory 1
This course introduces the student to laboratory practices and closely follows the lecture topics in EE 220 Circuits I. P, concurrent with 220.

EE 223 Circuits II Laboratory 1
This laboratory course enhances understanding of the lecture topics in EE 221 Circuits II. P, concurrent with 221.

EE 260 Materials Science for Electrical Engineers .....2 FSSu
The science and engineering of materials, emphasizing electrical and magnetic properties and applications. P, Chem 114, Phys 213.

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. P, Phys 213, Math 225.

EE 301 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. P, concurrent with 300.

EE 302 Basic Electrical Engineering II.....2
Introduction to analog and digital electronic devices and applications. For non-EE students. P, 300, 301.

EE 303 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. P, concurrent with 302.

EE 316 Signals and Systems I 3
Description of deterministic signals through the use of Fourier Series, Fourier, Laplace and Z-Transforms. Systems description treated by differential and difference equations including transform methods. Computations of system response to both continuous and discrete inputs. P, 221, Math 321.

EE 317 Signals and Systems II 3
Continuation of 316, emphasizing discrete time signals and systems and digital signal processing. Extensive use of MATLAB. P, 316.

EE 320 Electronics I 3
Analysis of electronic devices and circuits. Introduction to electronic circuit design. P, 220, 221 (both with C or better).

EE 321 Electronics II 3
Design and analysis concepts for linear and digital electronic circuits. Emphasis on integrated circuit design. P, 320.

EE 322 Electronics Laboratory I 1
Experimental design and analysis of basic electronic circuits. P, 223, concurrent with 320.

EE 323 Electronics Laboratory II 1
Experimental design and analysis of electronic circuits. P, concurrent with 321.

EE 345 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. P, 320.

EE 346 Digital Systems Laboratory 1
Laboratory topics which enhance the design concepts of the lecture course, EE 345. P, concurrent with 345.

EE 347 Microprocessor Systems 3
Hardware concepts, organization and design of microcomputer systems, including single-chip microcomputers. Principles of microcomputer programming and operation using machine and assembly language. P, 345 or consent of instructor.

EE 348 Microprocessor Systems Lab 1
Laboratory topics which enhance the design concepts of the concurrent lecture course, EE 347. P, concurrent with 347.

EE 360 Electronic Devices 3
Introduction to microelectronic devices, semiconductor and junction theory, semiconductor devices, other solid-state devices. P, 260, 320 or concurrent with 320.

EE 385 Electromagnetics 3
Experimental results of Coulomb, Ampere, and Faraday, classical field theory. Forces, potentials, energy storage and dissipation are all treated for static fields. Faraday's induction law, Maxwell's displacement current, and a complete description of the time-varying fields given by Maxwell's equations. P, 221, Math 225.

EE 386 Electromagnetics Laboratory 1
Laboratory topics which enhance the concepts presented in the lecture course EE 385. P, concurrent with 385.

EE 410 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. P, 316 or concurrent with.

EE 415 Linear Control Systems 3
Feedback control systems by operational methods. Stability criteria and compensation design. State variables, sampled data systems. P, 316, Math 225.

EE 420 Electronics III 3
Selected topics in the design of analog and digital electronics. Provides increased understanding of theory, simulation, and application of semiconductor devices. P, 321, 323, 345.

EE 421 Electronics Laboratory III 1
Experimental design and analysis of analog and digital electronic circuits. P, concurrent with 420.

EE 422 Engineering Economy .....2 FS
Economic aspects of engineering, annual cost-percent worth calculations, decisions among alternatives. P, senior standing.

EE 430 Energy Conversion 3
Basic engineering laws and concepts in analysis of energy- conversion and energy transfer systems and devices. Includes AC and DC machines and analysis of response of machines to operating conditions. P, 385.

EE 431 Power Systems 3
Basic parameters of transmission lines. Representation of power systems, network equations and solutions, load-flow studies and load-flow control, and symmetrical faults on synchronous machines. P, concurrent with 430, or consent.

EE 432 Advanced Power Systems 3
Symmetrical components, protective devices, economic generation, and stability analysis of power systems. P, 431 or consent.

EE 434 Energy Laboratory 1
Experimental work with energy transfer and energy conversion devices. P, concurrent with 430.

EE 435 Seminar in Power Systems 1
Guest speakers, field trips, panel discussions and selected films on pertinent electric power and energy topics. Senior standing or consent.

EE 464 Senior Design I 2
Capstone senior design project. Students write specifications for a design project and complete the initial design. Oral and written reports are required. P, senior standing.

EE 465 Senior Design II 2
Capstone senior design project. Students build and test the design specified in 464. Final oral presentation and written reports required. P, 464.

EE 470 Communications Engineering 3
Modulation and detection methods including circuit analysis and design for digital and analog communication systems are presented. P, 316, 320.

EE 492 Special Problems in Electrical Engineering 1-3FSSu
An informal independent study experience meant to provide emphasis in a particular area of electrical engineering of special interest to a student and EE faculty member. P, consent.

EE 494 Cooperative Education .....1-3 FSSu
Planned supervised professional experience related to electrical engineering which takes place outside the formal classroom with private business or industry, or public agencies.Further information is found in the department's Cooperative Education Department Policy. P, consent of EE Department program coordinator.

Dual Numbered Courses

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, leap-frog filters and switched capacitor filters. P, 321 or consent.

EE 424-524 RF Electronics 3
Performance analysis and design methods for the functional blocks of radio frequency systems operating below the microwave bands. P, 321, 316.

EE 433-533 Computer Analysis of Power Systems 3
Concepts used in formulating load flow and fault study problems for computer solution. P, 430, FORTRAN, or consent.

EE 440-540 VLSI Circuit Design .....2 F
An introduction to custom VLSI design in Complementary MOS (CMOS) technologies. Extensive use of computer software for VLSI circuit layout and simulation. P, 320, 345, 360.

EE 440A-540A VLSI Circuit Design Studio.....1

EE 450-550 Biomedical Signal Processing 3
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. P, 317.

EE 454-554 Biomedical Instrumentation & Electrical Safety 3
The design of electronic instrumentation for physiological applications. Emphasis on modeling and design of biopotential electrode/amplifier systems, physiological measurement techniques, therapeutic and prosthetic devices, and electrical safety in health care facilities. P, 321.

EE 460-560 Sensor Theory and Design .....2 S
Introduction to the operation, design, testing and applications of modern sensors in use and under development. Signal conditioning and system integration are also reviewed. P, 360.

EE 460A-560A Sensor Theory and Design Lab 1

EE 471-571 Optical Fiber Communications 3
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 linked analysis. P, 316 or consent.

EE 475-575 Digital Image Processing 3
Introduction to the fundamentals of digital image processing. Topics include image formation, transforms, enhancement, restoration,

compression, and analysis. P, 317 or consent.

EE 493-593 Special Topics in EE 1-3
Current topics in selected areas of engineering.

Graduate Courses

EE 515 Microprocessor Controls 3
EE 515A Microprocessor Controls Lab 0
EE 570 Digital Communication Systems 3
EE 615 Linear Systems Theory 3
EE 620 Advanced Digital Hardware 3
EE 660 Electrical Properties of Materials 3
EE 670 Information & Signal Processing 3
EE 685 Microwave Theory 3
EE 690 Special Electrical Problems 1-3
EE 693 Special Topics in Electrical Engineering 1-3
EE 700-701 Seminar 0-1
EE 790 Thesis 1-7
EE 791 Thesis Sustaining 0
EE 792 Engineering Research or Design Paper .....1-2 FSSu
EE 793 Special Topics in Electrical Engineering 1-3
EE 795 Engineering Research or Design Paper Sustaining 0
EE 797 Research .....1-9 Repeatable P/F

EG (Engineering Graphics)

Undergraduate Courses

EG 121 Engineering Design Graphics I .....1 FS
Analysis of projection. Methods of systematic interpretation and representation of two- and three-dimensional shapes. Development of instrument drawing and sketching as a means of design. P, Math 102.

EG 122 Engineering Design Graphics II .....1 FS
Continuation of EG 121. Functional scales. Graphical conventions and design applications as expressed through free hand technical sketching and instrument drawing. P, 121.

EG 123 Computer Aided Design and Graphics .....1 FS
The major emphasis is two-dimensional drafting skills utilizing microcomputer software. All work will require a "hands-on" approach. P, 121 or equivalent.

EG 231 Technical Sketching .....1 S
Engineering interpretation, expression and design through free hand sketching of orthographic and pictorial representations related to intricate geometric shapes, assemblies, exploded views, diagrams. P, 121.

EG 320 Advanced Autocad .....2 FS
Major course emphasis will be on creating 3-dimensional wireframe, surface and solid models using AUTOCAD software. Attributes, attribute extraction, slideshow and script files, custom menus and mass properties will also be covered. P, 123.

EG 320A Advanced Autocad Lab 0

ElEd (Elementary Education)

Undergraduate Courses

See Human Development, Consumer and Family Sciences
Mus 351 Music Ed I: Elementary Concepts (See Music Section)

Dual Numbered Courses

ElEd 481-581 Workshop .....1-3 FSSu
Special areas in elementary education are comprehensively explored in an intensive time framework. Designed to increase specific skills and understanding in a current area.

Graduate Courses

ElEd 773 Elementary School Curriculum .....3 Su

EM (Engineering Mechanics)

Undergraduate Courses

EM 221 Statics .....3 FS
Vector algebra, forces, moments, couples; principles of statics, resultant and equilibrium of force systems, free body diagrams, centroids; analysis of statically determinate states of equilibrium. P, Math 123, Phys 211 or concurrently.

EM 222 Dynamics .....3 FS
Vectorial kinematics and kinetics; absolute and relative motion, force-mass-acceleration relations, potential and kinetic energy, work, and power, impulse, momentum, conservation of energy and momentum. Application to particles, particle systems and rigid bodies. P, 221.

EM 223 Engineering Mechanics .....3 FS
Basics of statics and dynamics. P, Math 224 and Phys 211 or consent.

EM 321 Mechanics of Materials .....3 FS
Two dimensional analysis of stress and strain, principal stresses. Mohr's circle; stresses in members subjected to centric, torsional and flexural loadings; deflections of beams. P, 221.

EM 331 Fluid Mechanics .....3 FS
Fluid properties. Fluid statics. Conservation of mass, energy and momentum. Bernoulli's equation. Flow measurements. Dimensional analysis. Viscosity, introduction to Boundary layer. Laminar, turbulent incompressible flows. Drag, lift. Introduction to compressible flow. P, 222, ME 311 with "C" or better (for ME students only), Math 321.

Dual Numbered Courses

EM 421-521 Introduction to Mechanics of a Continuous Medium 3
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. P, 331, Math 331.

EM 422-522 Theory of Elasticity 3
Analysis of stress and strain; equilibrium and compatibility equations; Hooke's law; fundamental problems in the theory of elasticity; plane-stress and plane-strain problems of the narrow beam, rotating discs and a plate with a circular hole. P, 321, Math 331 or equivalent.

EM 423-523 Theory of Plasticity 3
Analysis of stress and strain; plastic behavior of materials; basic laws of plastic flow; applications to bending of beams, torsion of bars and thick-walled cylinders; slip line theory and its application to extrusion problems; limit analysis theorems and their applications to structural problems. P, 422-522 or consent.

Graduate Courses

EM 624 Theory of Plates & Shells 3
EM 631 Advanced Fluid Mechanics 3
EM 641 Finite Element Analysis .....3 (alternate years)

Engl (English)

Undergraduate Courses

Engl 003 English as a Second Language: Grammar Review and Intermediate Composition .....3 FS
Conversation, listening and reading comprehension, vocabulary and idioms, grammar review and intermediate composition.

Engl 013 English as a Second Language: More Complex Structural Patterns and Advanced Composition .....3 FS
Conversation, listening and reading comprehension, vocabulary and

idioms, more complex structural patterns, and advanced composition. P, 003 or placement.

Engl 023 English as a Second Language: Listening and Reading Comprehension .....3 FS
Reading and listening comprehension, vocabulary building, pronunciation, and formal and informal oral English. A major focus will be written and oral responses to written and spoken sources. P, placement or permission of the instructor. May be required instead of or in addition to other English courses.

Engl 101 Freshman Composition .....3 FSSu
Instruction in reading critically and in writing clearly, correctly, and persuasively. In particular, students will study principles of grammar, rhetoric, and logic in order to analyze and compose text effectively. Includes work on personal, expository, and research essays.

Engl 210 Introduction to Literature .....3 FSSu
Readings in fiction, drama, and poetry to acquaint students with literature and aesthetic form.

Engl 211 World Literature I .....3 F
Literary masterpieces of world literature in translation, from ancient times through the Renaissance.

Engl 212 World Literature II .....3 S
Literary masterpieces of world literature in translation, from the Renaissance to the present.

Engl 221 English Literature I .....3 F
English literature survey from Beowulf through the 18th century.

Engl 222 English Literature II .....3 S
English literature survey from the early 19th century to the present.

Engl 241 American Literature I .....3 F
American literature survey from colonial times through 1870.

Engl 242 American Literature II .....3 S
American literature survey from 1870 to the present.

Engl 248 Women in Literature .....3 (alternate years)
Study of literature by and about women. Course materials may range from early times to the present and may also include non-American literature. Accepted as credit for Women's Studies Minor.

Engl 250 Literature of Diverse Cultures .....1-3 (alternate years)
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.

Engl 256 Literature of the American West .....3 FS
Attention given to various attitudes toward the West expressed in literature, including American Indian literature. Accepted as credit for American Indian Studies Minor.

Engl 268 Literature: .....3 FS
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. Accepted as humanities credit.

Engl 301 Advanced Composition .....3 FSSu
Advanced course in reading critically and in writing clearly, correctly, and persuasively. P, 101 and junior standing.

Engl 308 The Teaching of English .....3 FS
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 309 Literary Criticism .....3 (alternate years)
The theory and practice of various critical approaches to literature.

Engl 310 Mythology & Literature .....3 (alternate years)
Mythological backgrounds of literature and the ways literature itself contributes to the various mythologies that underlie our culture and shape the assumptions governing our values and behavior.

Engl 311 Literature of the Bible .....3 (alternate years)
Structural analysis of Old and New Testament texts which are literary in form (i.e., lyric, dramatic, epic, and narrative) for their aesthetic and ethical meanings. Comparison and relation of Hebraic form to modern symbolic modes.

Engl 312 Juvenile Literature .....3 FS
A survey of the history of literature written for children and adolescents, and a consideration of the various types of juvenile literature.

Engl 330 Shakespeare .....3 FS
Representative comedies, tragedies, and histories of Shakespeare.

Engl 334 English Drama: .....3 (alternate years)
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 335 English Novel: .....3 (alternate years)
Course content can be any period or type of the English novel; the period or type will be identified each semester as, for example, "English Novel: Gothic" or "English Novel: Victorian," etc. May be repeated with different name and content.

Engl 350 Science Fiction Literature .....3 (alternate years)
A survey of short stories and novels from the 19th century, the Golden Age of Pulps, social satire of the 1950's, the New Wave of the 1960's, and the speculative fabulation of the 1970's-90's. Authors included are Shelley, Wells, Heinlein, Gibson, and Dick.

Engl 351 American Indian Literature of the Past .....3 F
Concentration on myths and legends of major language groups, particularly the Siouan. Accepted as credit for American Indian Studies Minor.

Engl 352 American Indian Literature of the Present .....3 S
Twentieth-century autobiography, fiction, and poetry by Native American authors. Accepted as credit for American Indian Studies Minor.

Engl 356 American Poetry: .....3 (alternate years)
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: Contemporary" or "American Poetry: Nature," etc. May be repeated with different name and content.

Engl 367 American Short Story: .....3 (alternate years)
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: .....3 (alternate years)
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 Communications .....3 FSSu
Study of and practice in writing of a technical nature; expository writing will be stressed. P, 6 hours of composition (Except for Engineering Students).

Engl 383 Creative Writing: .....3 FS
Writing of fiction, drama, biography, or poetry. P, 12 hours of English and Engl 301 or consent of instructor.

The following alternatives and options may be taken only after consultation with the Head of the English Department.

Engl 490 Seminar in English 1-3
Engl 492 Special Problems 1-4
Engl 493 Topics in English 1-5
Engl 495 Internship .....1-12 FSSu

Dual Numbered Courses

Engl 422-522 Chaucer .....3 (alternate years)
Major works of Chaucer, with some attention to his sources and his language.

Engl 423-523 Old & Middle English Literature ..3 (alternate years)
Emphasizing pre-Norman heroic and Christian literature, the work of Chaucer and his contemporaries, and folk literature such as the ballads.
Engl 424-524 English Renaissance Literature .....3 (alternate years)
Major writers of the 16th and early 17th centuries excluding Shakespeare.
Engl 427-527 Advanced Shakespeare .....3 (alternate years)
Selected plays of Shakespeare and significant Shakespearean criticism.
Engl 428-528 Milton .....3 (alternate years)
Selected works of Milton, particularly *Paradise Lost.*
Engl 431-531 English 18th Century Literature ....3 (alternate years)
Literature of the later 17th and 18th centuries (1660-1800), including major works and developments in literature and thought.
Engl 432-532 English Romantic Literature .....3 (alternate years)
English literature of the romantic movement (1789-1832).
Engl 436-536 English Victorian Literature .....3 (alternate years)
English literature of the Victorian Period (1840-1900).
Engl 439-539 Modern English Literature to WWII .....3 (alternate years)
English literature from 1900 to WWII.
Engl 440-540 Contemporary English Literature .....3 (alternate years)
English literature since WWII.
Engl 453-553 American Renaissance Literature .....3 (alternate years)
American literature of the mid nineteenth-century, including the Transcendentalists and Romantics.
Engl 454-554 American Realist & Naturalist Literature .....3 (alternate years)
American literature of the realist and naturalist movements of the late 19th and early 20th centuries.
Engl 459-559 American Literature Between the Wars .....3 (alternate years)
American literature of the modernist movement from 1917 to 1945.
Engl 460-560 Contemporary American Literature .....3 (alternate years)
American literature since WWII.
Engl 485-585 Advanced Creative Writing .....3 (alternate years)
A course allowing students with experience in creative writing to specialize in a particular genre (poetry, fiction, etc.). P, 383 or consent of instructor.

Graduate Courses

Engl 704 Introduction to Graduate Studies 3
Engl 705 Seminar in Teaching Composition 3
Engl 707 Speech/English/Drama for Teachers 1-3
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 790 Thesis .....1-7 Pass/Fail
Engl 791 Thesis Sustaining .....0 Pass/Fail
Engl 795 Independent Research & Study 1-3
Engl 797 Special Topics in Composition & Literature 1-3

EnvM (Environmental Management)

Undergraduate Courses

EnvM 275 Introduction to Environmental Science .....3 F
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. P, Bio 101-103 or 151-153 and Chem 112.

Dual Numbered Courses

EnvM 425-525 Disturbance Ecology .....4 S
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. P, 153, 311.
EnvM 425A-525A Disturbance Ecology Lab 0

EPsy (Educational Psychology)

Undergraduate Courses

EPsy 302 Ed Psychology .....2 FS
Exploration into the world of the learner. Basic learning theories and use of these concepts in teaching. Focuses on disciplines, grouping, special needs students, and multi-cultural concepts in educating and motivating students. Required for certification. P, Seed 287, EdFn 375, junior standing, must be taken concurrently with SeEd 450 and SeEd 314, education student. One section per year also offered for students in Elementary Education Professional Semester II.
EPsy 303 The Exceptional Child .....3 F
Designed for persons who plan to work with children. This course explores the world of children with special needs. Emphasis is placed on discovering the social, personal and learning characteristics of children with various handicapping conditions.

Dual Numbered Courses

EPsy 426-526 Psychology of the Early Adolescent Learner .....3 FSu
To guide students in the personal construction and application of an early adolescent development knowledge base. The learning environment of the early adolescent/ middle school student will be the context of study in this course. A theoretical base related to intellectual development, identity development, and social development will be used as a basis for exploring the benefits and needed changes in current educational settings of the 10-15 year old. Students will study the impact of various influences on the healthy and positive development of the learner. Students will apply the knowledge base to evaluate and critique personal experiences, issues, and programs designed for early adolescent learners. P, admitted to education program, junior standing (426) or graduate student (526).
EPsy 450-550 Gifted and Talented 3
Overview of the Gifted and Talented field; explores the development of gifted/talented children as well as identification and curriculum adaptations for meeting the needs of these children; also focuses on issues surrounding the parents and families of gifted and talented as well as program development and evaluation.
EPsy 452-552 Enhancing Creativity 3
Explores the various dimensions of creativity, including what it is, how it develops, how to teach creative students, and how to evaluate creative works. Emphasis will be on how to work with students who already exhibit significant creative abilities as well as how to foster creativity with all students.

Graduate Courses

EPsy 630 Learning Disabilities 3
EPsy 740 Advanced Ed Psychology .....3 FSu
EPsy 761 Testing Practicum: Intellectual Assessment 2
EPsy 762 Testing Practicum: Personality Assessment .....3 FSu
EPsy 763 Testing Practicum: Projective Techniques 2

ES (Engineering Shops)

Undergraduate Courses

ES 121 Machine Shop 2
Machine tools in industry, principles of operation, production methods and related equipment. Introduction to jigs and fixtures and computer numerical control.
ES 121A Machine Shop Lab 0
ES 131 Welding 2
Lectures, demonstrations and exercises. Gas and arc welding, cutting, heat treatment, spot welding and related information.
ES 131A Welding Lab 0
ES 222 Advanced Machine Shop 2
Complicated processes involving operation of machine tools. Introduction to tool and die work and methods of inspection. P, 121.
ES 222A Advanced Machine Shop Lab 0
ES 225 Industrial Machine Tool Applications 1
Problems and solution related to industrial machine tools and other production equipment, automation, computer numerical control. P, recommended for engineering students.
ES 232 Advanced Welding 2
Advanced application of arc and gas welding, position welding, pipe welding and joining of non-ferrous metals. Identification of metals. P, 131.
ES 232A Advanced Welding Lab 0
ES 235 Metal Processing 1
Engineering approach to science of joining metals. Capabilities and limitations of present equipment. Brief introduction to metallurgy, heat treatment of steel and characteristics of other metals and alloys, introduction to metal castings, gas welding, arc welding and related equipment. Recommended for engineering students.

ET (Electronics Engineering Technology)

Undergraduate Courses

ET 100 Introductory Electronics .....3 (on sufficient demand)
Nonmathematical survey of fundamental electronic components and circuits.
ET 112 DC and AC Concepts .....5 F
Direct and alternating current circuits. Topics covered are basic laws and theorems directed toward resistive and reactive circuits. P, Math 102 or concurrent enrollment.
ET 113 DC and AC Concepts Laboratory .....2 F
Laboratory experiences with basic components such as resistors, capacitors and inductors. Direct current and alternating current used in the analysis. P, concurrent enrollment in 112 or consent.
ET 120 Circuits .....5 S
Active and passive components and the interrelationships involved in circuit combinations. P, 112 or equivalent.
ET 121 Circuits Laboratory .....2 S
Basic circuits, circuit parameters, and various circuit applications. Both discrete and integrated circuits are studied. P, 112, 113 or equivalent.
ET 200 EET—Off Campus Orientation ..... 0 FSSu
EET enrollment sustaining.
ET 210 Logic and Digital Circuits .....4 F
Switching theory, Boolean Algebra and logic diagrams. Karnaugh mapping, counter circuits, pulse circuits, memories, basic computer operations, binary, octal, and hexadecimal number systems. P, 112, or equivalent.
ET 211 Logic and Digital Circuits Lab .....2 F
Experiments are performed on the circuits and material discussed in ET 210. P, 112 and concurrent enrollment in 210.
ET 220 Advanced Circuits .....3 F
Advanced BJT and FET Circuit Designs with in depth study of circuit parameters. P, 120, or equivalent.
ET 220A Advanced Circuits Lab.....0
ET 254 Microprocessor I .....2 S
The design and use of the microprocessor in microcomputers and process control applications. Includes concepts, properties and basic architecture of a microprocessor and peripheral circuits. Concurrent enrollment in 255. P, 210, 211.
ET 255 Microprocessor I Lab .....1 S
This is a hands on microcomputer lab. Students will work with the INTEL type microprocessor. Programming and testing on an assembly level. Concurrent enrollment in 254.
ET 292 Special Problems .....1-3 FSSu
Provides the student with the opportunity to identify a problem and develop a hypothesis, gather information which might be used in solving the problem, work on solving the problem, and report actual findings and accomplishments. P, Permission of the instructor.
ET 293 Special Topics in ET .....1-3 FSSu
Current selected topic areas in Electronic Engineering Technology. P, Permission of the instructor.
ET 294-295-296 Cooperative Education/Internship/Field Experience .....1-8 FSSu
Supervised work experience with a business, industrial firm, or public agency. The work experience must relate to the student's program of study and be performed under institutional and discipline guidelines governing this type of educational experience. P, departmental approval.
ET 302 Discrete & Integrated Devices .....4 F
Physical principles of transistors, tunnel diodes, LED's, light sensing diodes, photo diodes, differential amplifiers, operational amplifiers, and other linear IC technologies, capabilities, and applications. P, 220 or equivalent and Math 123.
ET 302A Discrete & Integrated Devices Lab 0
ET 334 Microprocessor II .....2 F
Additional experience in the programming and architectures of microprocessors in microcomputers and process control applications. Concurrent enrollment in 335. P, 254, 255.
ET 335 Microprocessor II Lab .....1 F
This hands on lab is a continuation of ET 255. Students work with additional programming as well as microprocessor control input/output control, and memory mapping with the INTEL type microprocessor. Concurrent enrollment in 334. P, 255.
ET 340 Techniques of Servicing .....2 S
The practical aspects of servicing many types of electronic equipment. The latest techniques and equipment will be available for demonstration and laboratory usage. P, 120 or equivalent.
ET 350 Resonating Systems I .....3 F
Radio wave propagation, transmission line theory, and antennas. Emphasis is placed on conduction of radio waves from a source to a load and its propagation through space. Laboratory demonstrations are used as needed. P, 120 and 220.
ET 360 Resonating Systems II .....3 S (on sufficient demand)
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 an opportunity to study the operation and theory of a variety of electronic instruments used in industry. P, 350.
ET 380 Prototype Techniques .....3 S
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. P, 302 or equivalent.

ET 380A Prototype Techniques Lab 0

ET 384 Industrial and Computer Control Circuits .....4 S
Industrial type circuits. Types of circuits studied include: gaseous rectifiers, thyratrons, silicon-controlled rectifiers, light control systems, solid state devices, magnetic amplifiers, and servo systems. P, 254 or equivalent.

ET 385 Industrial and Computer Control Circuits Lab .....2 S
Experiments are performed on the advanced circuits discussed in 384. P, 254 or equivalent.

ET 403 PC Software/Hardware Maintenance 3
This course will familiarize the student with software/ hardware configurations, installations, usage, and basic troubleshooting techniques. P, 210, 211.

ET 403A PC Software/Hardware Maintenance Lab.....0

ET 404 Integrated Circuit Technology .....3 (on sufficient demand)
Digital and linear IC circuits and assemblies as used in equipment and large scale integration. This builds to a summary of where and how IC assemblies exist in the real world of communication, data processing and numerical control. P, 302 and/or permission of the instructor.

ET 430 Video Systems I .....3 F
The study of circuits used in television and video displays. Color and monochrome video systems are studied simultaneously. P, 120 or equivalent.

ET 431 Video Systems I Lab .....2 F
Laboratory analysis of the operation of color and monochrome video. Individual circuits of the receiver are experimented with separately. Operation of various test instruments stressed. P, 121 or equivalent.

ET 440 Video Systems II .....3 S
Study of circuits used in various video systems. This includes primarily commercial television. Some analysis of VCRs and Video monitors is included. P, 430 or equivalent.

ET 441 Video Systems II Lab .....2 S
Laboratory analysis of color TV, monitors, and VCR equipment. Analysis with appropriate test equipment is emphasized. P, 431 or equivalent.

ET 450 Communications Circuits & Systems I .....3 F
Study of transmitters, receiver circuits and related systems. Principles of modulation detection, amplification, and generation of radio frequency signals. Emphasis is placed on mobile and fixed radio systems. P, 120 or equivalent.

ET 451 Communications Circuits & Systems Lab I .....2 F
Laboratory work consisting of analyzing and trouble-shooting communications equipment. Usage of test equipment such as deviation meters, frequency counters, signal generators, service monitors, power meters, etc. Basic two-way radio installation is also covered. P, 121 or equivalent.

ET 460 Communications Circuits & Systems II .....3 S
Complex radio systems including repeaters, remote control systems, mobile telephone, and paging system. Systems design and troubleshooting techniques are studied as well as microwave and basic radar systems. P, 450 or equivalent.

ET 461 Communications Circuits & Systems Lab II .....2 S
Laboratory work in advanced troubleshooting of transmitters, receivers and control systems. Familiarization with sophisticated test equipment is stressed as well as simplified, pragmatic servicing techniques in system testing and alignment. P, 451 or equivalent.

ET 470 Electronic Computer Systems I .....3 F
The study of electronic computer systems, concentrating on IBM type microcomputers, networking and data communications from a software and management point of view. P, 334

ET 471 Electronic Computer Systems I Laboratory .....2 F
Further study of electronic computer systems, concentrating on IBM type microcomputers, networking and data communications from a hardware, software and management point of view. Concurrent with 470.

ET 480 Electronic Computer Systems II .....3 S
Further study of electronic computer systems, concentrating on IBM type microcomputers, networking and data communications from a hardware, software and management point of view. P, 470.

ET 481 Electronic Computer Systems II Laboratory .....2 S
Further study of electronic computer systems, concentrating on IBM type microcomputers, networking and data communications from a hardware, software and management point of view. Concurrent with 480.

ET 492 Special Problems .....1-3 FSSu
Provides the student with the opportunity to identify a problem and develop a hypothesis, gather information which might be used in solving the problem, work on solving the problem, and report actual findings and accomplishments. P, Permission of the instructor.

ET 493 Special Topics in ET .....1-3 FSSu
Current selected topic areas in Electronic Engineering Technology. P, Permission of the instructor.

ET 494-495-496 Cooperative Education/Internship/Field Experience .....1-8 FSSu
Supervised work experience with a business, industrial firm, or public agency. The work experience must relate to the student's program of study and be performed under institutional and discipline guidelines governing this type of educational experience. P, departmental approval.

ET 497 Technology Certification .....1 (on sufficient demand)
A coordination of communication skills, mathematics, physical science, and basic technical concepts and skills in the student's area of study in preparation for certification exams.

EurS (European Studies)

Undergraduate Courses

EurS 300 Topics in European Culture 3
Topics in European culture as expressed in literature, art, music, philosophy, and religion. The topic may be limited to a theme, for example, Death, War, or Justice, or to a period in history, for example, Women in the Renaissance, Love in the Seventeenth Century, or Solitude in the Romantic Period. (May be repeated for credit when the topic is different.)

EurS 301 Topics in European Society.....3
An interdisciplinary examination of a topic in European social life. Examples include, among others, Ethnicity and Nationality, Aging, Revolution, European Unification, Political Parties and Economic Development, or Migrant Workers. (May be repeated for credit when the topic is different.)

EurS 311 European Exchange Orientation 1
This course is designed to prepare students to live and study in a European setting. The course will combine an overview of historical, political, social, and cultural topics with a preparation for daily life. This will facilitate adaptation to the exchange experience in the hosting European nation. P, acceptance for a European exchange program and completion of or concurrent registration in two approved courses in the European Studies Program.

EurS 320 European Studies – Humanities 1-6
Instruction in the Humanities through a European Educational Institution with which South Dakota State University has a student exchange agreement. Students may enroll in multiple sections consistent with the number of courses they are attending at the European Educational Institution. The course content is subject to approval by the SDSU European Studies Committee. P, 311.

EurS 321 European Studies – Social Sciences 1-6
Instruction in the Social Sciences through a European Educational

Institution with which South Dakota State University has a student exchange agreement. Students may enroll in multiple sections consistent with the number of courses they are attending at the European Educational Institution. The course content is subject to approval by the SDSU European Studies Committee. P, 311.

EurS 322 European Studies – Fine Arts 1-6
Instruction in the Fine Arts through a European Educational Institution with which South Dakota State University has a student exchange agreement. Students may enroll in multiple sections consistent with the number of courses they are attending at the European Educational Institution. The course content is subject to approval by the SDSU European Studies Committee. P, 311.

EurS 493 European Studies – Special Topics 1-3
Opportunities to investigate special problems or carry out independent study under the supervision of a European Educational Institution faculty member. The course content is subject to approval by the SDSU European Studies Committee. P, 311.

FCS (Family and Consumer Sciences)

Undergraduate Courses

FCS 101 Family and Consumer Sciences: Professional Foundations .....1 FS
Introduction to the Family and Consumer Science profession: orientation to careers and college and university resources.

FCS 293 Current Topics 1-3
For freshmen and sophomores needing additional study or experience related to a particular topic not offered as part of a regular class. May be repeated for up to three credits

FCS 401 Professional Perspectives .....2 FS
Examination of professional roles in family and consumer sciences in various sections of society today and in the future. Contributions of research to understanding and improving quality of life. P, junior or senior standing.

Dual Numbered Courses

FCS 400-500 Practicum in Family Consumer Sciences 2-6
Provides an opportunity for students to gain experience in a job or career related to their subject specialization. A learning plan is developed by the student and faculty member prior to the practicum. Consent of department and instructor is required.

FCS 492-592 Special Problems 1-3
Individual research and study in family and consumer sciences. May be repeated for a total of 3 credits. Consent of instructor and department is required.

FCS 493-593 Current Topics 1-3
For students needing additional study of a topic or experience not offered as part of a regular class.

Graduate Courses

FCS 601 Seminar in Family/Consumer Science 0.5-2.0
FCS 611 History and Philosophy of Family/Consumer Science.....2
FCS 700 Research Methods in Family/Consumer Science 4
FCS 700A Research Methods in Family/Consumer Science Studio 0
FCS 761 Evaluation in Family/Consumer Science 2
FCS 790 Thesis 1-7
FCS 791 Thesis Sustaining 0
FCS 792 Special Problems 1-3
FCS 793 Current Topics 1-3
FCS 794 Graduate Internship 1-7
FCS 795 Individual Research and Study 1-7
FCS 796 Individual Research Paper Sustaining 0

FCSE (Family and Consumer Sciences Education)

Undergraduate Courses

FCSE 292 Special Problems 1-3
Problems selected according to student's special needs and interests. Consent of instructor.

FCSE 293 Current Topics .....1-3 F
For students needing additional study of a topic or experience not offered as part of a regular class.

FCSE 331 Work Force Preparation in Family and Consumer Sciences .....2 F
Strategies for developing curriculum and designing methods of instruction for teaching employability skills, career decision making and a field experience will be included.

FCSE 411 Philosophy & Methods FSCE.....4 F
The philosophical foundations and history of vocational family and consumer sciences programs in school systems. The learner and the constructivist learning process, curriculum development, and program planning, methods of instruction, selection and use of resource materials, and the educator's role will be studied in depth as preparation for the student teaching experience. Must be taken in semester immediately preceding FCSE 412. P, 2.5 GPA.

FCSE 412 Preparation for Student Teaching .....5 S First Part Semester
Planning and developing instruction for various types of family and consumer sciences programs to meet the needs of selected age groups in structured situations. P, 411, Professional Semester II and 2.6 GPA in professional classes and 2.5 GPA overall.

FCSE 412A Preparation for Student Teaching Lab 0

FCSE 421 Adult Education .....2 S
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 in Family and Consumer Sciences .....10 S
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. P, 412, a 2.6 GPA in professional classes and 2.5 GPA overall, and senior standing in family and consumer sciences.

FCSE 496 Field Experience .....1-12 FSSu
Working under supervision in an approved experience. Number of credits dependent on experience and supervisory arrangements. Consent of department and instructor.

Dual Numbered Courses

FCSE 492-592 Special Problems 1-3
Individual research and study in home economics education. May be repeated for a total of 4 credits. Consent of instructor and department is required.

FCSE 493-593 Current Topics 1-3
For students needing additional study of a topic or experience not offered as part of a regular class.

Graduate Courses

FCSE 601 Trends in Family and Consumer Sciences Education 2
FCSE 741 Supervision in Family and Consumer Sciences Education..... 2
FCSE 751 Curriculum in Family and Consumer Sciences Education 2
Cross listed with VTE 751.
FCSE 792 Special Problems 1-3
FCSE 793 Current Topics 1-3

FL (Foreign Languages)

Undergraduate Courses

FL 101-102 Introduction to Foreign Language and Culture (Topical) 1-4
Fundamentals of the language and introduction to the culture where the language is spoken. Classwork may be supplemented with required aural/oral practice outside of class. May be repeated for credit.

FL 134 Foreign Cultures (Topical) 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.

FL 195 Living and Study Abroad (Culture Emphasis) 1-6
This course is designed for the student traveling abroad primarily for cultural purposes. It entails a program of pre-departure study, keeping a travel journal, and a post-trip faculty interview. Credit is based on the program of study and the length of time in country. For students who will not be using a foreign language in their travels. This course may not be used to satisfy requirements for foreign language majors or minors, nor can it be used in partial fulfillment of the 14-hour B.A. requirement.

FL 293 Undergraduate Course Special 1-5
Students who wish to study a topic in which a faculty member is competent may propose a Special. The duration, subject matter, amount of credit, and mode of grading will be planned by the instructor and students, under the general supervision of the head of the department in whose discipline and under whose supervision the special will be taught.

FL 395 Living & Study Abroad Program (Language Emphasis) 1-6
Prior approval by the department head required.

FL 420 Foreign Language Teaching Methods 1-3
Seminar dealing with problems encountered in teaching modern foreign languages. Textbook selection, subject matter presentation, testing, realia and laboratory techniques. Consult with head of the department during year previous to taking this course. Required for all foreign language majors and minors who plan to teach. On demand.

FL 490 Seminar in French, German or Spanish (Topical) 1-3
Detailed reading and discussion of major works dealing with French, German or Spanish language, literature or culture. Focus on language, literary appreciation, writers, culture, or artistic movements. Students will be expected to express themselves in the particular language, both orally and in writing. Reports in the foreign language will be required. Topics will vary, and course may be repeated for a maximum of 9 credit hours. P, two years of college French, German, or Spanish, or consent of instructor.

FL 492 Special Problems (Topical) 1-3
Independent study on a topic of interest to the student. A typical course will contain readings, discussions and written work which will enable students to improve their language skills and deepen their understanding of civilization, culture, and/or literature. Instructor permission required.

FL 493 Topics in Foreign Language 1-5
Selected topics of current interest in the discipline.

FL 495-496 Internship/Field Experience (Topical) 3-12
Students who have the opportunity to engage in an off-campus activity which will contribute significantly to their education, such as an internship or study abroad, may enroll for 3-12 hours of credit for the experience. A maximum of one credit for each week of experience will be given. The student's project must be approved by the department and will be supervised by a member of the faculty in conjunction with the head of the department.

Dual Numbered Courses

FL 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.

Graduate Courses

FL 592 Special Problems.....1-3
FL 593 Special Topics in Language and Culture 1-3
FL 595 Graduate Level Living and Study Abroad.....1-6

Fren (French)

Undergraduate Courses

Fren 101-102 Introductory French I-II .....4 FS
Fundamentals of language structure and introduction to French culture enabling students to converse, read, and write simple French. Classwork may be supplemented with required aural/oral practice outside of class.

Fren 201-202 Intermediate French I-II .....4 FS
Goals of the introductory course continued. Emphasis on cultural and intellectual aspects of French life and literature. Classwork may be supplemented with required aural/oral practice outside of class. P, 102 or equivalent.

Fren 310 French Language Skills .....3 F
A video and computer-assisted, advanced-level course designed to strengthen and expand aural comprehension, conversation and composition within the context of contemporary French culture. Prerequisite: French 202 or equivalent preparation..

Fren 333 Topics in Francophone Culture .....3 S
Overview of the historical events in Francophone civilizations as they relate to contemporary culture. Second semester emphasizes contemporary Francophone culture and civilization. P, 310 or consent of instructor.

Fren 350 Business Communications in French.....3 F
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. Prerequisite: French 202 or equivalent preparation.

Fren 353 Exploring Literature in French .....3 S
Study of literary texts from throughout the French-speaking world. Prerequisite: French 202 or equivalent preparation.

Fren 395 Travel Study Abroad Francophone.....1-6 FSSu
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 415 French Language Skills Workshop .....1-6 Su
An advanced level course that uses both technology and conventional resources to expand students' competency within their specialized emphases. Prerequisite: French 310 or instructor permission.

Fren 450 Business French II.....3 S
An advanced course in the language of business in French-speaking countries. Graded readings in commerce and marketing, finance and accounting, and economics. Prerequisite: French 310 or permission of instructor.

Fren 453 Topics in French Literature .....3 F
An in-depth study of authors writing in French. Prerequisite: French 310 or permission of instructor.

Fren 480 French Study Capstone Experience.....3 S
The senior capstone experience is designed and approved by the faculty member supervising the course in collaboration with the other faculty and administrators at the cooperating institutions. Typical experiences require service-learning projects, internships and study abroad. A report and/or a public presentation may be required as a part of this experience.

Prerequisite: Students should be in their senior year and have completed a minimum of 28 hours toward the major before undertaking the capstone experience. On demand.

Fren 492 Directed Readings/Independent Study .....1-3 FSSu
Students may select a topic or a problem of interest to them and may research it independently or in collaboration with one or more students at other institutions under the supervision of a faculty member at one of the three primary institutions. Instructor permission is required; course offered only when staff is available.

Fren 493 Special Topics .....3 F
Topics of interest to faculty and students. May include, but is not limited to, film, translation and intensive practice of oral skills. Prerequisite: French 310 or permission of instructor.

Graduate Courses

Fren 592 Directed Readings/Independent Study 1-3

GCom (General Communication)

Undergraduate Courses

GCom 211 Phonetics .....3 S
The production and perception of sounds of English speech; the use of the International Phonetic Alphabet; the application of the principles of phonetic analysis to oral communication.

GCom 215 Communication Studies .....3 FS
An overview of the communication discipline, theory, and practice. P, Advanced Placement in Speech or consent.

GCom 223 Speech Science .....3 F (odd years)
The basic scientific concepts fundamental to the understanding of speech production and perception with primary emphasis on the anatomy and function of the speech and hearing mechanism.

GCom 345 Organizational Communication .....3 F
An examination of organizational theory and research as it relates to communication within the organization.

GCom 493 Topics in General Communication 1-5
Selected topics of current interest in the discipline.

GCom 495 Internship 1-12
Planned and supervised professional experience which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Graduate Courses

GCom 605 Current Approaches to Communication .....3 S
GCom 793 Special Topics in Communication .....1-3 FSSu

GE (General Engineering)

Undergraduate Courses

GE 101 Introduction to Engineering and Technology 0
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 200 Engineering College – Off Campus Orientation 0
Engineering College Enrollment Sustaining.

GE 223 Mechanics for Technologies .....3 FS
Basics of statics and dynamics. Laboratory verification of fundamental mechanics principles. P. Sophomore standing and Math 113, Phys 111.

GE 223A Mechanics for Technologies Lab 0

GE 231 Technology & Society .....3 FS
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 the life and works of various innovators in science and technology.

GE 292 Special Problems .....1-3 FSSu
P, consent.

GE 293 Special Topics .....1-3 FSSu
P, consent.

GE 496 Field Experience .....1-6 FSSu
Planned and supervised professional experience related to engineering which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

GE 492-592 Special Engineering Problems .....1-3 FSSu
This course will provide individual students the opportunity to pursue technical design problems, extensive literature searches, and individual study of new and timely subjects within the fields of Physical Science and Engineering. P, junior or senior standing in Engineering and consent of instructor.

GE 493-593 Special Topics in General Engineering .....1-3 FSSu
Timely topics relating to Physical Science and Engineering. P, junior or senior standing in Engineering and consent of instructor.

Graduate Courses

GE 525 Risk/Loss Control Management .....2 F
GE 543 Project Management .....3 S
GE 601 Technical Studies in Industrial Management .....3 F
GE 603 Designing the Workplace for Production 3
GE 610 Human Factors in Engineering and Design 3
GE 620 Industrial Safety 3
GE 692 Special Problems in Engineering .....1-3 FS
GE 693 Special Topics in Engineering .....1-3 FS
GE 790 Thesis 1-7
GE 791 Thesis Sustaining 0
GE 792 Research Report/Design Paper 1-2
GE 793 Special Topics in Engineering 1-3
GE 795 Research or Design Paper Sustaining 0
GE 797 Research 1-9

Geog (Geography)

Undergraduate Courses

Geog 131 Physical Geography I .....4 FS
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.

Geog 131A Physical Geography I Lab 0

Geog 132 Physical Geography II .....4 FS
A continuation of Geog 131 focusing on: location, cartographic analysis, basic geographic patterns, landforms (genesis, development, situation) in various physical environments plus soil and vegetation patterns and environmental relationships with consideration of cultural diversity factors from the Native American and other perspectives.

Geog 132A Physical Geography II Lab 0

Geog 200 Intro to Human Geography .....3 FS
Systematic study of world culture from perspective of five integrating themes: cultural region, cultural diffusion, cultural ecology, cultural integration, and cultural landscape. Topics include population, agriculture, political and economic systems, religion and language, folk and popular culture, and ethnicity.

Geog 210 World Regional Geography .....3 FS
The differentiation of the world in terms of both natural and human environmental features and characteristics on a regional basis.

Geog 212 Geography of North America .....3 F
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 system, land division, and use of natural resources.

Geog 219 Geography of South Dakota .....3 S
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.

Geog 310 Soil Geography and Land-use Interpretation 3F
See Plant Science section. May count toward Geography major. Crosslisted with PS 310.

Geog 310A Soil Geography and Land-use Interpretation Studio 0

Geog 313 Geography of Latin America 3 F98
Topical study of Latin America, including: perceptions, myths, and realities; the physical environment and its importance; aboriginal and European history; Latin American institutions; contemporary Latin America's population, political, economic, and social conditions; regional overview and global relations.

Geog 314 Geography of the Former U.S.S.R. .....3 S (odd years)
Appraisal of the physical resource base of Russia and estimates of industrial and agricultural strengths.

Geog 315 Geography of Europe .....3 F (even years)
A regional and topical analysis of the geographic patterns of western and eastern Europe. Special attention given to the British Isles, Scandinavia, the Low Countries, Germany, France and Mediterranean Europe.

Geog 316 Geography of Asia .....3 F (odd years)
Asian nations, physical and cultural environments, their role in world relations.

Geog 317 Geography of Africa .....3 S (odd years)
Major natural regions of the African Continent of emerging nations. Activities and customs of the native tribes and how they have responded to European influences. Africa's position as a storehouse of raw materials.

Geog 337 Atmospheric Sciences .....3 FS
Systematic methodological investigation of the meteorological elements (weather, climate, altitude, etc.) and their effects on geographic features.

Geog 338 Astrogeography .....2 S
Planet Earth; its position, form and size; movements; latitude, longitude, and time; relation of the moon; the seasons; the calendar; the planets, stars, galaxies; universe.

Geog 339 The Earth's Landforms .....2 F
Surface features. Continental landforms with their flood-plains, deltas, lacustrine, glaciers, coastal plains, marshes and dunes. One's relation to these landforms will be emphasized.

Geog 343 Natural Disasters and Human Hazards .....3 S
An in-depth examination of various geophysical events (earthquakes, volcanic eruptions, tsunami, earth failures), meteorological events (floods, severe storms - tornadoes, 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 .....3 S (even years)
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 363 Rural Geography .....3 F (even years)
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 .....3 S
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. P, 200 or 212 or 219.

Geog 382 Geographic Research Methods .....3 S
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 .....3 F
History and principles of cartography. Emphasis on field mapping; map projections; cartographic design; map interpretations; and exercises in map making.

Geog 383A Cartography Studio 0

Geog 384 Advanced Cartography .....3 S (even years)
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. P, 383.

Geog 384A Advanced Cartography Studio 0

Geog 388 Geodesy .....3 F (odd years)
A survey of geodesy, the science which determines the size and shape of the earth, the exact location of points on the earth's surface, and the measurement of terrestrial gravitation. P, Math 113, 120 or consent.

Geog 400 Cultural Geography 3 S99
A detailed analysis of the concept of culture in a geographical context, including such applications as culture and nature, cultural growth and change, cultural universals, culture and economy, cultural relativity, cultural landscape, culture region, and cultural conflict.

Geog 425 Population Geography 3 S99
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 433 World Crop & Soil Resources .....3 F
Crosslisted with PS 433. May count toward Geography major.

Geog 447 Geography of the Future .....3 F (odd years)
The world, particularly the U.S. beyond the year 2000 A.D. Special emphasis on such areas as population, urban life, transportation, food, social and cultural developments and alternative futures.

Geog 454 Industrial & Commercial Site Selection ....3 S (even years)
Analysis of geographic factors involved in selection of locations and sites for manufacturing, commercial and agricultural enterprises.

Geog 461 Urban Geography .....3 S (even years)
Geography of cities: types, functions, and distribution of world cities. Special emphasis on planning of cities in the U.S.

Geog 464 Geographic Aspects of Regional Planning 3 F (even years)
Regional planning with particular reference to the upper Mid-West.

Geog 467 Geography of the American Indians .....3 S (even years)
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. P, Hist 368 or Anth 410 or 421, or Geog 219 or consent.

Geog 476 Historical Geography .....3 S (even years)
Historical periods portrayed against geographical background. Crosslisted with Hist 476.

Geog 483 Air Photo Interpretation .....3 F
Development of skills and techniques involved in the interpretation of aerial photographs showing physiography, land use, industrial, commercial and military functions. P, 383 or consent.

Geog 484 Remote Sensing .....3 S
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. P, 483 or consent.

Geog 486 Computer Mapping .....3 S
Computer mapping as a tool in the preparation of maps or diagrams and in geographical analysis of maps and diagrams. Will include consideration of various mapping programs. P, Algebra course, and Geog 383 or consent.

Geog 487 Geographic Information Systems I .....3 FS
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 492 Special Problems in Geography .....1-2-3-4 FSSu
Opportunity for qualified students to investigate special problems or carry out independent study under supervision of department staff. Variable credit, may be repeated for up to 12 credits. P, Sophomore, Junior, or Senior standing and/ or consent.

Geog 493 Topics in Geography .....1-5 FSSu

Geog 495-496 Internship/Field Experience (Topical) .....1-12 FSSu
You have the opportunity to become involved in an off-campus Internship activity which promises to contribute significantly to your education, may enroll for and receive between 1 and 12 credits at the maximum rate of one credit per week. (See course description in Arts and Science College Section.) P, junior standing.

Students who participate in short tour, exchange, or field study programs off campus may enroll for and receive a total of 1-6 semester hours of credit. In no case will the credit granted exceed one per week nor a total of six. In the case of independent experience, the specific amount of credit to be granted, and the conditions established (projects, etc.) will be set prior to the student's departure, in consultation with the supervising instructor and with the approval of the appropriate department chairperson and dean.

Dual Numbered Courses

Geog 406-506 Seminar in Systematic Geography: (Topical) ..1-4 FS
Will deal with one or more aspects of human, economic, physical, population and historical geography or techniques. May be repeated for credit. The specific topic to be studied will change each semester.

Graduate Courses

Geog 610 Topics in Geography Education 1-4
Geog 620 Advanced Regional Studies in Geography: (Topical) .....1-4 FS
Geog 700 Seminar in Geography: (Topical) 1-4
Geog 710 Evolution of Geographic Thought .....3 (every third semester)
Geog 712 Introduction to Graduate Study .....2 (every third semester)
Geog 714 Research and Writing .....3 S
Geog 732 Geomorphology 3 S01
Geog 734 Climatology .....3 S (odd years)
Geog 742 Cultural Geography 3 F98
Geog 752 Urban Geography .....3 (every third semester)
Geog 765 Advanced Studies in Land Utilization: (Topical) .....1-4 F (even years)
Geog 770 Advanced Geographic Techniques: (Topical) .....1-4 FS
Geog 785 Quantitative Methods in Geography .....3 F
Geog 786 Geographic Information Systems .....3 S
Geog 790 Thesis 1-7
Geog 791 Thesis (Sustaining) 0
Geog 792 Special Problems in Geography: (Topical) 1-4
Geog 793 Internship 1-3
Geog 794 Research Paper in Geography 1-3

Germ (German)

Undergraduate Courses

Germ 101-102 Introductory German I-II .....4 FS
Study of the fundamentals of the German language aimed at preparing the student to understand, speak, read, and write simple German. Classwork may be supplemented with required aural/oral practice outside of class.

Germ 201-202 Intermediate German I-II .....3 FS
Goals of introductory German continued with emphasis on modern cultural aspects of Germany, Austria, and Switzerland. Classwork may be supplemented with required aural/oral practice outside of class. Students pursuing a German major or minor are encouraged to enroll in 311-312. P, 102 or equivalent.

Germ 311-312 German Composition & Conversation .....2 FS
Development of proficiency in German composition and conversation focusing on typical situations in everyday German life. P, 202 or concurrent.

Germ 353-354 German Literature 2-3
Introduction to German literature through readings and discussion in German of representative literary works from various genres and epochs. P, 312 or consent.

Germ 380 Deutschland Heute 1-3
An examination of contemporary German life, including family life, the workplace, holidays, governmental institutions, transportation, geography, city culture, current interests and problems. P, 312 or consent.

Germ 383 Business German 2-3
An introduction to the German language of everyday business dealings and an overview of practical and relevant information necessary for people doing business in German. P, 312 or consent.

Germ 411-412 Advanced Composition & Conversation 2-3
More intensive development of ability in composition and conversation, placing special emphasis on idiomatic expressions and flexibility within the language. P, 311, 312. On demand. Topics vary. May be repeated once for credit.

Germ 433-434 German Civilization 2-3
German civilization and culture including music, art, literature, government, geography, education, etc. 433: from beginning of German civilization to the modern era, 434: contemporary Germany. Readings and discussions in German. P, 311, 312 or consent.

Germ 475 19th Century German Literature 2-3
German literature of the 19th Century. Readings and discussions in German. P, 354 or consent.

Germ 479 20th Century German Literature 2-3
Selected works of authors in the German language. Readings and discussions in German. Topics vary. P, 354 or consent.

Germ 492 Special Problems 1-3
Readings and discussions in German as directed by the instructor. May be repeated for credit. P, 202 and consent of the instructor.

Germ 493 Topics in German 1-3
Special courses designed to complement the existing curriculum. Will be offered only when student demand and staff availability warrant.

Graduate Course

Germ 592 Special Problems.....1-3 FSSu (alternate years)

Gero (Gerontology)

Undergraduate Course

Gero 201 Introduction to Gerontology .....3 F
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.

Dual Numbered Courses

Gero 492-592 Independent Study in Gerontology 1-3FSSu
Individual study for quality students. May be repeated for a total of 4 credits. P, consent of instructor.

Gero 493-593 Current Topics in Gerontology 1-3
Selected topics of current interest and concern in gerontology.

HDCF (Human Development, Child and Family Studies)

Undergraduate Courses

HDCF 141 Individual and the Family .....2 FS
Patterns of behavior and relationships as influenced by family interaction. Emphasis on social and emotional needs of individual and family. Open to students of all majors.

HDCF 150 Early Experience .....2 FS
Experiential-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.

HDCF 150A Early Experience Clinical Experience 0

HDCF 210 Lifespan Development.....3 FSSu
Study of the changes that take place during an individual's life, from conception till death. Emphases on theory, psychosocial, biosocial, and cognitive development.

HDCF 241 Family Relations .....3 FS
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.

HDCF 250 The Development of Human Sexuality .....3 FS
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.

HDCF 292 Special Problems .....1-3 FSSu
Individual study for quality students. P, consent of instructor.

HDCF 293 Current Topics.....1-3
Study of current issues and concerns in human development and family studies. Focus on topics not included in other courses in the department. P, consent of instructor.

HDCF 312 Human Development and Personality II: Adolescence .....3 F
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.

HDCF 313 Human Development and Personality III: Adulthood .....3 FS
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.

HDCF 327 Human Development and Personality I: Childhood .....3 FS
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.

HDCF 328 Experiences with Young Children.....3 FS (By Reservation Only)
Opportunity to more fully understand children as well as oneself and other adults while observing and working with children in Pre-School Laboratory. P, 327 with grade of "C"; grade of "C" or better in Psyc 101, Soc 100, Engl 101, SpCm 101.Sophomore level.

HDCF 341 Family Theories.....3 FS
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.

HDCF 350 The Helping Relationship.....3 FS
An introduction to the personal and interpersonal skills required for the development of effective helping relationships. Consideration of relational and group dynamic issues relevant to work in educational and social service settings.

HDCF 355 Prevention Programs in Human Development and Family .....3 FS
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. P, 241, 341.

HDCF 361 Methods/Materials Early Child Education .....4 FS
Applications for early childhood classrooms will be studied and explored. Methods that are both developmentally appropriate and inclusive for all children from birth to age 8 will be discussed. Hands-on activities and their application to children's positive development will be examined and demonstrated. P: completion of 327, 328. Admission to PS II concurrent with 362.

HDCF 362 Early Childhood Education Curriculum .....4 FS
Curricular 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 birth to age 8, will be discussed. An emphasis will be placed on multicultural perspectives. P: Completion of 327, 328: Admission to PS II: concurrent with 361.

HDCF 364 Parent/Child Relationships in a Professional Context .....3 FS
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. P: 327.

HDCF 371 Infants and Toddlers: Developmentally Appropriate Practices .....3 S
In-depth study of developmentally appropriate practices for infants/toddlers (birth-3 years). Students learn to plan developmentally appropriate and integrated learning experiences for infants/toddlers that facilitate development and learning in all areas: cognitive, language, physical, social, emotional, and aesthetic. Curriculum areas will include language development, health, safety, nutrition and infant stimulation. Students will apply this curriculum in a practicum experience.

HDCF 400 Orientation to Cooperative Elementary Education Program .....0 FS
This course is designed as an orientation to the cooperative elementary education program at DSU or BHSU. Procedures and requirements related to the cooperative program are presented and discussed. Students will be required to enroll in the course the semester immediately preceding their departure to the cooperating institution as well as each semester they are in residence at DSU or BHSU.

HDCF 414 Research Applications in HDCFS .....3 FS
The study and application of research and methods appropriate for the study of children and families. Emphasis on participation of students in research design, data collection and communication of results. P, 327 and 241 or 341; Senior standing or instructor's consent.

HDCF 441 Prof Issues Child and Family Study ..... **3 FS**
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.

HDCF 455 Administration and Supervision in Early Childhood Settings ..... **3 S**
Exploration of issues surrounding the administration of early childhood programs including identification of community needs, evaluation and appropriate use of space, equipment and materials, and policy and legal responsibilities. Exploration of staff selection, training and supervision. P, 328, 361, 362.

HDCF 457 Family Assessment ..... **3 FS**
An evaluation of family, community and intervention strategy measures, this course is designed to aid those working with individuals and families in a helping framework where such measures may be needed. P, 141, 241, 341.

HDCF 465 Introduction to Developmental Assessment of Young Children ..... **3 FS**
Experiences to increase awareness of and knowledge about a variety of assessment procedures appropriate for use with children from birth through eight years of age. Advantages and limitations of assessment techniques noted; considerations used in the interpretation of findings and in making referrals discussed. Includes opportunities to work with assessing preschool age children and in developing prescriptive activity plans. P, 327 and 328 or equivalent, concurrent with 472.

HDCF 466 Early Childhood Special Education I ..... **3 F**
This course is the first in a two-course sequence which will provide undergraduate level students in Early Childhood Education and other related fields with an overview of current issues, theories and practices in early childhood special education (ECSE). Historical, philosophical and attitudinal perspectives will be investigated, along with examination of service delivery models and legal issues as related to children (birth-8 years) with special needs and their families. A survey of disability characteristics will also be included. The changing roles of professionals and families of young children with special needs within a culturally sensitive and ecological perspective will be incorporated. P, 241, 361, 362, 364.

HDCF 467 Early Childhood Special Education II ..... **3 S**
This course is the second in a two-course sequence which will provide undergraduate level students in Early Childhood Education and other related fields with an overview of the following current issues in early childhood special education (ECSE): risk determinants, disability characteristics, medical issues, prevention, intervention and adaptations. Teaming, family/professional roles within a culturally sensitive and ecological perspective will be incorporated. P, 465, 466.

HDCF 472 Student Teaching in Preschool Programs ..... **8 FS (by reservation only)**
Planning and conducting various phases of early childhood programs. Student takes increasing responsibility, finally taking complete charge of the program. Weekly conferences. P, grade of "C" in 327, 328, 361, 362, concurrent with 465. (Note: Admission to PSIII required.)

HDCF 487 Orientation to Child and Family Services Practicum ..... **1 F**
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. P, Junior standing and consent of instructor, to be taken prior to HDCF 497.

HDCF 497 Practicum ..... **1-12 FSSu (by reservation only)**
Field experience with agencies delivering social services to children and families. P, instructor's consent.

Dual Numbered Courses

HDCF 492-592 Special Problems ..... **1-3 FSSu**
Individual study for quality students. P, consent of instructor.

HDCF 493-593 Current Topics **1-3**
Study of current issues and concerns in human development, family therapy, and family studies. Focus on topics not included in other graduate courses in the department. P, consent. Can be repeated.

Graduate Courses

HDCF 614 Adult Development **3F**

HDCF 665 Parent Education: Theory and Issues **3**

HDCF 676 Early Childhood Education, Administration and Practicum **1-4**

HDCF 702 Seminar ..... **1-3 (on sufficient demand)**

HDCF 711 Child Development Theory and Application **3S**

HDCF 742 Family Relations **3F**

HDCF 753 Family Public Policy ..... **3 S(alternate years)**

HDCF 777 Child and Family Counseling ..... **3Su (alternate years)**

HDCF 792 Special Problems **1-3**

HDCF 793 Current Topics **1-3**

Hist (History)

Undergraduate Courses

Hist 121 History of Western Civilization to 1650 ..... **3 FS**
Introduction to the major developments, events, and personalities in western civilization from prehistoric times through the Thirty Years War (1648).

Hist 122 History of Western Civilization since 1650 ..... **3 FS**
Survey of western civilization from the Thirty Years War to the present.

Hist 151 U.S. History to 1877 ..... **3 FS**
Consideration of main themes, events and personalities in American history from beginning to 1877, using political, social and economic perspectives.

Hist 152 U.S. History since 1877 ..... **3 FS**
Consideration of main themes, events and personalities in American history from 1877 to present, using political, social and economic perspectives.

Hist 322 Greece and Rome **3**
Emphasis on Greek culture and Athenian democracy, the rise and failure of the Roman Republic, the development of the Roman Empire through the reign of Augustus.

Hist 323 Roman Empire and The Early Church **3**
The development of the Roman Empire from the late first century B.C. to the end of the fifth century A.D. The political, economic, social, and cultural systems of the Empire will be considered as well as the "decline and fall of Rome." Major attention will be given to the origins, growth, and "triumph of the Christian Church."

Hist 325 Medieval Europe **3**
Western Europe from 300-1400 A.D. Primary consideration given to The Fall of Rome, the church, feudalism, revival of cities, commercial revolution, rise of universities, early development of nation states.

Hist 326 Renaissance and Reformation **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 328 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 329 The French Revolution and Napoleon, 1789-1848 ..... **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 331 Nineteenth Century Europe, 1815-1914 3
A study of changes brought about by the French Revolution and the era of Napoleon. Nationalism, romanticism, and the complex shifts in politics of the major European powers will be covered. The economic and social implications of the second Industrial Revolution will also be addressed.

Hist 340 Ireland since 1800 3
An examination of the political, social, cultural, and economic history of Ireland from the Act of Union with Great Britain to the present. Among the topics covered are the struggle for Catholic rights, the Great Famine, emigration, land reform, Irish nationalism, the partition of Ireland, Ireland as an independent nation, and the conflict of Northern Ireland.

Hist 341 English History to 1688 3
British history from the Roman occupation to The Glorious Revolution.

Hist 342 English History since 1688 3
A study of the political and cultural history of the British Isles and the Empire to the present.

Hist 345 History of Russia 3
From the earliest times to present, with emphasis on background and history of Communist regime. Treats cultural and social as well as political aspects.

Hist 346 History of Canada 3
A study of the growth of Canada from pre-Columbian and European explorations to the present. Emphasis is placed on the history of French Canada, the fur trade and development of the West, the country's struggle to overcome ethnic, cultural, and regional differences, the impact of colonialism and continentalism, and the rise of a national spirit.

Hist 349 Women in History 3
This course will investigate the role of women in the history of the western world. It will attempt to discover what impact women have had on the course of events since the Renaissance. Selected women and their careers will be highlighted. The course will focus on either European or American women at the discretion of the instructor.

Hist 350 Colonial History of the U.S. 3
Establishment of the British colonial empire in North America, settlement of the 13 colonies and the growth of the British-American colonies to the end of the French and Indian Wars.

Hist 352 Revolutionary & Early National Period in U.S. History, 1763-1800 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 353 Division and Reunion, 1840-76 3
Development of the ante-bellum South; social, political, and economic factors leading up to the outbreak of the Civil War; Reconstruction period and problems of the post war nation.

Hist 354 The Age of Jefferson and Jackson, 1800-1840 3
Jefferson's administration, War of 1812, Jackson's administration.

Hist 355 American Civil War 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 The Wars, 1918-1941 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 3
Social, economic, and political change. The consequences, domestic and foreign, of global power and rising affluence.

Hist 362 History of the American West 3
From exploration and colonization of the North American continent through closing of the frontier. Includes routes of migration, cattle frontier, mining frontier, Indians, pioneer farmers, mechanized farming, urban frontier, and the effect of the frontier on the American character.

Hist 365 American Military History 3
A study of the military art as practiced by the United States. The relation between the armed forces and other government agencies will also be examined from the colonial period to the present.

Hist 368 History of the American Indians 3
American Indian history with special emphasis on regional Dakota cultures. Topics include pre-historic origins and cultural evolution, history of Indian-White contacts, federal Indian policy, tribal sovereignty issues, cultural diversity, values, traditions, persistence and change in tribal cultures, historical overview of Indian education, current education issues, contemporary socio-economic conditions. (Satisfies the Teacher Preparation Program requirement of 3 credits of American Indian Studies.)

Hist 371 European Ethnic Groups in the U.S. 3
An examination of European ethnic groups in America from colonial times to the present with the chief emphasis being on the period from 1820 to 1930. Among the topics covered will be the causes of immigration, the development of ethnic communities in America, and the impact of immigrants and their descendants on American society. Particularly attention will be paid to the ethnic groups who settled in South Dakota.

Hist 376 History of S.D. 3
Physical environment, Native American presence, European settlement, economic developments, political institutions, and social life.

Hist 377 Economic History of the U.S. ..... 3 F
Emphasis on economic factors but also correlated political and social developments, colonial period to present.

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 380 Methods & Philosophy of History ..... 3 S
How historians research and write history. Also an account of attempts to explain larger meaning and directions of history. P, junior standing, required of majors.

Hist 401 History of Western Religious Thought I ..... 3 F
This course surveys important issues in western religious thought from first century Christian origins through the "great medieval synthesis" of the thirteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon emergence and growth of Christian doctrine and ecclesiology. Crosslisted with Rel 401.

Hist 402 History of Western Religious Thought II 3
This course surveys important issues in western religious thought from "great medieval synthesis" of the thirteenth century through the Reformation and Counterreformation of the sixteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian doctrine. Crosslisted with Rel 402.

Hist 418 History of Latin America 3
A study of the national development of Mexico, Argentina, Chile, Brazil and Cuba in the 19th and 20th centuries.

Hist 420 Contemporary Europe 3
During the course of the twentieth century, Europe held political and cultural dominance. Two global wars, an ideological cold war, the end of colonialism and the rise of global economics eliminated that pre-eminence. This course covers the history, politics and culture of Europe from1890 to the present.

Hist 440 Nazi Germany 3
The period from the establishment of the Weimar Republic after World War I through Adolf Hitler's Third Reich ending in 1945, is examined. Political, social, economic, cultural, and military aspects of this era in German history are covered.

Hist 447 Modern Germany 3
Examination of German history in the 19th and 20th centuries. Emphasis on the formation of the German nation, Bismarck, development of the German empire, WWI, rise of Hitler, Nazi Germany and WWII.

Hist 467 U.S. Foreign Relations (20th Century) 3
An interpretative analysis of American foreign policy from 1492-1992. Emphasis will be on the manner in which ideology, domestic political concerns and intergovernmental connections determined how the United States conducted its relations with the world from the Revolutionary War through Operation Desert Storm.

Hist 492 Special Problems in History ..... 1-4 FSSu
Opportunity for qualified students to investigate special problems or carry out independent study under supervision of department staff. Major or minor status.

Hist 493 Topics in History ..... 1-5 FSSu
Selected topics of current interest in the discipline. Major or minor status.

Hist 495 Internship ..... 1-12 FSSu
Planned and supervised professional experience related to history which takes place outside the formal classroom with private business, industry, or public agencies. Major or minor status.

Dual Numbered Courses

Hist 460-560 Topics in History 1-4
An intensive examination of significant historical themes, issues, or problems.

Graduate Courses

Hist 592 Special Problems in History ..... 1-3 FSSu

Hlth (Health Education)

Many courses listed with the Hlth prefix are crosslisted with the same number under the Health Science (HSc) prefix, College of Nursing.

Undergraduate Courses

Hlth 120 Community Health ..... 2 FS
See HSc 120.

Hlth 212 Contemporary Health Problems ..... 2 FS
See HSc 212.

Hlth 250 First Aid 2
Instruction for those who are in a position to provide first aid and emergency care frequently. Provides essential knowledge and skills needed to develop the functional first aid capabilities required by a basic first aiders as well as nurses, teachers, athletic trainers, and other special interest groups.

Hlth 250A First Aid Lab 0

Hlth 262 Instructor Course Home Nursing 1
Workshop of 36 hours in effective methods of teaching home care of the sick. Limited to 14 students. P, consent.

Hlth 295 Allied Health Technical Training ..... 20-48 FSSu
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 2
Planning for promotion of family health. Open to all students.

Hlth 364 Emergency Medical Technician ..... 4 S
This course develops skills in symptom recognition and 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 consists of 25 lessons involving a minimum of 80 hours of classroom and field training, plus 10 hours of in-hospital observation and training.

Hlth 364A Emergency Medical Technician Lab 0

Hlth 420 Methods of Health Instruction ..... 2 FS
Curriculum content at elementary and secondary levels. Methods of presentation including direct, correlated, and integrated health instruction. Organization of health and safety education. P, junior standing.

Hlth 440 Epidemiology ..... 3 S
See HSc 440.

Hlth 443 Public Health Science ..... 3 FS
See HSc 443.

Hlth 480 Wellness Programming ..... 2 S
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. P, instructor consent.

Hlth 480A Wellness Programming Lab 0

Ho (Horticulture)

Undergraduate Courses

Ho 111 General Horticulture ..... 3 FS
Culture and growth processes involved in production of fruit, vegetables, flowers, lawn grasses, trees and shrubs; planning and care of home grounds.

Ho 111A General Horticulture Lab 0

Ho 220 Landscape Maintenance ..... 3 S
Basic methods of establishment and maintenance of woody ornamental plants and turf in commercial and residential settings. Topics to be covered include turf selection and establishment, mowing, aerating, tree and shrub transplanting, pruning, fertilizing and other plant health care practices. P, 111.

Ho 220A Landscape Maintenance Lab 0

Ho 230 Greenhouse and Nursery Crops ..... 3 S (even years)
General greenhouse and nursery production and management principles. Topics to be covered include harvest and post-harvest care, environmental management, site selection, structures and integrated pest management. P, 111.

Ho 230A Greenhouse and Nursery Crops Lab 0

Ho 240 Fruit and Vegetable Production ..... 3 S (even years)
Survey of vegetable and fruit crop distribution and production in temperate climates. Various topics include site and soil selection, factors affecting plant growth, cultural practices and integrated pest management. P, 111, Bio 101.

Ho 240A Fruit and Vegetable Production Lab 0

Ho 250 Woody Plants: Trees ..... 3 F
Nomenclature, identification and classification of hardy coniferous and deciduous trees. Landscape use as affected by inherent ornamental qualities, hardiness, environmental factors, and pests. P, 111, Bio 101.

Ho 250A Woody Plants: Trees Lab 0

Ho 260 Woody Plants: Shrubs and Vines ..... 2 S
Nomenclature, identification, and classification of shrubs and vines hardy for the Northern Plains. P, 250 or consent.

Ho 311 Herbaceous Plants ..... 3F (odd years)
Identification, description, landscape uses, propagation, culture and adaptability of selected non-woody ornamental plants with emphasis on annuals, perennials and indoor plants. P, 111, Bot 201, or consent.

Ho 311A Herbaceous Plants Lab 0

Ho 312 Plant Propagation ..... 3S (even years)
Fundamental anatomical and physiological principles and methods of reproducing herbaceous and woody plants by seeds, cuttings, grafts, layers and division. P, 111, Bot 201, or consent.
Ho 312A Plant Propagation Lab 0
Ho 314 Turf Management ..... 3 F
Maintenance and culture of turfgrass for lawns, parks, golf courses, athletic fields and special purpose turf. P, PS 213.
Ho 314A Turf Management Lab 0
Ho 316 Vegetable Growing ..... 3F (odd years)
Methods used by home gardeners and commercial growers in vegetable production. P, 111 or PS 103.
Ho 383 Principles of Crop Improvement 3
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. P, Bio 371 or consent. Crosslisted with PS 383.
Ho 383A Principles of Crop Improvement Lab 0
Ho 411 Fruit Production ..... 3 S (odd years)
Small fruit and tree fruit culture. Fundamentals of cultural and management practices in relation to soils, moisture, temperature, cultivars, pruning, rootstocks, growth regulators. P, 111, Bot 201.
Ho 411A Fruit Production Lab 0
Ho 412 Greenhouse Management ..... 3 S (odd years)
Greenhouse construction, environmental control, production and scheduling of major greenhouse crops. Trips to commercial greenhouse operations and laboratory work in green-house crop production. P, 311, 312, Bot 201, and PS 213, or consent.
Ho 412A Greenhouse Management Lab 0
Ho 413 Arboriculture ..... 3 S
A study of tree growth and how it is affected by cultural practices such as cabling, fertilizing, mulching, pruning and transplanting. Lab will include instructions in equipment use and rope and rigging techniques. P, 250, Bot 201.
Ho 413A Arboriculture Lab 0
Ho 415 Nursery Management ..... 3 F
A study of current nursery and garden center crop cultural practices and business management. Topics to be covered include nursery and garden center design and organization, field and container crop production, transplanting, pricing, and shipping techniques. The working relationship between nurseries, landscape designers and contractors is also discussed. P, 111, PS 213.
Ho 490 Seminar ..... 1 FS
Required of all major students; limited to two credits.
Ho 492 Problems ..... 1-2 FS
Special investigation in horticulture area. Maximum four hours credit. P, consent.
Ho 493 Special Topics ..... 1-4 FS
Ho 494-495-496 Cooperative Education/Internship/Field Experience ..... 1-12 FSSu

a. Work experience in horticulture. Generally, one credit per semester or equivalent time unit. Consent.
b. Practical experience for selected Horticulture students. The project, program and grading criteria require approval by the department faculty. P, junior standing and must have completed 2 years of the Horticulture curriculum. Consent. Generally 3 cr. maximum.

Dual Numbered Courses

Ho 480-580 Environmental Stress Physiology ..... 3 S (even years)
Physiological and cellular response of plants to environmental stresses. P, Bot 327.

Graduate Courses

Ho 590 Special Topics in Horticulture ..... 1-3 FSSu
Ho 746 Plant Breeding 3

Hon (Honors Program)

Hon 301 Honors Colloquium 1-4
History of ideas. May be repeated once.
Hon 302 Honors Colloquium 1-4
The Arts. May be repeated once.
Hon 303 Honors Colloquium 1-4
The Social Sciences. May be repeated once.
Hon 304 Honors Colloquium 1-4
History and/or Philosophy of Science. May be repeated once.
Hon 492 Honors Independent Study 1-6
Creative work in student's area of interest subject to approval by the Honors Program Committee.

HPER (Health, Physical Education, and Recreation)

Undergraduate Courses

HPER 180 Introduction to HPER ..... 3 FS
An overview of the health, physical education, wellness/fitness and recreation professions primarily focusing on history, values, impact on society, and professional opportunities. Designed as an introduction to the HPER profession.
HPER 252 Motor Learning and Development ..... 2 F
Course content deals with characteristic motor development patterns in children with concentration on fundamental locomotor, non-locomotor, manipulative skills and perceptual-motor development, and practical applications of research and knowledge to PE classroom teaching. P, sophomore standing.
HPER 252A Motor Learning and Development Lab 0
HPER 440 Organization & Administration of HPER ..... 2 S
Curricula, intramural and athletic programs. Administration of facilities, equipment and budgets. P, junior standing.
HPER 451 Tests & Measurements in HPER ..... 2 F
Place of measurement in physical education. Analytical survey of tests and measures available; statistical approach, techniques and procedures in planning and administering tests and measurements. P, junior standing.
HPER 451A Tests & Measurements in HPER Lab 0
HPER 453 Psychological Aspects of Coaching 2F
Psychological aspects of sport specifically applied to coaching. Topics include philosophy of coaching, leadership, communication, motivation and various intervention strategies designed to elicit optimal performance.
HPER 468 Internship 1-12
Planned and supervised professional experience which takes place outside the formal classroom with private business or industry, or public agencies. P, Hlth 250.
HPER 490 Senior Seminar ..... 3 FS
Discussion of current issues, investigation of topics not covered in other classes, presentation and discussion of topics in HPER found in professional journals/related resources, planning for the internship, and various aspects of the job search. P, senior standing in HPER majors, HPER 180, consent. Crosslist with RECR 414.
HPER 492 Problems in HPER ..... 1-3 FS
Directed studies and/or research activities related to HPER. P, consent.
HPER 493 Topics in HPER 1-5
P, consent.
HPER 496 Field Experience ..... 2 FS
Provide student with professional experience related to their chosen field of study. P, Hlth 250.

Dual Numbered Courses

HPER 481-581 Workshops in HPER 1-3
Lectures, conferences, and outside assignments to increase understanding of a specific area.

Graduate Courses

HPER 682 Seminar in HPER ..... 2 FSSu
HPER 742 Psychological Aspects of Sport and Exercise .....3 F (alternate years)
HPER 745 Sports Medicine ..... 2 SSu (alternate years)
HPER 760 Motor Learning & Development .....3 FS (alternate years)
HPER 765 Athlete Profiling ..... 2 S (alternate years)
HPER 780 Seminar in HPER .....1 FS
HPER 783 Research Methods in HPER..... 3 F
HPER 790 Thesis.....1-5 FSSu
HPER 791 Thesis Sustaining ..... 0 FSSu
HPER 792 Individual Research & Study in HPER .....1-3 FSSu
HPER 793 Special Problems in HPER.....1-3FSSu

HSc (Health Science)

Undergraduate Courses

HSc 120 Community Health ..... 2 FS
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 with Hlth 120.
HSc 212 Contemporary Health Problems ..... 2 FS
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 with Hlth 212.
HSc 253 Disaster Preparedness .....2 (on sufficient demand)
Basic philosophy, fundamental principles of civil defense; citizen's role in emergency planning for non-military national defense. Open to all students.
HSc 262 Instructor's Course in Home Nursing .....1 (on sufficient demand)
Workshop of 36 hours in effective methods of teaching home care of the sick. Limited to 14 students. P, consent.
HSc 302 Wellness and the Family .....2 S
Planning for promotion of family health. Open to all students.
HSc 420 Methods of Health Instruction ..... 2 S
Curriculum content and methods in health education. Emphasis on elementary and secondary. Demonstration of teaching strategies. Organization of health/safety education. P, 212 or consent of instructor.
HSc 440 Epidemiology..... 3 FSSu
Basic principles applicable to infectious and non-infectious disease. The epidemiologic methods for understanding the patterns of disease and health. P, junior or senior standing or consent of instructor. Crosslisted with Hlth 440.
HSc 443 Public Health Science .....3 FSSu
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. Junior or senior standing or consent of instructor. Crosslisted with Hlth 443.
HSc 452 Workshop 1-4
HSc 490 Seminar 1-4
HSc 494-495-496 Cooperative Education/Internship/ Field Experience 1-12
Planned and supervised professional experience related to health science which takes place outside the formal classroom with private business, industry, or public agencies. P, consent of department head.

Dual Numbered Courses

HSc 433-533 Industrial Health .....3 (every other fall–odd years)
Industrial hygiene deals with the scope, objectives, and functions of occupational health programs, examines work related diseases, harmful exposure to chemicals and physical agents which may cause discomfort, stress, inefficiency or disease; emphasis on preventive measures to assure a reasonably healthful work environment.

ID (Interior Design)

Undergraduate Courses

ID 121 Interior Design Foundations .....2 F
Introduction to selected core concepts in design problem-solving. Basic aesthetic theory applied to the analysis of existing interiors and furnishings objects. Concurrent enrollment with ArtS 121.
ID 122 Design Graphics .....3 FS
Introduction to the graphic symbol system used to express site plans, building plans, and furnishings and equipment plans. Ability to interpret and to prepare basic diagrammatic documents used in the design professions.
ID 221 Introduction to Interiors and Housing..... 3 FS
Introduction to the behavioral, functional, aesthetic and material aspects of interiors and settings of daily life. Processes of analysis and problem-solving to create appropriate interiors and places. P, Art 121.
ID 222 Laboratory in Interiors and Housing .....1 FS
Processes, procedures and skills in solving basic interior design and setting problems. Concurrent with ID 221.
ID 230 Presentation Techniques.....3 S
Introduction to one- and two-point perspectives, various color rendering techniques, composition of presentation boards, and oral presentation techniques.
ID 231 Computer Aided Design .....2 F
Introduction to the basic principles of computer aided design. Experience with methodologies and basic commands related to two dimensional drafting. These skills will be applied to the virtual three dimensional world to see the design potential the computer allows.
ID 250 The Design Process.....3
Introduction to the design problem-solving process as it relates to presentation methods. Includes needs assessment, client profiles, problem definition, space planning, diagramming techniques, developing design concepts, and the integration of visual, oral and written presentation strategies appropriate to clients and projects. P, 122, 221 and 222.
ID 250A The Design Process Studio 0
ID 293 Current Topics 1-3
Discussion of current literature and issues. Investigation of topics for which there is a current need but which are not part of any class. P, consent.
ID 310 Interior Design Fabrics .....2 (alternate years)
Relationship of weight, color, texture, design of textiles to their application in interiors. Sources of traditional and contemporary fabrics are explored. Lab: Designing and creating appropriate fabric structures. P, AM 342.
ID 310A Interior Design Fabrics Lab 0
ID 315 Materials and Product Specification 3
Study of the characteristics of interior furnishings from raw materials to finished products. Evaluation of quality characteristics of similar product types.
ID 315A Materials and Product Specification Studio 0
ID 316 Interior Design Technology 2
Study of the technical systems used in producing interior living spaces. Review and application of local and model codes. P, 315, upper division student.
ID 317 Interior Design Practices ..... 2 S
Study of the professional practices of interior design firms. Preparation

of specifications and installation documents. Review of installation procedures. P, 316, upper division student.

ID 319 Building Systems ..... **3 S (alternate years)**
Examination of structural systems of several building types plus support systems such as HVAC, electrical and plumbing. Prereq. ID 250

ID 319A Building Systems Studio **0**

ID 320 Color and Lighting Design ..... **3 (alternate years)**
Fundamentals of lighting. Preparation of lighting plans and specifications for a variety of interiors and related areas. P, 250, upper division student.

ID 320A Color and Lighting Design Lab **0**

ID 322 Intermediate Interior Design I ..... **3 F**
Introduction to the design process, developing skills specifying materials for interiors. Application of design theory to practical situations. P, 250.

ID 323 Intermediate Interior Design II ..... **3 S**
Development of the basic knowledge and skills needed to specify materials for interiors. P, 250, 322.

ID 422 Advanced Interior Design I ..... **3 F**
Experience in solving commercial design problems within the frame of a business. P, 323.

ID 423 Advanced Interior Design II ..... **3 S**
Experience in solving design problems of commercial and contract interiors. P, 422.

ID 424 History of Interiors I ..... **3 F (alternate years)**
Historical backgrounds: from Antiquity through the Renaissance.

ID 425 History of Interiors II ..... **3 S (alternate years)**
Historical backgrounds: from Renaissance to present. P, 424.

ID 431 Advanced Computer Aided Design ..... **2 F (alternate years)**
Advanced problems in design using the computer. Prereq. ID 231.

ID 450 Shelter and Families ..... **3 (alternate years)**
Cross-cultural study of world housing and furnishings practices. Relating socio-cultural, aesthetic, technological and physical characteristics of the region to family living patterns.

ID 472 Retailing ..... **3 F**
Principles of retailing as applied to textiles, apparel and furnishings retailing. Study of customer demand, buying, inventory control and promotion. Field trip to market center is required.

ID 477 Portfolio and Senior Exhibit ..... **2 S**
Revision and extension of portfolio materials in preparing for job-seeking. Preq. ID 422.

ID 477A Portfolio and Senior Exhibit Studio **0**

ID 487 Pre-practicum in Interior Design and Housing ..... **3 S**
Discussion of professional practices, and issues. Experience in goal setting, reporting, and evaluation. Organization and preparation of professional documents and examination of current issues in the work place. P, 323, 472 or concurrently; GPA of 2.2.

ID 497 Professional Practicum ..... **1-12 Su**
Supervised work experience in a cooperating retail design firm or design studio. Provides opportunities for interaction between business, community and the university. P, 487, 90 sem. cr. and consent of the department. Minimum GPA 2.2.

Dual Numbered Courses

ID 473-573 Travel Studies ..... **1-5 Su**
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. P, consent of department.

ID 492-592 Special Problems **1-3**
Problems for independent study selected according to special interests and needs. Arranged by contract with instructor.

ID 493-593 Current Topics **1-3**
Discussion of current literature and issues. Investigation of topics for which there is a current need but not part of any class. P, consent.

Japn (Japanese)

Undergraduate Courses

Japn 101-102 Introductory Japanese I-II **4**
Introduction to Japanese language and culture. Classwork may be supplemented with required aural/oral practice outside of class.

La (Landscape Design)

Undergraduate Courses

La 201 Introduction to Landscape Design ..... **3 FS**
Survey of profession of landscape design. Introduction to the principles of landscape design with a focus on landscape appreciation, noteworthy works, and the design process.

La 231 Introduction to LandCADD ..... **3 FS**
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. P, EG 123 or consent.

La 241 History of Landscape Architecture ..... **3 S (alternate years)**
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 Graphics and Theory of Design ..... **4 S**
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. P, ID 222, La 201.

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. P, La 284.

La 322 Site Planning ..... **3 F**
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. P, CEE 106 or AST 333.

La 323 Landscape Construction ..... **3 S**
Design and construction of walks, terraces, fences, walls, pools, and other landscape structures and systems. P, 284.

La 324 Planning Public Grounds ..... **3 F**
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. P, 284.

La 324A Planning Public Grounds Lab **0**

La 332 Residential Landscape Design ..... **3 S**
Advanced theory and practice of residential design focusing on indoor-outdoor relationships, regional and functional design styles, and the works of famous designers. P, 284 or consent.

La 364 Planting Design and Specification ..... **4 S**
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. P, 314 or consent.

La 421 City Planning .....3 F
City planning in the United States, planning practice and theory, urban design, and land use planning. Local planning efforts observed. P, 322, 324.

La 421A City Planning Lab 0

La 423 Construction Specifications ..... 2 S (alternate years)
Understanding the development and use of construction specifications and design details from both the designer and contractor viewpoint. Preparation of construction documents, including standard regulatory and legal sections, will be emphasized. P, 323 or consent.

La 423A Construction Specifications Lab 0

La 424 Recreational Facilities Design .....3 F
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. P, 324 or consent.

La 424A Recreational Facilities Design Lab 0

La 440 Restoration Ecology.....4 F (alternate years)
Scientific principles involved in restoration of natural ecosystems on degraded and disturbed lands. P, Bio 211 Prin. Ecol. or equiv. Cross-listed with Bio 440.

La 440A Restoration Ecology Lab.....0

La 442 Landscape Design III .....3 S
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. P, 314 or consent.

La 464 Landscape Professional Practice Studio 4
An advanced design studio with an emphasis on environmental design, land use ethics, current issues in landscape design and professional practice. Senior exit examination requirement is completed during this class.

La 492 Problems .....1-2 FS
Special investigations in Landscape Design. Maximum of 5 hours credit. P, consent.

La 493 Special Topics .....1-4 FS
Special Landscape Architectural topics offered for group study.

La 494-495 Cooperative Education/Internship.....1-12 FSSu
See course description under Horticulture curriculum. Generally 3 cr. maximum.

Graduate Courses

La 560 Landscape Ecology.....4

La 560A Landscape Ecology Lab 0

LAAS (Latin American Area Studies Program)

Undergraduate Courses

LAAS 301 Latin American Cultures .....3 (Topical)
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. P, sophomore standing or consent. May be repeated with consent of the coordinator of the LAAS program. Enrollment limited to 20.

LAAS 302 Latin American Societies .....3 (Topical)
A broad view of the society of a country, region, epoch or theme concerning Latin America. A multidisciplinary and multimedia approach. P, sophomore standing or consent. May be repeated for credit with consent of the LAAS Coordinator.

LAAS 491 Directed Studies in Latin American Cultures 1-3
Advanced students interested in in-depth study of particular aspects of a given country, region, epoch or theme concerning Latin America may enroll for 1-3 credit hours of independent multidisciplinary directed study. Studies will be planned and method of evaluation and grading established by one or more instructors in consultation with the student, under the general supervision of the coordinator of the LAAS program. May be repeated with consent of the coordinator of the LAAS program. P, junior standing or consent.

Lak (Lakota)

Undergraduate Courses

Lak 101-102 Introductory Lakota I-II..... 4
Introduction to Lakota language and culture. Classwork may be supplemented with required aural/oral practice outside of class.

Lak 201-202 Intermediate Lakota I-II..... 3
Aims of the first year continued with emphasis on speaking and reading skills. P, 101-102 or comparable proficiency.

Ling (Linguistics)

Undergraduate Courses

Ling 203 English Grammar .....3 S
Instruction in the theory and practice of traditional grammar including the study of parts of speech, parsing, and practical problems in usage.

Ling 425 The Structure of English.....3 (alternate years)
Use of traditional, structural, and transformational grammars for describing the English language. Practical application in teaching. Strongly recommended for majors planning to teach.

Dual Numbered Courses

Ling 420-520 The New English.....3 (alternate years)
Diverse new theories and applications in English linguistics: lexicography, pragmatics, stylistics, socio-semantics, semiotics, and discourse theory.

Ling 443-543 Development of the English Language .....3 (alternate years)
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 (alternate years)
Relations between symbols; human behavior in reaction to symbols including unconscious attitudes, linguistics assumptions; and the objective systematization of language. Crosslisted with SpCm 552.

Math (Mathematics)

Undergraduate Courses

Math 010 Basic Algebra .....3 FSSu
Integers, Rational numbers, signed numbers, absolute values, and basic operations. Solving algebraic equations and inequalities in one variable with applications. Basic operations applied to polynomials, special products and factoring. Algebraic fractions, square roots and radicals. (Note: Remedial Level)

Math 101 Intermediate Algebra .....3 FSSu
Set concepts, basic properties of real numbers, factoring of polynomials, solution of linear and quadratic equations, inequalities, systems of equations, exponents and radicals. Credit for Math 101 will not be granted to anyone who has previously received credit in Math 102 or 113. P, 1 unit of high school algebra.

Math 102 College Algebra .....3 FSSu
Basic properties of real numbers. Solutions of linear, quadratic, and rational equations and inequalities. Exponents and radicals, factors, graphing, and zeros of polynomials. Systems of equations, exponentials, logarithmic, and inverse functions. Other topics selected from sequences, series, and complex numbers. Credit will not be allowed for both Math 102 and 113. P, 1 1/2 units of high school algebra or 101.

Math 113 College Algebra & Trigonometry .....5 FSSu
The real number system as related to linear, quadratic, rational, trigonometric, exponential, logarithmic and inverse functions and their applications. Other topics selected from mathematical induction, complex numbers, partial fractions, determinants, matrices, theory of equations, sequences & series. P, 1 1/2 units of high school Algebra. Credit will not be allowed for Math 113 in addition to credit in Math 102 or 120.

Math 120 Trigonometry .....3 FS
Trigonometric functions, equations and identities; inverse trigonometric functions; exponential and logarithmic functions, and applications of these functions. P, 102 or equivalent.

Math 123 Calculus I .....5 FSSu
Plane analytic geometry, limits, derivatives of algebraic and elementary transcendental functions, extrema of functions, sketching of graphs, selected applications, antiderivatives, definite integrals, fundamental theorem of calculus. P, 113 or placement.

Math 140 Survey of Mathematics .....3 S
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. P, 1 unit of high school algebra.

Math 143 Finite Mathematics .....3 FS
Linear systems of equations and matrices, linear programming and the simplex algorithm, mathematics of finance, probability, statistics, Markov chains and game theory. P, 101 or Placement.

Math 215 Matrix Algebra .....2 FS
An introduction to vectors, matrices, and determinants with applications to linear mathematical problems. Linear transformations of n-dimensional Euclidean space and their matrix representations. P, 113 or consent.

Math 222 Calculus for Non-Math Majors .....5 FSSu
An intuitive approach to functions, limits, calculus of algebraic, exponential and logarithmic functions, functions of several variables, applications of the derivative and integral. Credit will not be allowed for both Math 222 and 123. P, 102 or 113 or placement.

Math 224 Calculus II .....4 FSSu
Applications of integration to areas, volumes, and selected physical applications, methods of integration, parametric equations, polar coordinates, infinite sequences and series, indeterminate forms, improper integrals, Taylor's formula. P, 123.

Math 225 Calculus III .....3 FSSu
Three dimensional analytic geometry and vectors, partial derivatives, multiple integrals, selected physical applications. P, 224.

Math 241 Mathematics of Finance .....3 (on demand)
Application of algebra to problems involving simple and compound interest including annuities, amortization, sinking funds, valuation of bonds, depreciation and capitalized cost. P, 102, or consent.

Math 253 Elementary Logic & Set Theory .....3 FS
Logical connectives, quantifiers, arguments, and proof. Set operations, index sets, relations, functions, cardinality, and mathematical induction. P, 123.

Math 261 Geometry for Teachers .....3 S
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. P, 224, SeEd 287, or consent.

Math 271 Mathematical Applications in FORTRAN .....3 F
An appreciation of the use of computer use for non-engineers. FORTRAN programming, flow charting, data processing techniques, evaluation of computer hardware, binary arithmetic, elementary numerical analysis and optimization applications. P, 123, CSc 150.

Math 313 Modern Algebra .....3 FS
Groups, rings and fields. Homomorphism theorems. P, 224, 253 or consent.

Math 315 Linear Algebra .....3 F
Vector spaces, linear transformations and matrices. P, 215, 253 or consent.

Math 321 Differential Equations .....3 FSSu
Ordinary differential equations including first order, higher order linear and systems of linear equations. General solutions and solutions to initial-value problems using matrices, Laplace transforms and power series and applications to physical science and geometry. P, 224, 225 recommended.

Math 327 Calculus of Several Variables .....3 (on demand)
Calculus of functions of 2 and 3 variables starting with a review of Partial Derivations and Multiple Integration, and including the Implicit Function Theorems, Jacobians, Improper Integrals, Vector Field Theory, and Stokes' Theorem. P, 215, 225 or consent.

Math 331 Advanced Engineering Math .....3 FSSu
Fourier series, vector analysis, matrices, determinants, and topics selected from: complex variables, partial differential equations, numerical methods. P, 321.

Math 345 Topics in Discrete Mathematics .....2 S
Topics in discrete mathematics including but not limited to: linear programming, difference equations, recurrence relations, application of algorithms, finite graphs, trees, paths and modeling. P, 215, 253.

Math 355 Methods of Teaching Mathematics .....3 FS
Techniques, materials and resources for teaching mathematics to junior high school and high school students. Required of majors and minors planning to teach. P, 224, 261, and SeEd 287. May not be used for upper division math elective for majors not in Secondary Teaching Option.

Math 355A Methods of Teaching Mathematics Lab 0

Math 361 College Geometry .....3 F
Axiomatic study of elementary Euclidean geometry including various advanced topics. P, 253.

Math 373 Intro to Numerical Analysis .....3 S
Mathematical models, algorithms, sources of error, computer solution of systems of linear equations, non-linear equations; quadrature, approximation, and interpolation using the computer. P, 224, CSc 150 or 213.

Math 381 Mathematical Statistics .....4 FSSu
Statistical methods and probability, related to engineering and physical sciences. Common single and multiple variable densities and moment generating functions. Applications of random sampling to hypothesis testing, confidence limits, correlation, and regression. P, 225 or consent. Crosslisted with Stat 381.

Math 401 Senior Seminar .....1 FS
A capstone experience that includes readings from the mathematical literature, an oral presentation, and an assessment process. Open only to mathematics majors. P, 253.

Math 411 Theory of Numbers .....3 (on demand)
Divisibility, greatest common divisor, least common multiple, Euler's phi function, perfect numbers, Diophantine equations, congruences, Fermats theorem, Wilson's theorem, quadratic residues, primitive roots, Pell's equations, continued fractions, distribution of primes. P, 224, 253.

Math 425-426 Intro to Real Analysis I-II .....3 FS
Properties of real numbers, sequences, and series of real numbers, limits of functions, uniform continuity, differentiation, sequences and series of functions, uniform convergence, theories of integration. Extensions of R^n may be considered. P, 225, 253.

Math 433 Laplace Transform .....3 (on demand)
Main features of Laplace transform theory. P, 321 or consent.

Math 490 History of Mathematics .....3 S
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. P, 224 or consent.

Math 491 Directed Studies .....1-3 FSSu
Math 494-495-496 Cooperative Education/Internship/ Field Experience .....1-6 FSSu
Planned and supervised professional experience related to mathematics which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

Math 421-521 Advanced Calculus I .....3 F
Math 422-522 Advanced Calculus II .....3 S
Math 461-561 Intro to Topology .....3 S
Math 466-566 Projective Geometry .....3 S (on demand)
Math 471-571 Numerical Analysis .....3 FSu
Math 493-593 Special Topics 1-3

Graduate Courses

Math 672 Numerical Analysis .....3 S
Math 700 Seminar .....1 FS (Pass/Fail)
Math 716 Theory of Algebraic Structures I .....3 F
Math 717 Theory of Algebraic Structures II .....3 S
Math 726 Real Variables I .....3 F
Math 727 Real Variables II .....3 S
Math 728 Complex Variables I .....3 F
Math 729 Complex Variables II .....3 S
Math 731 Ordinary Differential Equations .....3 S
Math 732 Partial Differential Equations .....3 F
Math 770 Numerical Linear Algebra .....3 S
Math 784 Applied Probability Theory .....3 S
Math 790 Thesis .....1-7 FSSu (Pass/Fail)
Math 791 Thesis Sustaining .....0 FSSu (Pass/Fail)
Math 792 Research Paper .....1-2 FSSu
Math 793 Advanced Topics .....1-3 FSSu
Math 794 Research Paper Sustaining 0
Math 795 Special Problems .....1-3 FSSu
Math 797 Research 1-9

MCom (Journalism & Mass Communication)

Undergraduate Courses

MCom 130 Introduction to Radio & TV .....3 F
History, structure, regulations, and financial support; potentialities and limitations; public responsibilities, impact on society. Crosslisted with RTVF 130.
MCom 151 Intro to Mass Communication .....2 FS
A comprehensive look at the mass media in the United States and the world and how they work. Includes discussions of newspapers, magazines, radio, television, books, movies, recordings, advertising and public relations. Also studies mass media rights and responsibilities, ethics and censorship. Recommended for journalism majors and minors.
MCom 160 Basic Photography .....2 FSSu
Beginning camera and darkroom techniques, including processing and printing and digitizing black and white photographs. The student will also survey the field of photography and its uses.
MCom 160A Basic Photography Studio 0
MCom 210 Newswriting & Reporting .....3 FSSu
Gathering, evaluating and writing news. P, freshman English grade no lower than C. Not open to freshmen without consent.
MCom 210A Newswriting & Reporting Studio 0
MCom 212 Desktop Publishing .....3 S
Basic principles, techniques, and technology of electronic layout and production.
MCom 212A Desktop Publishing Lab 0
MCom 213 Journalism Typography .....2 FSSu
Fundamentals of effective visual communication in printed materials. Includes using type, design principles, illustrations, information graphics, color, and printing processes.
MCom 213A Journalism Typography Studio 0
MCom 261 Photojournalism .....2 FS
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. P, 160.
MCom 261A Photojournalism Studio 0
MCom 310 Newspaper Editing .....2 FS
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. Must be taken concurrently with 311. P, 210.
MCom 311 Editing Laboratory .....1 FS
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. Must be taken concurrently with 310. P, 210.
MCom 313 Publicity Methods .....2 FS
Newswriting, organizing publicity campaigns, press relations. (Cannot be taken for credit by journalism majors.)
MCom 314 Sales, Promotion & Marketing .....3 S
Promotion, sales, advertising, circulation, practices and theories of marketing in advertising and graphic arts.
MCom 315 Magazine Writing & Editing .....3 F
Includes overview of the magazine industry, how to write and submit freelance articles. Students write and submit articles for publication and edit a departmental magazine.
MCom 316 Public Affairs Reporting .....3 FS
Covering and writing news of government, politics, economics, education, and social issues at the local, county, and state level. P, 210, PolS 210 or consent.
MCom 316A Public Affairs Reporting Studio 0
MCom 330 Writing for Radio & TV .....3 S
Preparation of continuities such as commercials, public service announcements, talks, interviews, drama, documentaries, and educational programs. Crosslisted with RTVF 330.
MCom 330A Writing for Radio & TV Lab 0
MCom 331 Television Production .....3 FS
Includes preparation and presentation of talks, interviews, discussion and extension and community services for broadcast. Crosslisted with RTVF 331.
MCom 331A Television Production Lab 0
MCom 332 Radio News Reporting .....3 FS
Radio news reporting, writing, editing and producing. Lab practice in writing, audio tape, and delivery. Crosslisted with RTVF 332. P, 210 for majors; RTVF 330 for others.
MCom 332A Radio News Reporting Studio 0
MCom 333 Television News Reporting .....3 FS
TV news videography, reporting, writing and video editing. Lab practice with videotape. Crosslisted with RTVF 333. P, MCom/ RTVF 331, 332, or consent.
MCom 333A Television News Reporting Studio 0
MCom 335 Broadcast Programming .....3 S
Program types and essentials of effective structure. Audience characteristics and preferences. Managerial problems. Special consideration of agricultural, commercial, and educational broadcast requirements. Crosslisted with RTVF 335.
MCom 365 Advanced Photography .....2 S
Exploration of photojournalism and electronic photojournalism. Emphasis on putting together a professional photojournalism portfolio including black and white and color. P, 160 and consent.
MCom 365A Advanced Photography Studio 0

MCom 370 Principles of Advertising .....3 FS
Study of advertising as an institution. Discuss historical foundations, economics, social consequences, structure, planning, execution and evaluation phases of the advertising process. Discuss advertising as it relates to other types of marketing communication. P, junior standing or consent.

MCom 371 Advertising Copy and Layout .....3 FS
Discuss principles and techniques for developing creative campaigns. Laboratory assignments are designed to apply thinking, design and writing skills to creative problems for different media and different targets. Encompasses creative development for all advertising media. P, 370.

MCom 371A Advertising Copy and Layout Studio.....0

MCom 372 Media and Markets .....3 FS
Learn theory and fundamentals of evaluating advertising media. Analyze marketing variables, media characteristics, sources and strategies. Use computer planning models. Assigned range of planning problems and develop media plan within an integrated marketing framework. P, 370.

MCom 410 Advanced Reporting .....3 S
Political, scientific, social issues done in in-depth reporting. P, 210.

MCom 412 Advanced Editing Lab .....1 FS
Advanced editing and production.

MCom 413 Computer Assisted Information Gathering .....2 FS
Use of computers to gather information online for journalists and to analyze data.

MCom 433 Advanced Television News Reporting .....3 F
In-depth analysis of television news reporting, writing, videography and video editing techniques. Major emphasis on out of class assignments. P, MCom/RTVF 331, 332, 333, or consent

MCom 433A Advanced Television News Reporting Studio 0

MCom 471 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.) P, 371 or ArtD 351 for Visual Arts majors.

MCom 472 Advertising and Media Research.....3 F
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 473 Advertising Campaigns .....3 FS
The capstone course of the advertising sequence. Use case study method and develop complete integrated communication plan for client. Make formal advertising campaign presentation. P, 370, 371, 372, and consent.

MCom 492 Special Problems .....1-2 FSSu
P, Senior Standing.

MCom 493 Topics in Journalism 1-5

MCom 495 Internship .....1-12 FSSu
Supervised media experience; print, broadcast, public relations. P, consent of department program coordinator.

Dual Numbered Courses

MCom 405-505 Theories of Communications .....3 S
Major theories of communication, including media and interpersonal communication.

MCom 406-506 Public Opinion and Propaganda .....3 S
Formation and measurement of public opinion; role of the media; propaganda techniques, agencies, theories. P, Senior standing, consent.

MCom 414-514 Mass Communication Law .....3 FS
Libel, privacy, news gathering rights and press freedom in America.

MCom 415-515 Editorial Writing & Policy .....2 F
Opinion function of periodicals; great editorials and editorial writers; writing editorials; shaping policy.

MCom 416-516 Mass Media in Society .....3 S
Rights and responsibilities of the press; relation of the media to individuals and society; role of media in a free society.

MCom 417-517 History of Journalism .....3 F
Development, impact and importance of individual journalists and media in U.S.

MCom 418-518 Women in Media .....3 F
This course examines contributions of women to the mass media from colonial era to present. It also studies the portrayal of women by the news media and by advertising, and it studies the roles currently played by women in the media and in supporting areas of advertising and public relations.

MCom 437-537 Educational Radio & TV 3
Preparation, presentation of educational and instructional materials for radio, TV, and film and classroom use. Crosslisted with RTVF 437-537.

MCom 475-575 Public Relations .....3 S
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 481-581 Media Administration & Management .....3 F
Business practices, newspaper, magazine, and broadcast management.

Graduate Courses

MCom 653 Workshop in Communications .....1-4 Su

MCom 751 Special Problems in Communications .....1-3 FSSu

MCom 762 Special Problems in Radio, TV or Film.....1-2

MCom 790 Thesis .....1-7 FSSu

MCom 791 Thesis Sustaining .....0 FSSu

MCom 792 Research Methods in Communications .....3 S

ME (Mechanical Engineering)

Undergraduate Courses

ME 240 Introduction to Mechanical Design .....3 FS
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. P, EM 221, concurrent ES 225.

ME 241 Engineering Materials .....3 FS
Structure of metals, including atoms, perfect and imperfect crystals and phases. Effect of mechanical stresses, thermal reactions, magnetic fields and corrosion on microstructure. Phases and mechanical behavior of ceramics. Linear and three dimensional polymers and deformation of polymeric materials. P, Math 123, Chem 112.

ME 311 Thermodynamics I .....3 FS
Thermodynamic properties of gases, vapors and mixtures. Zeroth, First and Second Laws of Thermodynamics. Entropy. Availability and irreversibility. P, Phys 211, Math 225 or concurrently.

ME 312 Thermodynamics II .....3 FS
Thermodynamic power cycles using vapors and gases. Refrigeration cycles. Mixtures and psychrometry. Maxwell's relations, Combustion and Thermochemistry. P, 311, Math 321.

ME 313 Analytical Thermodynamics 3
Thermodynamic properties and laws, statistical thermo-dynamics, kinetic theory and transport phenomena. Irreversible thermodynamics, applications to direct energy conversion devices. P, Phys 331, Math 321.

ME 314 Thermodynamics .....3 FS
Terminal course for non-mechanical engineering students. Fundamental equations of thermodynamics. Properties of gases and vapors. Thermodynamic cycles. Introduction to heat transfer. P, Phys 211, Math 225.

ME 321 Fundamentals of Machine Design .....3 FS
Analysis of motion and design of linkages, cams, gears, gear trains, planetary gear trains. Analytic and graphical solution of positions, velocities, accelerations, static and dynamic forces. Balancing of engine mechanism, flywheels analysis. Synthesis of planar mechanisms and introduction to spatial mechanisms. Computer applications. P, CSc 213 or 218, EM 222, EM 321, ME 240.

ME 322 Vibrations .....3 FS
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. P, EM 222, EM 321, Math 321.

ME 341 Metallurgy .....3 S
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. P, 241 and consent.

ME 341A Metallurgy Lab 0

ME 361 Methods Engineering & 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. P, 362 or consent.

ME 362 Industrial Engineering .....3 F
Modern industrial engineering. Planning, organizing and directing industrial enterprises. Quantitative analysis of management problems in production planning and control, quality control, reliability, facility planning and PERT. Applications and examples from realistic situations. P, CSc 213 or 218, Math 381 or consent.

ME 376 Measurements and Instrumentation .....2 FS
Instruments for measuring pressure, temperature, flow, strain, vibration and sound. Experimental data analysis for accuracy, error and uncertainty. P, 311, Engl 379.

ME 376A Measurements and Instrumentation Lab 0

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. P, 311 or consent.

ME 411 Environmental Engineering .....3 F
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. P, 312, concurrent 415, EM 331.

ME 412 Internal Combustion Engines .....3 F
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. P, 312, EM 331.

ME 413 Turbomachinery .....3 S
Theory, design, operation and energy transfer in Turbo-machines. Steam, gas and hydraulic turbines. Pumps, fans and centrifugal and axial flow compressors. P, 312, EM 331.

ME 415 Heat Transfer .....3 FS
Basic principles of steady and unsteady conduction, convection of heat and mass transfer and thermal radiation. Computational methods of heat transfer. P, 311, EM 331, Math 321.

ME 416 Computer-Aided Engineering .....3 S
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. P, 415, EG 123, EM 222, or instructor's consent.

ME 416A Computer-Aided Engineering Lab 0

ME 418 Design of Thermal Systems .....3 FS
Systems approach to design, mathematical modeling, simulation and optimization of systems, with particular emphasis on thermal systems. P, 312, 415, EM 331.

ME 419 Heating and Air Conditioning Design .....3 S
Analysis of heating and air conditioning equipment. Design of heating and air conditioning systems. Economic considerations. Use of computers as design aids. P, 411 or consent.

ME 419A Heating and Air Conditioning Design Lab 0

ME 421 Design of Machine Elements .....3 FS
Fundamentals of mechanics. Energy methods. Working stresses and failure in materials. Design considerations of basic machine elements – shafts, springs, belts, clutches, brakes, chains, gear, bearings, fasteners and flywheels. Lubrication. Classification of engineering materials. P, 321, EM 321 with "C" or better.

ME 428 Machine Design – Case Studies 3
Study of stress and strain as applied to mechanical engineering problems. Residual stresses and dynamic loading. Theories of failure. Design of components that form a complete working system. Design analysis of various current case studies. P, 421 or consent.

ME 428A Machine Design – Case Studies Lab 0

ME 431 Aerodynamics .....3 S
Airfoil characteristics, wing shapes, static and dynamic forces, viscosity phenomena, boundary layer theory, flaps and slots, propellers, stability, control and performance. P, EM 331.

ME 451 Automatic Controls .....3 FS
Modeling of mechanical, electrical, hydraulic and pneumatic systems. Laplace transform and system response. Transfer functions; control systems and frequency response. System analysis using polar, logarithmic and Root locus plots. System compensation. Introduction to nonlinear controls. P, 322, concurrent EE 306.

ME 456 Dynamic Systems Laboratory .....1 FS
Experiments in mechanical vibration, control and robotics. Force and acceleration measurements, free and forced vibrations of systems, response of mechanical systems, stability of a feedback control system, performance of compensators. P, 322, concurrent with 451.

ME 461 Analysis & Design of Industrial Systems .....3 S
Problems in product design and development, marketing, forecasting, capacity evaluation, plant layout, materials handling from standpoint of interrelated and integrated systems. P, 362.

ME 476 Thermo-Fluids Laboratory .....1 FS
Experiments in fluid mechanics, thermodynamics and heat transfer. Single and multi-stage compressors. Heat pumps and air conditioning. Blowers and flow measurements in ducts. P, 376, 312, concurrent with 415; EM 331.

ME 477 Mechanical Systems Design I .....1 FS
A systems approach to design, covering need analysis, design phases, design processes, economics, optimization, and success criteria. Students will design, build, and test an independent project which must be different than any previous design they have attempted. P, concurrent 421, Math 331 or 571.

ME 478 Mechanical Systems Design II .....2 FS
A systems approach to design, covering need analysis, design phases, design processes, economics, optimization, and success criteria. Students will design, build, and test an independent project which must be different than any previous design they have attempted. P, 477.

ME 478A Mechanical Systems Design II Lab 0

ME 480 Inspection Trip .....(0) FS
Short inspection trips arranged to give students opportunity to observe and evaluate manufacturing and industrial processes, operations and facilities. P, senior standing.

ME 492 Special Problems 1-5
ME 493 Special Topics 1-5
May be analytical, design, or laboratory studies.
ME 494-495-496 Cooperative Education/Internship/ Field Experience .....1-6 FSSu
Planned and supervised professional experience related to mechanical engineering which takes place outside the formal classroom with private business, industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

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. P, 311 or consent.
ME 427-527 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, interaction of waves. General theorems of gas dynamics. P, EM 331, Math 331.
ME 440-540 Computer-Aided Design 3
The use of digital computer as a design tool. Techniques and algorithms which increase the rationality of the design process. Design principles and optimization theory. General approach to constrained optimization. Probabilistic approaches to design. Computer-aided design to reliability specification. Application of computer graphics to engineering design. The emphasis is on extending the designer's potential and not on automating those activities. P, competence in FORTRAN programming and consent.

Graduate Courses

ME 593 Special Topics 1-3
ME 603 Thermo-Fluid Energy Systems 3
ME 606 Statistical Thermodynamics 3
ME 611 Advanced Heat Transfer I 3
ME 612 Convection Heat Transfer 3
ME 621 Viscous Flow I 3
ME 628 Gas Dynamics II 3
ME 631 Advanced Analytical Methods 3
ME 635 Modeling & Simulation 3
ME 635A Modeling & Simulation Lab 0
ME 639 Advanced Metallurgy 3
ME 641 Advanced Stress Analysis in Mechanical Design 3
ME 645 Advanced Machine Design 3
ME 661 Operations Research 3
ME 662 Quality Control 3
ME 663 Topics in Reliability Engineering 3
ME 665 System Analysis 3
ME 667 Decision Theory 3
ME 690 Special Problems 1-5
ME 695 Special Topics 1-3
ME 700-701 Seminar 0-1
ME 790 Thesis .....1-7 (as arranged)
ME 791 Thesis Sustaining 0
ME 792 Research or Design Paper 1-2
ME 793 Engineering Research or Design Paper Sustaining 0
ME 794 Special Problems 1-3
ME 795 Special Topics 1-3
ME 797 Research 1-9

MEDT (Clinical Laboratory Technology)

Undergraduate Courses

MEDT 487 Internship Orientation .....1 S
Discussion of internship procedures, licensing examinations and registration requirements.
MEDT 495 Medical Technology Internship 12-16
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/Radiobioassay/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, endocrinology and radiobioassay.

Clinical Immunohematology
Lecture, supervised laboratory instruction, quality control, instrumentation, computer applications and experience in theory and practice of immunohematology as applied to blood transfusion, component therapy, autoimmune diseases, immunologic diagnostic procedures and blood component preparation and administration.

Specialized Units
Management/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.

MET (Manufacturing Engineering Technology)

Undergraduate Courses

MET 211 Introduction to Engineering Materials
.....3 F (alternate years)
Properties of materials used in manufacturing and methods of material testing. Computer analysis of test results integrated into written reports will be presented orally.

MET 211A Introduction to Engineering Materials Lab 0

MET 223 Mechanics for Technologists 3
Basic statics, dynamics, and two-dimensional analysis of stress and strain. Laboratory verification of fundamental principles of structural and machine elements and tests of properties of materials. P, sophomore standing and Math 113, Phys 111.

MET 223A Mechanics for Technologists Lab 0

MET 232 Micro-Computers in Industry 2
Study and development of applications of the microprocessor/computer in industrial technology; emphasis on operation and Micro-CAD uses in industry.

MET 243 Quality Control .....3 F (alternate years)
History of quality control, quality policies and objectives, economics of quality, reliability and maintain-ability, statistical aids, quality specifications, inspection, acceptance sampling, vendor relations, process control, motivation for quality, quality assurance and quality control engineering developing a "quality management" system through "continuous improvement." P, STAT 341.

MET 294 Cooperative Education/Internship/Field Experience .....1-3 FSSu
Supervised work experience with a business, industrial firm, or public agency. The work experience must relate to the student's program of study and be performed under institutional and discipline guidelines governing this type of educational experience. P, departmental approval, sophomore standing or higher.

MET 323 Plant Layout and Material Handling 3
The principles of shop planning as applied to location and types of shops, flow of materials, selection and equipment, layout of working areas, installation of machinery and tool management. P, 243 or permission of instructor.

MET 331 Fluid Mechanics .....3 F (alternate years)
Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. P, 223, Math 222.

MET 332 Applied Fluids .....3 S (alternate years)
Operation and construction of hydraulic and pneumatic system components with application to basic industrial circuits; compressors, plumbing, control valves and actuators. P, 331.

MET 332A Applied Fluids Lab 0

MET 333 Computer Integrated Manufacturing (CIM)
.....3 S (alternate years)
The basic elements and principles of hardware and software for CAM are outlined. Included are group technology and work-piece classification and coding cellular production design intervals. Students will learn to write programs and prepare manufacturing data systems. Topics include N/C languages, group technology, flexible manufacturing systems, automatic process planning, and adaptive controls. Integrate with a "continuous improvement" program leading to an overall "quality management" system. P, ES 222, EG 123, CSC 105, junior level standing.

MET 333A Computer Aided Manufacturing (CAM) Lab 0

MET 343 Automated Production Techniques
.....3 S (alternate years)
Operation, planning, equipment, tools, and techniques used in mass production and computer-aided manufacturing integrated into a "continuous improvement" program leading to an overall "quality management" system. P, 333.

MET 352 Plant Maintenance 3
Plant maintenance areas of responsibility; facilities and equipment maintenance and construction; power and utilities; pollution abatement; plant protection for small, medium, and large industrial plants. P, junior standing.

MET 373 Time and Motion Studies .....3 F (alternate year)
Theoretical principles and practical application of procedures to utilize time and motion studies in industrial applications to promote quality, quantity, safety, and efficiency of production with "continuous improvement" goals. P, 323.

MET 413 Manufacturing Plant Management 3
A case-oriented capstone course designed to integrate the technical, managerial, analytical, and communication skills which have been acquired. P, junior standing.

MET 421 Jigs and Fixtures .....3 F (alternate years)
Design and application of jigs and fixtures, selection of tooling materials, tolerance gauges for checking work, stamping die design and mold design. P, ES 225, ES 131.

MET 421A Jigs and Fixtures Lab 0

MET 431 Molding and Processing .....3 S (alternate years)
Designing of molds and selection of plastic materials and processes; characteristics and properties of thermoplastic and thermosetting materials and processing equipment. P, 463.

MET 431A Molding and Processing Lab 0

MET 433 Production and Inventory Control 3
Problems and solutions of production situations. Material requirements, estimating. Study of production techniques: industrial production planning, forecasting, inventory control, product flow, material waste and conservation. P, 323, ES 222.

MET 441 Foundry Practices .....3 F
Development of selected metal casting processes through design, pattern, construction and casting. Select casting processes for production applications. Visual and metallurgical analysis of castings. P, junior standing.

MET 441A Foundry Practices Lab 0

MET 463 Industrial Plastics Technology 3
Materials and processes of the plastics industry presented. Topics include: thermoplastic and thermosetting plastics processes, Injection and compression molding, casting, reinforcing, and foaming. P, 211.

MET 477 Senior Design .....3 FS (alternate years)
Capstone senior design project. Students write specifications for a design project then build and test their design. Oral presentations and written reports required. P, senior standing or permission of the instructor.

MET 492 Special Problems .....1-3 FSSu
Provides the student with the opportunity to identify a problem and develop a hypothesis, gather information which might be used in solving the problem, work on solving the problem, and report actual findings and accomplishments. P, permission of the instructor and General Engineering Department Head.

MET 493 Special Topics .....1-3 FSSu
Current selected topic areas in the manufacturing technology field. P, permission of the instructor and General Engineering Department Head.

MET 494 Cooperative Education/Internship/Field Experience .....1-3 FSSu
Supervised work experience with a business, industrial firm, or public agency. The work experience must relate to the student's program of study and be performed under institutional and discipline guidelines governing this type of educational experience. P, departmental approval, sophomore standing or higher.

Micr (Microbiology)

Undergraduate Courses

Micr 231 General Microbiology .....4 FS
Principles of basic and applied Microbiology. P, Chem 106 or 112.

Micr 232 General Microbiology Lab.....0

Micr 310 Environmental Microbiology .....4 S
Microbiology of water, air and surfaces in the environment. Standard methods for detecting and controlling pathogens and non pathogens. P, 231.

Micr 310A Environmental Microbiology Lab 0

Micr 311 Food Microbiology .....4 F
Microbiology of fresh and processed meats, dairy products, vegetables and modern convenience foods. Laboratory quality study of food preservation, processing and spoilage. P, 231.

Micr 311A Food Microbiology Lab.....0

Micr 323 Medical Microbiology .....3 S
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. P, 231, Chem 106 or 112.

Micr 324 Medical Microbiology Laboratory .....1 S
Principles of medical microbiology laboratory techniques including study of the most significant bacterial parasites. Laboratory techniques in specimen collection, isolation, identification of common pathogens, as well as treatment and prevention of the diseases they cause via medical case studies. P, 231, 323 or concurrent, Chem 106 or 112.

Micr 332 Microbial Physiology .....2 S
Cytology, nutrition, metabolism, and growth of microorganisms. P, 231.

Micr 333 Microbial Physiology Lab .....2 S
Media preparation, sterilization, microscopy, assay of microbial enzymes, DNA purification. P, 231 and 332 or concurrent with 332.

Micr 390 Undergraduate Seminar .....1 F
Student will explore the various career opportunities in the biological sciences and procedures for employment.

Micr 421 Soil Microbiology .....3 S
Microbial species of agricultural soils and biochemical changes brought about by these microorganisms. P, 231. Crosslisted with PS 421.

Micr 421A Soil Microbiology Lab.....0

Micr 422 Immunology .....4 F
Immunology and immunochemistry, mechanisms of immunologic injury, and their application to clinical immunobiology. Serological techniques for detecting and measuring the presence of antigens or antibodies in specimens and production of immune serum. P, 231.

Micr 422A Immunology Lab 0

Micr 425 Pathogenesis .....3 S
Lecture/discussion course on principles of medical microbiology including the molecular basis of pathogenesis, host-parasite relationships, and pathology of animal and human diseases. Emphasis on current literature in pathogenesis. P, 231, 323, 324, Chem 106 or 112.

Micr 436 Molecular and Microbial Genetics .....4 F
A basic course in molecular genetics. Examples to illustrate genetic principles are drawn from all forms of life. P, 231 and Bio 371.

Micr 438 Molecular Microbial Genetics Laboratory 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. P, Micr 436, Chem 361, or consent of instructor.

Micr 490 Seminar .....1 S
Familiarization with the Microbiology profession and presentation of topics based on microbiological literature in scientific journals. P, senior status or consent, 231.

Micr 492 Microbiology Problem .....1-3 FSSu
Microbiological problems associated with current research or teaching. Practical laboratory experience is encouraged for seniors majoring in Microbiology. 6 credits maximum. P, consent of instructor and senior standing, 231.

Micr 494-495 Cooperative Education/Internship .....1-12 FSSu
Supervised practical experience or internship in Microbiology. Prior arrangements must be made with a staff member to be eligible. A maximum of 4 credits will count toward minimum requirements of major. P, consent of instructor.

Dual Numbered Courses

Micr 414-514 Anaerobic Microbiology .....3 F
Anaerobic metabolism and ecology of bacteria, culturing techniques for anaerobic microorganisms. P, Micr 231.

Micr 414A-514A Anaerobic Microbiology Lab 0

Micr 424-524 Medical and Veterinary Virology .....4 S (odd years)
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Laboratory exercises emphasize techniques in virus isolation, characterization, and detection by immunological assays. P, 422 or consent. Crosslisted with Vet 424-524.

Micr 424A-524A Medical and Veterinary Virology Lab 0

Micr 437-537 Systematic Bacteriology .....4 F
Techniques for isolation, identification, classification, and preservation of bacterial cultures are presented. Current topic areas and theory in taxonomy and nomenclature are discussed in detail. P, 231 (or equivalent).

Micr 437A-537A Systematic Bacteriology Lab 0

Micr 497-597 Advances in Microbiology .....1-4 S
In-depth study of selected areas or specialties within Microbiology to strengthen and expand the current knowledge and technical skills of advanced undergraduate and graduate students in Microbiology. Prerequisites will vary depending upon the area studied. P, 231 and consent of instructor.

Graduate Courses

Micr 713 Industrial Microbiology .....4 F

Micr 713A Industrial Microbiology Lab 0

Micr 722 The Molecular and Cellular Biology of the Immune Response .....3 S (even years)

Micr 726 The Cell Physiology of Signal Transduction– a perspective using leukocyte models .....3 S (odd years)

Micr 738 Microbial Metabolism .....4 S

Micr 738A Microbial Metabolism Lab 0

Micr 742 Graduate Seminar .....1 FS

Micr 782 Microbiology Problem .....1-4 FSSu

Micr 790 Thesis .....1-7 FSSu

Micr 791 Thesis Sustaining .....0 FSSu

Mil (Military Science)

Undergraduate Courses

Mil 101-102 Military Science I

Mil 101 The Army Officer .....1 FSSu
Includes the following meaningful for life subjects: The role of the Reserve Officers Training Corps (ROTC), organization of the Army, Army Reserve and National Guard, Leadership and small group process, and marksmanship. Leadership Laboratories include smallbore rifle marksmanship, adventure training such as rappelling, and life saving techniques.*

Mil 102 Military Geography and Leadership Tasks .....1 FSSu
Fundamentals of military geography and the use of maps and contemporary leadership awareness. Leadership Laboratories include

land navigation using map and compass, military ceremonies and an outdoor leadership and tactics exercise.*

Mil 201-202 Military Science II

Mil 201 Leadership Theory and Application .....2 FSSu**

This course is designed to provide students with opportunities to apply basic management skills within the context of realistic situations. Each simulation exercise encountered is based on real life problems that require knowledge and skills applicable to management environments. Each module is comprised of practical work exercises designed to elicit behavior that demonstrates ability to apply managerial skills. Leadership Laboratories include principles of military ceremonies, lifesaving techniques, and an outdoor adventure practicum.*

Mil 202 Officer Development and Tactics .....2 FSSu**

This program evaluates student attributes in 16 leadership dimensions through exercises designed to bring out specific behavior. The course consists of four exercises followed by individual performance feedback and group seminars on each of the leadership dimensions. Leadership Laboratories include military ceremonies, physical development practicum, and an outdoor adventure practicum.*

Mil 295 ROTC Six Week Basic Camp .....4 Su

Substitutes for freshman and sophomore on-campus instruction by giving practical experience in a field training environment. Challenges the student physically and mentally. The camp provides a practical introduction to small unit operations. Course grade derived from student's overall camp evaluation results and a paper on the training and leadership experience. Student should be a second semester sophomore or junior with about 2 years remaining before graduation.

Mil 301-302 Military Science III

Mil 301 Military Communication and Human Relations .....3 FS

Development of skills necessary to be an effective leader to include an understanding of: communication skills, human relations, organizational structures, power and influence and management skills. It is a practical exercise program designed to develop those skill areas which are important in leadership. A 2.0 academic grade point average is required for enrollment. Laboratory work includes physical fitness, land navigation, leadership in drill and ceremonies, and leadership reaction practical exercises.*

Mil 301A Military Communications and Human Relations Lab.....0

Mil 302 Military Operations and Tactics .....3 FS

Application of skills learned in Mil 301 with emphasis on leadership and management of personnel and resources in an outdoor environment. Subjects include: radio and telecommunications, weapons systems, and military skills orientation. A 2.0 academic grade point average is required for enrollment. Laboratory work includes enhanced physical fitness training and evaluation, leadership evaluation and an overnight tactical exercise.*

Mil 302A Military Operations and Tactics Lab.....0

Mil 401-402 Military Science IV

Mil 401 Military Management and Law .....3 FS

The first half of the semester will deal with Army administration and policies, logistics, and terrorism, while the remainder of the semester will include topical information related to the Uniform Code of Military Justice, the Law of War, and practical applications in leadership. Laboratory work includes practical work as a cadet officer trainee within the structure of the cadet corps as well as special projects stressing the leadership dimensions of planning and organizing, administrative control, delegation, influence and decision making. Labs are a continuation of Mil 301 and 302.

Mil 401A Military Management and Law Lab 0

Mil 402 Ethics and Professionalism .....3 FS

Military ethics and transition to officership are the primary focus of the course. The student will apply experience and course information to accomplish in-class and laboratory practical exercises related to military ethics. This is followed by an in-depth discussion and practical applications to prepare cadets to be effective officers on active duty or the reserve components. Laboratory work is a continuation of Mil 401 with emphasis on conducting a tactical training exercise for the Military Science III students.

Mil 402A Ethics and Professionalism Lab 0

Mil 492 Military Science V 1-3

Designed as a special projects course. Students will be permitted to enroll in this class only with the approval of the Professor of Military Science. The PMS will approve the individual proposal and assign credits.

Mil 494 Military Science Advanced Camp and Internship .....4 Su

ROTC six week Advanced Camp supplements on-campus instruction by giving practical experience in a field training environment. Provides opportunities to develop and demonstrate leadership capabilities in various situations, with emphasis at the small group level, through problem analysis, decision making, and troop leading experiences. Challenges you physically and mentally and provides a practical introduction to Army life. Course grade derived from student's overall camp evaluation results and a paper on the training, or training management analysis of internship experience.

Mil 495 ROTC Nursing Advanced Camp .....3 Su

Clinical experience in a military hospital. Includes a two-week field training exercise followed by a four-week clinical practicum with self study and research. Provides Advanced Course ROTC nursing students leadership experiences in the clinical nursing setting and knowledge of the duties, responsibilities, and expectations of the Army Nurse. With approval of College of Nursing, experience may be substituted for three of required six credits of Nurs 491, Directed Studies in Nursing (See Nurs 491). P, 302.

Military Science Leadership Development Lab

Military Science I and II Laboratories

A series of labs on military-related subjects such as orienteering, recondo, mountaineering, and various physical activities. Schedule to be arranged.

Military Science III Lab

Duties and responsibilities of junior leaders, emphasis on developing confidence, proficiency, and physical fitness.

Military Science IV Lab

Application of leadership principles, stressing responsibilities of the leader and affording experience and developing potential through the planning, conduct, and execution of training managerial experiences.

* Elective course work required within other disciplines such as natural sciences, social science, humanities, and foreign language for scholarship recipients.

** Minimum of 15 hours of laboratories required.

MuAp (Applied Music)

Undergraduate Courses

Selected lessons at the 100 level may be taken for Fine Arts credit as part of the Liberal Studies Core. These courses may be repeated for credit twice.

Individual Instruction in Voice

MuAp 100-101-102-103 .....1 FS

MuAp 200-201-202-203 .....1 FS

MuAp 300-301-302-303 .....2 FS

MuAp 400-402 .....2 FS

Class Instruction in Voice

MuAp 105-106 .....1 FS

Individual Instruction in Keyboard
MuAp 110-111-112-113 ..... **1 FS**
MuAp 210-211-212-213 ..... **1 FS**
MuAp 310-311-312-313 ..... **2 FS**
MuAp 410-412 ..... **2 FS**

Section 1 | Piano
Section 2 | Harpsichord
Section 3 | Organ

Class Instruction in Piano
MuAp 115-116 ..... **1 FS**

Individual Instruction in Woodwinds
MuAp 120-121-122-123 ..... **1 FS**
MuAp 220-221-222-223 ..... **1 FS**
MuAp 320-321-322-323 ..... **2 FS**
MuAp 420-422 ..... **2 FS**

Section 1 | Flute
Section 2 | Oboe
Section 3 | Bassoon
Section 4 | Clarinet
Section 5 | Saxophone

Class Instruction in Woodwinds
MuAp 125 ..... **1 FS**
MuAp 225 ..... **1 FS**
MuAp 325 ..... **2 FS**
MuAp 425 ..... **2 FS**

Section 1 | Flute
Section 2 | Oboe
Section 3 | Bassoon
Section 4 | Clarinet
Section 5 | Saxophone

Individual Instruction in Brass
MuAp 130-131-132-133 ..... **1 FS**
MuAp 230-231-232-233 ..... **1 FS**
MuAp 330-331-332-333 ..... **2 FS**
MuAp 430-432 ..... **2 FS**

Section 1 | Trumpet
Section 2 | French Horn
Section 3 | Trombone
Section 4 | Baritone
Section 5 | Tuba

Class Instruction in Brass
MuAp 135 ..... **1 FS**
MuAp 235 ..... **1 FS**
MuAp 335 ..... **2 FS**
MuAp 435 ..... **2 FS**

Section 1 | Trumpet
Section 2 | French Horn
Section 3 | Trombone
Section 4 | Baritone
Section 5 | Tuba

Individual Instruction in Percussion
MuAp 140-141-142-143 ..... **1 FS**
MuAp 240-241-242-243 ..... **1 FS**
MuAp 340-341-342-343 ..... **2 FS**
MuAp 440-442 ..... **2 FS**

Class Instruction in Percussion
MuAp 145 ..... **1 FS**
MuAp 245 ..... **1 FS**
MuAp 345 ..... **2 FS**
MuAp 445 ..... **2 FS**

Individual Instruction in Strings
MuAp 150-151-152-153 ..... **1 FS**
MuAp 250-251-252-253 ..... **1 FS**
MuAp 350-351-352-353 ..... **2 FS**
MuAp 450-452 ..... **2 FS**

Section 1 | Violin
Section 2 | Viola
Section 3 | Cello
Section 4 | Bass Violin
Section 5 | Guitar

Class Instruction in Strings
MuAp 155 ..... **1 FS**
MuAp 255 ..... **1 FS**
MuAp 355 ..... **2 FS**
MuAp 455 ..... **2 FS**

Section 1 | Violin
Section 2 | Viola
Section 3 | Cello
Section 4 | Bass Violin
Section 5 | Guitar

Accompanying (Pianists only)
MuAp 181 ..... **1 FS**

MuEn (Ensembles)

Undergraduate Courses

Music Organizations are open to all University Students. There are no auditions required for Marching Band and Concert Band. There are auditions for the Symphonic Band, the Concert Choir, University Women's Choir, University Men's Choir, and the Jazz Ensembles. Membership in the SDSU-Civic Symphony is by instructor consent. Freshmen and Sophomores must register for 100 level of large ensembles; Juniors and Seniors register for 300 level. Small ensembles: Freshmen and Sophomores, 100 level, Juniors and Seniors, 300 level. Students may register for selected ensembles at the 100 level for Fine Arts credit as part of the Liberal Studies Core. Each course may be repeated for credit.

University Women's Choir (Pasquettes)
MuEn 100-300 ..... **1 FS**

Concert Choir
MuEn 101-301 ..... **1-2 FS**

University Men's Choir (Statesmen)
MuEn 102-302 ..... **1 FS**

Civic-University Orchestra
MuEn 110-310 ..... **1 FS**

Marching Band
MuEn 120-320 ..... **1-2 F**

Symphonic Band
MuEn 121-321 ..... **1 FS**

Concert Band
MuEn 122-322 ..... **1 FS**

Opera Workshop
MuEn 107-207 ..... **1-2 S**
MuEn 307-407 ..... **1-2 S**

String Ensembles
MuEn 140 ..... **1 FS**
MuEn 340 ..... **1 FS**

Woodwind Ensembles
MuEn 150 ..... **1 FS**
MuEn 350 ..... **1 FS**

Brass Ensembles
MuEn 160 ..... **1 FS**
MuEn 360 ..... **1 FS**

Percussion Ensemble
MuEn 170 ..... **1 FS**
MuEn 370 ..... **1 FS**

Jazz Ensemble
MuEn 180-280 ..... **1 FS**
MuEn 380-480 ..... **1 FS**

Mus (Music)

Undergraduate Courses

Mus 100 Music Appreciation (Topical) ..... **2 FS**
Musical periods and styles for the non-major. Emphasis on music fundamentals for the listener, and music appreciation. Music in the humanities. A humanities elective. May be taken twice for credit if content is distinctly different.

Mus 110 Basic Theory & Musicianship I ..... **4 F**
Emphasis on fundamentals and basic skills: terminology, fundamentals of musicianship, ear training, sight singing, chord structures, score analysis. Introduction to four-part writing.

Mus 110A Basic Theory & Musicianship I Lab **0**

Mus 111 Basic Theory & Musicianship II ..... **4 S**
Continuation of Mus 110. Continued development of fundamental skills: melodic dictation, sight singing, score analysis, and four-part writing. P, 110.

Mus 111A Basic Theory & Musicianship II Lab **0**

Mus 130 Music Literature & History I ..... **2 F**
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. May be taken as humanities elective.

Mus 131 Music Literature & History II ..... **2 S**
Ancient through Medieval and Renaissance music literature – analysis of style and form, study of historical development and significance, comparison to similar works in other periods of music history. Emphasis on listening and score study. May be taken as humanities elective.

Mus 195 Recital Attendance **0**
Required of all music majors each semester enrolled in applied music (student teaching and internship semesters excepted).

Mus 201 History of Country Music ..... **3 S**
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.

Mus 202 The Music Industry ..... **3 F**
This course examines the many facets of the music industry: music publishing, copyright distribution and merchandising music and the mass media, the recording industry, manufacturing and music management. Music in the marketplace. P, consent.

Mus 210 Intermediate Theory & Musicianship III ..... **4 F**
Continuation of Mus 111. Harmonic and melodic techniques of the Romantic period – analysis, composition, dictation, sight singing and ear training. P, 111.

Mus 210A Intermediate Theory & Musicianship III Lab **0**

Mus 211 Intermediate Theory & Musicianship IV ..... **4 S**
Continuation of Mus 210. Integrated study of melodic and harmonic techniques in Romantic and early twentieth century literature – analysis, composition, and score study. Continuation of sight singing, ear training, and dictation. P, 210.

Mus 211A Intermediate Theory & Musicianship IV Lab **0**

Mus 230 Music Literature & History III ..... **2 F**
Baroque and Classical Music literature – analysis of style and form, study of historical development and significance, comparison to similar works in other periods of music history. Emphasis on listening and score study. May be taken as humanities elective.

Mus 231 Music Literature & History IV ..... **2 S**
Romantic Music Literature – analysis of style and form, study of historical development and significance, comparison to similar works in other periods of music history. Emphasis on listening and score study. May be taken as humanities elective.

Mus 260 Conducting Fundamentals ..... **2 F**
Basic principles in conducting – rehearsal and performance. Score reading and preparation. P, 110 and 111. (Concurrent with Mus 210 or 211.)

Mus 260A Conducting Fundamentals Lab **0**

Mus 270 Pedagogy I ..... **1-2 F**
Pedagogical considerations in teaching music. Methods and concepts in specialized areas: Section 1 - Voice; Section 2 - Strings; Section 3 - Keyboard; Section 4 - Clarinet & Flute; Section 5 - Double Reeds & Saxophone; Section 6 - High Brass; Section 7 - Low Brass; Section 8 - Percussion. Voice offered even years only; Keyboard odd years only.

Mus 271 Pedagogy II ..... **1-2 S**
Continuation of Mus 270 sections 1-8 as in 270. Voice offered odd years only; Keyboard even years only.

Mus 293 Topics in Music **1-5**
Any subject within the discipline of music which may be taught as a group experience for which there is instructor expertise and student interest, but for which there is no regularly scheduled class.

Mus 294 Exploring 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 294A Exploring Music in Western Europe Ensemble **0**

Mus 301 Blues, Jazz & Rock ..... **3 F**
This course examines the origins and developments of three uniquely American musics and their cultural impact upon, and within, American society.

Mus 302 Introduction to the Recording Industry **2**
This course explores the scope of the record industry, record markets, artists' recording contracts, record production, the recording studio business, and record promotion and distribution. Off-campus speakers will be utilized in their specialty areas, and area recording studios will provide practical support for classroom work. P, 202.

Mus 311 Counterpoint **2-3**
Analysis and composition in contrapuntal techniques, with a concentration on the music of J.S. Bach. P, 211.

Mus 313 Form & Analysis ..... **2-3 S**
Analysis of small and large forms. Concentrated study of selected scores and writing of original compositions. P, 211 or consent.

Mus 351 Music Education I: Elementary Music Concepts ..... **2 F**
An eclectic approach to K-8 music education curriculum, methods and materials.

Mus 351A Music Education I: Elementary Music Concepts Lab **0**

Mus 361 Music Education II: Conducting .....2 S

Section 1: Instrumental music methods and materials. Emphasis on rehearsal techniques, conducting and study of appropriate materials.

Section 2: Choral music methods and materials. Emphasis on rehearsal and conducting techniques through study of appropriate materials.

Mus 361A Music Education II: Conducting Lab.....0

Mus 362 Music Education III: Methods and Materials .....2 F

Section 1: Instrumental Music Methods and Materials. Emphasis on lesson, solo and ensemble materials and pedagogy for the school instrumental music teacher. Teaching techniques for individual, class, small and large instrumental music ensembles are offered. Students participate in supervised on-site teaching experiences at the elementary instrumental music and general music class levels.

Section 2: Vocal Music Methods and Materials. Emphasis on choral teaching materials and teaching concepts and techniques for individual, class and ensembles for the school vocal teacher. Students participate in supervised on-site teaching experiences in choral music and general music classes.

Mus 362A Music Education III: Methods and Materials Lab 0

Mus 365 Music Education IV: Supervision & Administration of School Music .....2 FS

A goal and objective approach to developing student skills in managing the total school music program, including choral and instrumental at the elementary and high school levels. Organizational and administrative skills are offered with hands-on opportunities for practical application. Units are also offered in music education history and philosophy.

Mus 365A Music Education IV: Supervision & Administration of School Music Lab 0

Mus 370 Pedagogy III .....1-2 F

Continuation of Mus 271, sections 1-8 as in 270. Voice offered odd years only; Keyboard even years only.

Mus 371 Pedagogy IV .....1-2 S

Continuation of Mus 370, sections 1-8 as in 270. Voice offered even years only; Keyboard odd years only.

Mus 391 Directed Studies 1-3

Special projects in music for which there is no course. Projects must be approved by Music Department staff. Consent.

Mus 392 Independent Studies 1-3

Consent. May be used as substitute for music requirement.

Mus 420 Orchestration & Arranging .....2-3 F

Advanced study and analysis of scores with projects in scoring for a variety of mediums. P, 311, 313 or consent.

Mus 433 Music Literature V: 20th Century Music .....2 F

This course examines musical developments of the twentieth century in terms of three great cycles: first, the demise of functional tonality (1870-1918); second, the era of exploration, experimentation, and consolidation between the world wars (1918-1945); and third, the post-Hiroshima epoch (1945-present), with its attendant rationalist-anti-rationalist dichotomy.

Mus 465 Music Education V: Instrumental Techniques .....2 F (offered even years or on demand)

Three major technical topics for the prospective music teacher will be covered: Marching Band techniques, Jazz Ensemble techniques, and Instrumental Repair. Emphasis on in-depth development of skills and practical application.

Mus 483 Public Recital .....0-1-2 FS

All music majors are required to present a Senior Recital. Students may elect to enroll for Public Recital as follows: 0 credits, 1 credit, or with permission from the Department Head and Applied Instructor, for 2 credits. The latter option requires a research paper on the literature performed, a recital preview with an oral defense of the research paper, and the public performance. Students enrolled in Mus 483 must be concurrently enrolled in 400 level Applied Lessons.

Mus 488 Supervised Teaching in Secondary Schools .....5(TBA) FS (second half of semester)

Students may register for 5 hours under SeEd 488 and 5 hours under Mus 488.

Mus 495 Internship 3-12

Planned and supervised professional experience which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

Mus 492-592 Independent Studies 1-3

Consent. May be used as substitute for music requirement.

Mus 493-593 Course Specials 1-5

NFS (Nutrition and Food Science)

Undergraduate Courses

NFS 100 Introduction to Travel and Tourism .....3 S

The course will be a study of basic components of the travel and tourism industry from a historical, social, philosophical and psychological perspective. It will include the effects of developing tourism and travel at the regional, state, and national levels.

NFS 110 Perspectives in Nutrition .....3 F

Interdependence of the principles of human nutrition and food behavior to health of individuals and groups.

NFS 111 Food and People .....3 FS

Considerations of the role of food and nutrition in the development of human cultures. Study of the cultural, social and economic impacts of food.

NFS 141 Food Principles .....4 FS

Scientific investigation of basic foods used to maintain optimum nutrition.

NFS 141A Food Principles Lab 0

NFS 151 Food Technology .....2 S

Survey of the technology used in the conversion of raw foods into finished food products suitable for human consumption. World and domestic food needs, chemical additives and food safety will be discussed.

NFS 171 Introduction to the Hospitality Industry .....2 F

History, organizational structure, and trends in the hospitality industry. Place of lodging and food service establishments in the state and national economy.

NFS 221 Survey of Nutrition .....3 FS

Fundamentals of nourishing the body properly and the role that food plays in meeting the nutritional requirements of individuals. Designed for the student who lacks a science background but wishes to study human nutrition in some detail.

NFS 251 Meal Management .....3 S

Planning, costing, preparing and serving nutritious meals at different cost levels and for various occasions including ethnic themes. P, 141 or consent.

NFS 251A Meal Management Lab 0

NFS 261 Food Service Operations .....3 F

Planning, preparing, and evaluating menus. Safe and sanitary use of equipment for quantity food preparation and service. Recipe standardization, menu costing and pricing, and food, beverage and labor cost controls. P, 141 or consent.

NFS 271 Hotel/Motel Operational Management I .....3 S

Functions of Management as applied to the lodging industry, including general management, front office, guest services, controller, marketing and sales. Required research projects and discussions of current industry issues. Lab portion will include on-site workshops as well as field experiences. P, 171 or consent.

NFS 271A Hotel/Motel Operational Management I Lab 0

NFS 292 Special Problems 1-3
A program of directed studies in specialized areas not covered by normal class offerings. May be repeated for credit.

NFS 297 Professional Practicum .....1-6 FSSu
Supervised work or clinical experience in dietetics, foodservice or lodging operations, nutrition programs or in the food industry. May be repeated for credit. P, consent.

NFS 303 Diet Therapy .....1 FS
Discussion of role of nutrition or diet intervention in treatment of patients/clients with particular emphasis on dietary management of pathological conditions. Students will become familiar with methods and materials of therapeutic nutrition. P, 321, concurrent enrollment with Nurs 314.

NFS 321 Human Nutrition .....3 FS
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. P, Chem 108 or 120 or consent.

NFS 322 Assessment Skills in Nutrition .....4 F
Study of medical terminology, 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. P, 321 or consent.

NFS 322A Assessment Skills in Nutrition Lab.....0

NFS 341 Food Science .....4 F
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. P, 141 and Chem 120.

NFS 341A Food Science Lab 0

NFS 351 Principles of Food Processing .....3 S (odd years)
Study of the 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. P, 151, Chem 106 or 114, or consent.

NFS 351A Principles of Food Processing Lab 0

NFS 360 Food Chemistry .....4 S (odd years)
The study of chemical properties of basic food constituents and chemical changes occurring during storage and processing. P, Chem 120 or consent.

NFS 360A Food Chemistry Lab.....0

NFS 361 Hospitality Industry Law .....2 S
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.

NFS 362 Financial Management for the Hospitality Industry .....3 F
This course builds on the student's knowledge of the basic accounting concepts and focuses on the uniform chart of accounts for hotels and restaurants. This course also involves in depth analysis of hospitality industry financial data including the use of industry ratios in case study analyses of profitability operating and solvency. P, 261, 271, Acct 210.

NFS 371 Food Service Purchasing .....3 S
Purchasing food and supplies for restaurants and institutions. Functions of management as applied to supplier selection, procurement, receipt, storage, and issue, record keeping, and inventory control systems. This course involves an in depth analysis of commodity groups and the development of purchase specifications and quality evaluation. P, 261.

NFS 372 Property Maintenance and Housekeeping .....3 F
Application of various systems, procedures and controls associated with the housekeeping and maintenance departments of lodging and foodservice operations. The course will include the decision making process used in planning, site selection, layout, and equipment selection and purchase.

NFS 381 Quantity Food Production & Service .....2 S
Management of production and service of quantity food in institutions and commercial establishments. Experience in planning, preparing and serving meals in a variety of food service establishments. P, 261 or concurrent with 261. NFS majors only.

NFS 391 Institution Organization & Management .....3 F
Management principles in food service facilities including organization, personnel policies, job analysis, employee selection, training, evaluation, supervision of production areas.

NFS 421 Diversity in the Workplace .....3 S
Course addresses the role of culture and its effect on organizational behavior. Issues in the workplace include personal and cultural values, group norms, workplace policies and procedures, and diversity in culture, gender, age and physical differences. P, NFS 391 or BAdm 360. Crosslisted with CA 421.

NFS 422 Advanced Human Nutrition .....4 S
Principles of physiological chemistry and physiology applied to nutrition. P, 321, Zool 221 and 325, Chem 108 or 361 or consent.

NFS 423 Clinical Nutrition I.....2 F
Role of nutritional intervention in pathological conditions. P, 422 or consent.

NFS 424 Community Nutrition and Consulting Diet.....3 S
Application of learning principles, teaching methods and knowledge of nutrition in community nutrition education programs and out-patient nutrition counseling. Introduction to the role of the consultant dietitian. P, 321.

NFS 424A Community Nutrition and Consulting Diet Lab 0

NFS 425 Clinical Nutrition II .....3 S
Continuation of NFS 423. P. NFS 423.

NFS 425A Clinical Nutrition II Lab 0

NFS 450 Food Analysis .....4 S (even years)
Principles, methods and techniques necessary for quantitative physical and chemical analysis of food products. The analysis of foods will be related to the standards and regulations for the food processing industry. P, 360, Chem 120, or consent.

NFS 450A Food Analysis Lab 0

NFS 451 Advanced Food Processing .....4 F (even years)
Characteristics of vegetable and animal products as affected by shipping, storage and processing. Mass and energy transfer in food systems. Processing and waste treatment associated with various classes of food and factors that affect yield and acceptability. Process control and quality assurance in food processing. P, 351, Micr 311, or consent.

NFS 451A Advanced Food Processing Lab 0

NFS 471 Hospitality Management Information Systems .....3 F
Study of systems concept, attributes of hospitality management information including data collection and transmission, data organization and storage, data processing, and information and displays. Development of integrated or total systems.

NFS 482 Hospitality Marketing .....3 S
Applied marketing covering case studies in the hotel and restaurant industry. Emphasis on implementing marketing strategies including: demographics, image development, advertising, sales promotion, public relations, administering and controlling a marketing plan. P, Econ 370.

NFS 492 Special Problems 1-3
A program of directed studies in specialized areas not covered by normal class offerings. May be repeated for credit.

NFS 493 Current Topics .....1-3 FSSu
In the following and other selected areas: nutrition, clinical dietetics, food service systems management, food science, hospitality industries. P, junior standing in dietetics, food science or restaurant/ hotel management and consent.

NFS 497 Professional Practicum .....1-6 FSSu
Supervised work or clinical experience in dietetics, food service or lodging management, nutrition programs or in the food industry. May be repeated for credit. P, consent.

Dual Numbered Courses

NFS 490-590 Seminar in Food & Nutrition 1-2
This seminar is designed to explore in depth topics related to the role of nutrition in health promotion and disease prevention in the community.

Graduate Courses

NFS 592 Special Problems 1-3
NFS 593 Current Topics 1-3
NFS 634 Techniques in Food and Nutrition Research 3
NFS 634A Techniques in Food and Nutrition Research Lab 0
NFS 660 Maternal and Infant Nutrition 3
NFS 662 Sociocultural Aspects of Nutrition 2
NFS 725 Nutrition and Human Performance 3
NFS 760 Child Nutrition 3
NFS 761 Nutrition of the Aged 3
NFS 792 Special Problems 1-3
NFS 793 Current Topics 1-3

Nurs (Nursing)

Undergraduate Courses

Nurs 110 Orientation RN Upward Mobility Program 0
Registered Nurse orientation. P, RN, consent.
Nurs 200 Nursing Workshops 1-3
Special session in specific areas of nursing. Approximately 45 hours of work required for each credit, including lecture, conference, committee and group activity, and outside assignments. Workshops in nursing may range from 1 to 3 weeks. Students limited to 4 credits to apply toward degree. P, consent.
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 222 Transition to B.S. in Nursing .....1 F
Provides an individual with licensure as an RN an overview of the baccalaureate requirements with anticipated socialization changes. Emphasis is on self-assessment, learning style inventory, portfolio development and validation options. P, RN licensure.
Nurs 264 Professional Perspectives I .....1 FS
Introduces the profession of nursing within the context of a changing health care system. Focuses on nursing role development with emphasis on educator, provider and researcher roles. Concurrent with 265, 280, 282.
Nurs 265 Health Assessment and Interventions .....4 FS
Introduces beginning assessment skills and interventions for systematic data collection about health. Emphasis on role of nurse as provider in simulated laboratory and health oriented environments. P, admission to Nursing major. P, Micr 231, Zool 325, NFS 321, and HDCF Lifespan course. Three credits from Soc 100, 150, 240, 250, or 340. Concurrent with Nurs 323, Nurs 264, 280, 282.
Nurs 265B Health Assessment and Interventions Lab 0
Nurs 280 Professional Communication .....4 FS
Concentrates on the nursing profession and skills required for communication in professional nursing practice. P, Psyc 101. Concurrent with Nurs 264, 265, 282, 323.
Nurs 280B Professional Communication Lab 0
Nurs 282 Health Promotion .....2 FS
Focuses on learning about holistic health of self, individuals and groups. Wellness and teaching/learning principles are used. Concurrent with Nurs 264, 265, 280,323.
Nurs 304 Professional Perspectives II .....1 FS
Continuation of professional role development with emphasis on advocate and therapeutic agent roles. Focuses on the multifaceted factors influencing the profession. P, Nurs 264, 265, 280, 282, 323. Concurrent with Nurs 320 and 330, Pha 241. P or concurrent with HSc 443.
Nurs 320 Family as Client: Emerging and Developing .....7 FS
Explores the nurse's role in promoting and maintaining family health. Emphasis on reproductive health and anticipatory guidance related to common and predictable developmental changes of children and families. Clinical application of the concepts will occur in a range of practice environments. P, Nurs 264, 265, 280, 282, 323. Concurrent with Nurs 304, 330, and Pha 241. P or concurrent with HSc 443.
Nurs 320A Family as Client: Emerging and Developing Clinical Lab 0
Nurs 323 Introduction to Pathophysiology .....3 FS
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. P. 3rd year Pharmacy standing or Nursing major, and Zool 325.
Nurs 330 Family Health Environment Across the Lifespan .....4 FS
Emphasis on nursing care of individuals and families in a community setting. Home visit process, continuum of care, discharge planning, identification of available community support services and referral are introduced. Health promotion and disease prevention are explored in a variety of environments. P, Nurs 264, 265, 280, 282, 323. Concurrent with Nurs 304, 320, and Pha 241. P or concurrent with HSc 443.
Nurs 330A Family Health Environment Across the Lifespan-Clinical Lab 0
Nurs 350 Nursing in the Community 1-6
Community aspects of planning for health needs. Designed for non-credit or variable assignment of credits. May include some practice.
Nurs 364 Professional Perspectives III .....1 FS
Continuation of professional role development with emphasis on coordinator and scholar roles. Focuses on case management and wholistic factors influencing the nurse-client relationship. P, Nurs 304, 320, 330, HSc 443, Pha 241. Concurrent with Nurs 370, 375. Concurrent with Eng 301.
Nurs 370 Acute Health Care I .....5 FS
Focuses on the nursing process to provide care to clients experiencing a wide range of acute health problems with predictable outcomes. P, Nurs 304, 320, 330, HSc 443, Pha 241. Concurrent with Nurs 364, 375. Concurrent with Eng 301.
Nurs 370A Acute Health Care I Clinical Lab 0
Nurs 375 Chronic Health Care I .....5 FS
Focuses on the provision of care for clients experiencing a wide range of chronic health problems with predictable outcomes. P, Nurs 304, 320, 330, HSc 443, Pha 241. Concurrent with Nurs 364, 370, Eng 301.
Nurs 375A Chronic Health Care I Clinical Lab 0
Nurs 381 Family and Communication.....4 F
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. Includes a clinical components in which the nursing process is applied to clients across the age continuum in the home setting. P, RN, licensure.
Nurs 381A Family and Communication Clinical Lab.....0
Nurs 385 Health Assessment, Clinical Decision Making and Nursing Interventions.....4 F
This course concentrates on the deliberative process utilized by the baccalaureate prepared nurse. The course will build upon the assessment and intervention skills acquired in the student's previous education and will emphasize clinical decision making and use of research based interventions. P, RN licensure.

Nurs 385A Health Assessment, Clinical Decision Making and Nursing Interventions Lab 0

Nurs 404 Professional Perspectives IV .....1 FS

Continuation of professional role development with emphasis on the collaborator and leader roles. Focus of this course is on the function of change agent and group facilitator as it impacts health care delivery. P, Nurs 364, 370, 375. Concurrent with Nurs 410, 420, Stat 341 or HSc 440.

Nurs 410 Acute Health Care II .....5 FS

Expands on previous nursing knowledge and skills to provide care to clients with acute complex health problems with unpredictable outcomes. P, Nurs 364, 370, 375. Concurrent with 404, 420, Stat 341 or HSc 440.

Nurs 410A Acute Health Care II Clinical Lab.....0

Nurs 416 Community Health Nursing.....5 S

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. P, Nurs 222, 381, 385, RN licensure.

Nurs 416A Community Health Nursing Clinical Lab.....0

Nurs 420 Chronic Health Care II .....5 FS

Expands upon previous knowledge and skills to provide to clients experiencing a wide range of chronic complex health problems with unpredictable outcomes. P, Nurs 364, 370, 375. Concurrent with Nurs 404, 410, Stat 341 or Hsc 440.

Nurs 420A Chronic Health Care II Clinical Lab.....0

Nurs 422 Women in Health Care Professions 2

Women's roles and contributions in health care professions from ancient to modern times. Factors affecting women's activities in these fields. Movements and developments in these fields where women have made significant contributions. Open to nursing and non-nursing students. Elective for junior or senior in nursing or for registered professional nurses. Elective to apply to women's study minor.

Nurs 450 Nursing Physical Assessment 3

Theory and clinical application of theory in relationship to diagnosing human responses in health and disease. Emphasizes independent nursing actions in promotion of health, health maintenance, prevention of injury and disease and in determining care for clients in all health settings. P, Senior standing or consent.

Nurs 454 Leadership and Management .....3 Su

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. P, 416, 474, RN licensure.

Nurs 464 Professional Perspectives V .....2 FS

Synthesis of professional role development. Focus of this course is on leadership and management. P, Nurs 404, 410, 420, Stat 341 or HSc 440. Concurrent with 475, 491.

Nurs 474 Nursing Research and Nursing Theory.....3 S

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. P, Nurs 222, 381, 385, RN licensure.

Nurs 475 Community as Client .....3 FS

Focuses on application, analysis and evaluation of community health nursing with emphasis on aggregate populations and communities. Practice experiences are planned in rural/urban community environments. P, Nurs 404, 410, 420, Stat 341 or HSc 440. Concurrent with Nurs 464, 491.

Nurs 475A Community as Client Clinical Lab.....0

Nurs 483 Computer Applications in Health Care 3

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. P, Math 102 or 113. Open to upper division undergraduate students.

Nurs 490 Seminar in Nursing 1

Discussion and evaluation of the impact of nursing action in care of patients. Students limited to 4 credits to apply toward degree.

Nurs 491 Directed Study in Nursing .....1-6 FS

Application and synthesis of reflective decision making within the practice of nursing. Includes a preceptored experience in a selected practicum setting. P, Nurs 404, 410, 420, Stat 341 or HSc 440. Concurrent with Nurs 464. 475.

Nurs 491A Directed Study in Nursing Clinical Lab 0

Nurs 492 Special Problems in Nursing 1-3

Open to upper division students by permission. Students limited to 4 credits to apply toward degree. P, consent.

Nurs 493 Special Topics in Nursing 1-4

Study of selected topics in nursing under direction of faculty. Offered on sufficient demand. Senior or consent of instructor.

Nurs 494 Cooperative Education in Nursing 1-4

Opportunity to receive academic credit for work experience related to nursing. Course requirements and amount of credit granted will be determined on an individual basis. Up to four credits may apply toward graduation. P, completion of two semesters of nursing major; permission of department head.

Graduate Courses

Nurs 610 Advanced Practice Nursing: Introduction Roles and Issues 3

Nurs 623 Pathophysiology Applied to Advanced Practice Nursing 4

Nurs 624 Neonatal Pathophysiology 4

Nurs 625 Human Sexuality in Health Care 3

Nurs 626 Advanced Nursing Research 3

Nurs 630 Advanced Assessment of Neonate 2

Nurs 630A Advanced Assessment of Neonate Clinical Lab 0

Nurs 631 Advanced Assessment Across the Lifespan 2

Nurs 631A Advanced Assessment Across the Lifespan Clinical Lab 0

Nurs 635 Dying, Death, and Bereavement 3

Nurs 640 Legal & Ethical Accountability in Health Care 2

Nurs 645 Management of Acute and Chronic Pain 3

Nurs 655 Health and the Older Adult 2

Nurs 670 Health Policy, Legislation, Economics and Ethics 3

Nurs 690 Seminar: Guided Study in Nursing 1-4

Nurs 692 Special Problems .....1-3(theory or lab or combination of these)

Nurs 695 Special Topics 1-3

Nurs 710 Curriculum Development in Nursing 2

Nurs 725 Patient Care Management 3

Nurs 760 Health and Communication in Advanced Practice Nursing 4

Nurs 760A Health and Communication in Advanced Practice Nursing Clinical Lab 0

Nurs 765 Complex Health Problems in Advanced Practice Nursing 4

Nurs 765A Complex Health Problems in Advanced Practice Nursing Clinical Lab 0

Nurs 770 Clinical Nurse Specialist Practicum 6

Nurs 770A Clinical Nursing Specialization-Practicum Clinical Lab 0

Nurs 771 Family Nurse Practitioner: Primary Care 6

Nurs 771A Family Nurse Practitioner: Primary Care Clinical Lab 0

Nurs 772 Neonatal Nurse Practitioner: Practicum I 6

Nurs 772A Neonatal Nurse Practitioner: Practicum I Clinical Lab 0
Nurs 774 Nurse Administrator: Practicum 6
Nurs 774A Nurse Administrator:Practicum Clinical Lab 0
Nurs 776 Family Nurse Practitioner: Small Group 3
Nurs 777 Family Nurse Practitioner: Practicum 1-9
Nurs 778 Nurse Educator: Practicum 6
Nurs 778A Nurse Educator: Practicum Clinical Lab 0
Nurs 779 Neonatal Nurse Practitioner: Practicum II 12
Nurs 779A Neonatal Nurse Practitioner: Practicum II Clinical Lab 0
Nurs 780 Seminar in Advanced Nursing 1-3
Nurs 785 Self Care of the Older Adult 3
Nurs 790 Thesis in Nursing 1-7
Nurs 791 Thesis Sustaining, M.S. 0
Nurs 792 Problems in Nursing Research 1-2
Nurs 795 Problems in Nursing Research Sustaining 0

PE (Physical Education)

Undergraduate Courses

PE 101-144 Fitness and Lifetime Activities ..... 0.5-1 FSSu
Activities stressing individual physical fitness and lifetime activities according to student needs and interest.
PE 101 Aerobics 1.0
PE 102 Aerobics, Water 1.0
PE 103 Archery 0.5
PE 104 Badminton 0.5
PE 105 Baseball 0.5
PE 106 Basketball 1.0
PE 107 Billiards 0.5
PE 108 Bow Hunting, Beginning 0.5
PE 109 Bowling 0.5
PE 110 Camping Skills 1.0
PE 111 Canoeing/Hiking 1.0
PE 112 Cross-Country Skiing 1.0
PE 113 Cross Training 1.0
PE 114 Cycling 0.5
PE 115 Dance, Country 1.0
PE 116 Dance, Jazz 1.0
PE 117 Dance, Social 1.0
PE 118 Dance Variety 1.0
PE 119 Fishing Techniques 1.0
PE 120 Fitness Thru Running 1.0
PE 121 Fitness Thru Walking 1.0
PE 122 Football, Flag 0.5
PE 123 Frisbee, Ultimate 0.5
PE 124 Golf 0.5
PE 125 Racquetball 0.5
PE 126 Recreational Activities 0.5
PE 127 Restricted. P, consent 1.0
PE 128 Scuba Diving 1.0
PE 129 Soccer 0.5
PE 130 Softball 0.5
PE 131 Springboard Diving 1.0
PE 132 Swim Conditioning 0.5
PE 133 Swim, Beginning (Level 3) 1.0
PE 134 Swim, Intermediate (Level 4) 1.0
PE 135 Swim, Swimmers (Level 5-6) 1.0
PE 136 Tae-Kwon-Do 1.0
PE 137 Tennis 0.5
PE 138 Volleyball 0.5
PE 139 Volleyball, Sand 0.5
PE 140 Weight Training 1.0
PE 141 Weight Training, Advanced 1.0
PE 142 Wrestling - Greco Roman 1.0
PE 143 Special Topics 1.0
PE 144 Special Topics 0.5
PE 155 Community Water Safety 1
PE 170 Fundamental Movement ..... 1 FS
Defining, analyzing and evaluating fundamental locomotor, non-locomotor (axial) and manipulative skills, progressions in skill development.
PE 200 Skill Concept: Fitness ..... 1 F
Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities which are part of lifetime fitness development. P, consent.
PE 201 Skill Concept: Gymnastics ..... 1 S
Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities which are part of gymnastics movement. Focus will be on developmentally appropriate activities at the elementary, middle and high school levels. P, consent.
PE 202 Skill Concept: Individual and Dual Activity ..... 1 S
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 and lead-ups appropriate for school settings, leading to personal skill development. P, consent.
PE 203 Skill Concept: Team Sport Activity ..... 1 F
Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities involved in participating in team sport activities. Focus will be on activities appropriate for school settings, which contribute to personal development. P, consent.
PE 204 Skill Concept: Rhythms and Dance ..... 1 S
Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities involved in participating in rhythms and lifetime dance activities. Focus will be on activities appropriate for school settings, which contribute to personal development. P, consent.
PE 205 Skill Concept: Recreational Activities ..... 1 F
Emphasis on student planning and leadership of recreational activities involving equipment, developing a resource notebook and gaining an appreciation for the variety of recreational opportunities. Crosslisted with Recr 205.
PE 241 Curriculum in Physical Education ..... 2 F
Philosophy, theory and application of current curriculum foundations in physical education, including curriculum theory and design, curriculum content, curriculum organization and assessment. P, sophomore standing.
PE 320 Lifeguard Training ..... 2 FS (alternate years)
The course focuses on skills and knowledge to properly assume responsibilities of lifeguards at swimming pools and non-surf beaches.
PE 320A Lifeguard Training Lab 0
PE 321 Water Safety Instructor ..... 2 FSSu
Method of instruction and evaluation of water safety techniques. Participation may lead to American Red Cross Water Safety Instructor's certification. Does not substitute for PE 100. P, consent.
PE 321A Water Safety Instructor Lab 0
PE 322 Lifeguard Instructor 1
Certification as a Lifeguard Instructor will qualify an individual to teach basic water safety, emergency water safety and the lifeguard training course. P, 321, CPR and First Aid Certificate.
PE 334 Assisting Teaching I ..... 1 FS
Application of movement analysis, prescription knowledge and skills to a team activity setting in a basic physical activity course. P, consent.
PE 336 Assisting Teaching II ..... 1 FS
Application of movement analysis, prescription knowledge and skills to an individual or dual sport activity setting in a basic physical activity course. P, consent.

PE 342 Recreational Sports Program and Administration .....2 F
Organization and administration of intramural sports on elementary, secondary, college and university levels. Program planning, facilities, equipment and financing of intramural sports program. P, sophomore standing. Crosslisted with Recr 342.

PE 350 Exercise Physiology .....3 FS
Body processes and exercise; efficiency of muscular work, fatigue and exercise; age, sex and body type as related to exercise; nervous control of muscular activity; effect of exercise on the circulatory system. P, Zool 221, junior standing.

PE 350A Exercise Physiology Lab.....0

PE 352 Adapted Physical Education .....2 S
Course designed to give the HPER major a better understanding of requirements of special needs students in PE environment. Includes instruction on IEP, writing goals and objectives, working with disabling conditions.

PE 353 Biomechanics .....3 FS
Mechanics and muscular actions related to movement of the human body. P, Zool 221 or 325, junior standing.

PE 354 Prevention & Care of Athletic Injuries..... 2 FS
General care and treatment of athletic injuries, conditioning and training, equipment of training room, taping for athletic injuries. P, junior standing.

PE 354A Prevention & Care of Athletic Injuries Lab.....0

PE 360 Methods of Elementary School Physical Education..... 2 S
Needs, characteristics, capacities of elementary school children (grades K-6); curriculum planning; organizational problems; and methods and materials essential to program progression in movement exploration, games, rhythms, fitness and basic skills. P, sophomore standing.

PE 360A Method of Elementary School Physical Education Lab 0

PE 400 Exercise Testing and Prescription .....2 F
This course is designed to provide the student with the knowledge and skills to assess physical fitness and prescribe individualized exercise programs for healthy populations. P, 350 or consent.

PE 400A Exercise Testing and Prescription Lab.....0

PE 461 Methods of Teaching Physical Education..... 2 F
Methods of teaching physical education activities in public schools, with emphasis on curriculum planning and principles of motor learning and development as they apply to structuring appropriate activities. A significant amount of time will be spent learning and practicing specific teaching models used in schools. P, consent.

PE 461A Methods of Teaching Physical Education Lab.....0

PE 467-483 Coaching and Officiating ..... 2 FS
Theory and practice of individual fundamentals and team strategies. Organization and management procedures specific to each sport. Textbook work, lectures, visual aids, demonstrations. Techniques of officiating. ASEP Coaching Principles workshop required. P, junior standing.

PE 467A-483A Coaching and Officiating Lab 0

PE 467 Swimming
PE 470 Basketball
PE 471 Football
PE 472 Softball/Baseball
PE 473 Track/Field
PE 474 Wrestling
PE 475 Volleyball
PE 476 Gymnastics
PE 483 Golf

Dual Numbered Courses

PE 450-550 Clinical Exercise Physiology .....2 SSu (alternate years)
This course is designed to provide the clinical exercise physiology student with assessment and prescription techniques appropriate to special populations. P, consent.

Graduate Courses

PE 730 Physical Education Teacher Education .....3 SSu (alternate years)

PE 732 Analysis and Strategies of Teaching and Supervising .....
Physical Education and Sport .....3 SSu (alternate years)

PE 750 Applied Exercise Physiology .....3 F

PE 751 Laboratory Techniques in Exercise Physiology .....2 (alternate years)

PE 751A Laboratory Techniques in Exercise Physiology Lab 0

PE 770 Advanced Administration of Interscholastic Athletics .....2 SSu (alternate years)

PE 771 Current Trends in HPER & Athletics ..... 3 SSu (alternate years)

PE 772 Financial Aspects of Sports Management..... 2 F (alternate years)

Pha (Pharmacy)

Undergraduate Courses

Pha 201 Medication and the Consumer ..... 2 FS
Principles of drug action, examination of medical and legal aspects of use and misuse of prescription, non-prescription and illicit drugs. Not open to pharmacy students.

Pha 241 Pharmacology..... 3 FS
Basics of pharmacology and therapeutics for nurses and others. P, Chem 108, current enrollment in Zool 325.

Pha 310 Introduction to Pharmaceutical Care .....3 F
An introduction to the contemporary practice of pharmacy. Includes the historical basis of the profession, medical terminology, roles of pharmacists, and an introduction to the clinical care setting. P, 3rd year standing.

Pha 310A Introduction to Pharmaceutical Care Lab 0

Pha 311 Professional Communication Skills ..... 3 S
Current theories and practice, oral and written, in interpersonal and professional communication. P, 3rd year standing, SpCm 101.

Pha 311A Professional Communication Skills Lab 0

Pha 313 Pharmaceutical Calculations .....1 F
Systems of weights and measures and mathematical problems encountered in pharmaceutical practice. P, 3rd year standing.

Pha 320 Introduction to Pathophysiology 3F
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. P. 3rd year Pharmacy standing or Nursing major, and Zool 325.

Pha 323 Pharmaceutical Biochemistry .....4 F
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. P, 3rd year standing.

Pha 324 Biomedical Science .....4 S
Properties, activities, mechanism of action and therapeutic use of biologics (e.g., monoclonal antibodies, vaccines, therapeutic proteins) and technologies involved in their production. P, 3rd year standing, 323.

Pha 331 Pharmaceutics I ..... 3 F
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. P, 3rd year standing.

Pha 332 Pharmaceutics II .....4 S
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. P, 331.

Pha 332A Pharmaceutics II Lab 0

Pha 340 Principles of Drug Action I..... 4 F
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. P, 3rd year standing.

Pha 340A Principles of Drug Action I Lab.....0

Pha 341 Principles of Drug Action II .....4 S
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. P, 340.

Pha 341A Principles of Drug Action II Lab 0

Pha 401 Current Topics in Pharmacy .....1 S
Films and discussions on topics of interest not included in more formalized courses. P, 4th or 5th year standing.

Pha 415 Biopharmaceutics and Pharmacokinetics .....5 F
Relationship of the physicochemical properties of drug formulations to the bioavailability of drugs. Application of pharmacokinetics to the safe and effective therapeutic management of the individual patient. P, 331, 332, and 4th year standing.

Pha 430 Pharmaceutical Jurisprudence .....3 F
State and federal laws and regulations. P, 4th year standing.

Pha 441 Chemotherapeutic Agents .....2 F
Principles of medicinal chemistry, pharmacology, toxicology, and introduction to pharmacotherapy of chemotherapeutic agents. P: 4th year standing.

Pha 442 Principles of Drug Action III .....5 F
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. P, 4th year standing.

Pha 442A Principles of Drug Action III Lab 0

Pha 443 Principles of Drug Action IV..... 5 S
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. P, 442.

Pha 443A Principles of Drug Action IV Lab 0

Pha 445 Drug Literature and Research Design .....4 S
Study in critical assessment of the medical literature, the exploration of available resource materials, and introduction of the elements required for performing clinical research. P, 4th year standing.

Pha 445A Drug Literature and Research Design Lab.....0

Pha 450 Drug Distribution Systems ..... 4 S
Principles of contemporary pharmacy services in institutional and community settings. P, 4th year standing.

Pha 450A Drug Distribution Systems Lab 0

Pha 465 Professional Resources Management .....4 S
Professional, economic, and social considerations influencing the organization and management of the delivery of pharmaceutical services. P, 430, 4th year standing.

Pha 465A Professional Resources Management Lab 0

Pha 491 Directed Studies .....1-3 FS
A study of an area of student's interest in which a pharmacy faculty member is competent but which is not covered by the regular courses. P, consent.

Pha 492 Research Problems .....1-3 FS
Students may elect research problems in one of the pharmaceutical sciences, biopharmaceutics, pharmaceutics, pharmaceutical chemistry, or pharmacology; or in an appropriate area of pharmacy practice. P, consent.

Pha 493 Special Topics .....1-3 FS
Organized by an instructor in consultation with the Department Head and a group of students. The course will normally be taught only once or sporadically for a unique group of students.

Pha 645 Pharmacotherapeutics: Application to Advanced Practice 4
Current drug therapy principles with emphasis on drugs and pharmacotherapeutics used in Family Nurse Practitioner practice. P, FNP program enrollment.

Pha 700 Directed Studies Clerkship 4

Pha 701 Home Health Care/Hospice Clerkship 4

Pha 702 Indian Health Service Clerkship 4

Pha 703 Pharmacy Administration Clerkship 4

Pha 704 Nutrition Clerkship..... 4

Pha 705 Clinical Research Clerkship..... 4

Pha 706 Critical Care Clerkship 4

Pha 707 Infectious Disease Clerkship 4

Pha 708 Surgery Clerkship 4

Pha 709 Nephrology Clerkship 4

Pha 710 Pharmacokinetics Clerkship 4

Pha 711 Oncology Clerkship 4

Pha 712 Nuclear Pharmacy Clerkship 4

Pha 713 Managed Care Clerkship 4

Pha 714 Community Pharmacy ..... 6 FSSu
Clerkship experience at an affiliated site. P, 6th year standing.

Pha 715 Pharmacy Physical Assessment ..... 2 S
Theory and application of skills for evaluating humans in health and disease.

Pha 715A Pharmacy Physical Assessment Lab..... 0

Pha 716 Institutional Pharmacy..... 6 FSSu
Clerkship experience at an affiliated site. P, 6th year standing.

Pha 717 Community Pharmaceutical Care Clerkship 4
Clerkship experience in pharmaceutical care in a community pharmacy.

Pha 718 Advanced Clinical Lab Monitoring ..... 3 F
Study of clinical laboratory methods and tests with emphasis on drug monitoring and problem solving of drug therapy.

Pha 718A Advanced Clinical Monitoring Lab 0

Pha 719 Physical Assessment Lab..... 1 F
Development and application of skills useful for pharmacists in the assessment of humans in health and disease. P, 5th year standing.

Pha 720 Advanced Medicinal Chemistry 3
Qualitative and quantitative aspects of the design of therapeutic agents. P, Pha 341 or consent.

Pha 722 Therapeutics-The Geriatric Patient .....2 S
Physiological and psychological aspects of aging with special attention to altered drug requirements. P, 5th year standing.

Pha 723 Ethics in Healthcare Practice ..... 2 F
Overview of ethical principles and theory, with emphasis on the professional-client relationship. P, 5th year standing.

Pha 724 Pharmacoeconomics .....2 S
The pharmacoeconomic principles used to evaluate medications, with emphasis on the use of therapeutic outcomes to compare cost effectiveness of therapeutic agents. P, 5th year standing.

Pha 725 Topics in Medicinal Chemistry 3
Selected areas covering more advanced concepts in medicinal chemistry, new research techniques. P, Pha 341 or consent.

Pha 728 Current Issues in Pharmacy Practice .....3 F
Theory and development of pharmaceutical care concepts. Discusses role of a contemporary pharmacy practitioner within the framework of the U.S. health delivery system. Pharmacy ethics is discussed. P, 5th year standing.

Pha 729 Pharmaceutical Marketing ..... 2 F
Discussion of the marketing functions of the pharmaceutical manufacturer, the wholesaler, and the pharmacy practitioner. P, 5th year standing.

Pha 730 Advanced Pharmacotherapeutics I .....6 F
Organ-based approach to the use of patient-specific factors for drug therapy in individualized patient situations. Integrates pathophysiology and drug therapy principles.

Pha 730A Advanced Pharmacotherapeutics I Lab 0

Pha 731 Advanced Pharmacotherapeutics II 6S
Continuation of 730. P, 730.

Pha 731A Advanced Pharmacotherapeutics II Lab 0

Pha 732 Therapeutics-Renal/Fluid and Electrolytes .....3 F
Integration of pathophysiology and drug therapy principles to develop patient specific drug regimens in the areas of renal and fluid and electrolytes. P, 5th year standing.

Pha 733 Therapeutics-Gastrointestinal and Nutrition .....3 S
Integration of pathophysiology and drug therapy principles to develop patient specific drug regimens in the areas of gastrointestinal disease and nutrition. P, 5th year standing.

Pha 734 Therapeutics-Endocrine/Reproduction ..... 3 S
Integration of pathophysiology and drug therapy principles to develop patient specific drug regimens in the area of endocrine and reproductive medicine. P, 5th year standing.

Pha 735 Therapeutics-Infectious Disease ..... 2 F
Integration of pathophysiology and drug therapy principles to develop patient specific drug regimens in the area of infectious disease principles. P, 5th year standing.

Pha 736 Therapeutics-Neurology/Psychiatry .....3 S
Integration of pathophysiology and drug therapy principles to develop patient specific drug regiment in the areas of neurology and psychiatric medicine. P, 5th year standing.

Pha 737 Therapeutics-Cardiopulmonary .....4 F
Integration of pathophysiology and drug therapy principles to develop patient specific drug regimens in the area of cardiopulmonary disease. P, 5th year standing.

Pha 738 Therapeutics-Hematology/Oncology ..... 3 F
Integration of pathophysiology and drug therapy principles to develop patient specific drug regimen in the areas of hematology and oncology. P, 5th year standing.

Pha 739 Therapeutics-Rheumatology/Skin/Skeletal ..... 2 S
Integration of pathophysiology and drug therapy principles to develop patient specific drug regimen in the areas of rheumatology, dermatology, and skeletal diseases. P, 5th year standing.

Pha 740 Advanced Pharmacology 3
An advanced and comprehensive study of the therapeutic and toxicological effects of drugs including the mechanism of action. Emphasis will be placed on their rational application to the treatment of disease. P, Pha 443 or consent.

Pha 741 Drug Utilization and Quality Assurance .....1 S
Exploration of the fundamentals in theory and performance of drug utilization and quality assurance studies within health care. P, 5th year standing.

Pha 742 Adverse Drug Reactions .....2 S
Study of untoward reactions to therapeutic medicinal agents. Includes mechanisms and treatments. P, 5th year standing.

Pha 745 Topics in Pharmacology 3
A study of current advanced theories in pharmacology. P, Pha 443 or consent.

Pha 750 Critical Care Therapeutics.....2 S
Principles of medication use in the critically ill patient. P. 5th year standing.

Pha 751 Immunotherapeutics .....2 S
Therapeutic use and pharmacology of newer immunologic agents, engineered drugs, and biotechnological products. P, 5th year standing.

Pha 752 Drugs of Abuse .....2 F
Discussion of psychoactive drugs, both legal and illegal, that have potential for abuse. P, 5th year standing.

Pha 753 Women and Children's Health..... 2 F
Principles of drug use in the perinatal period, including pregnancy, nursing, and neonatology, and drug-related issues of particular concern to women's health, and pediatrics. P, 5th year standing.

Pha 754 Alternative Medicines.....2 S
Discussion of alternative, natural, and homeopathic medicines, with emphasis on their appropriate evaluation and use.

Pha 755 Research Design and Drug Information ..... 4 F
Advanced study in critical assessment of the medical literature with emphasis on the elements of scientific research. Studies components of viable research proposals and includes independent work to develop a proposal.

Pha 755A Research Design and Drug Information Lab 0

Pha 759 Advanced Pharmaceutics 3
Theory and application of compartmental models for the study of the time course of drugs in the body. P, Pha 415 or consent.

Pha 760 Clinical Pharmacokinetics .....3 S
Advanced pharmacokinetic principles, with emphasis on drug dosing on individual patient basis.

Pha 765 Topics in Pharmaceutics..... 3
Selected areas covering more advanced concepts in pharmaceutics, new research techniques. P, Pha 415 or consent.

Pha 770 Pediatrics Clerkship 4

Pha 771 Geriatrics Clerkship 4

Pha 772 Internal Medicine I Clerkship 4

Pha 773 Internal Medicine II Clerkship 4

Pha 774 Ambulatory Care Clerkship..... 4

Pha 775 Psychiatry Clerkship..... 4

Pha 780 Seminar 1
Contemporary topics in the pharmaceutical sciences. Required of all graduate students in pharmaceutical sciences. Maximum of two credits.

Pha 784 Seminar I .....1 S
Discussion of current pharmacy and other health care issues and includes developing and delivering a short presentation. P, 5th year standing.

Pha 785 Seminar II..... 1 S
Continuation of 784, with emphasis on discussion of clinical pharmacy concepts and professional presentations. P, 784.

Pha 790 Thesis in Pharmaceutical Sciences 1-7

Pha 791 Directed Studies ..... 1-3 FS
In-depth study in a subject area compatible with the student's interests.

Phil (Philosophy)

Undergraduate Courses

Phil 100 Introduction to Philosophy ..... 4 FSSu
Inquiry into some of the basic problems of philosophy leading to an appreciation of the place and value of philosophy in the intellectual community, and intellectual activities of the student.

Phil 200 Introduction to Logic ..... 3 FSSu
Investigation of informal and formal (symbolic) reasoning to promote thoughtfulness in one's academic and personal life.

Phil 215 Introduction to Social/Political Philosophy..... 3 FS
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.

Phil 220 Introduction to Ethics .....3 FSSu
Major ethical theories, investigation of some of the problems arising from these theories, and a critical analysis of the validity of these theories in light of the students' ethical intuitions.

Phil 313 Great Philosophers: (Topical) .....2-3 FSSu
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).

Phil 320 Professional Ethics .....3 S (alternate years)
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 FS
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.

Phil 332 Environmental Ethics 3
Crosslisted with Rel 332.

Phil 370 Philosophy of Religion ..... 3 FS
Topics such as proofs for the existence of God, religious knowledge, religious language, the nature of God, the nature of the holy, and the nature of religious experience. Crosslisted with Rel 370. No prerequisites.

Phil 383 Bioethics 4
Crosslisted with Bio 383.

Phil 423 Political Philosophy ..... 3 FS
Crosslisted with PolS 461.

Phil 424 Modern Political Philosophy ..... 3 FS
Crosslisted with PolS 462.

Phil 493 Topics in Philosophy 1-5
Selected topics of current interest in the discipline.

Phil 495 Internship ..... 1-12 FSSu
Planned and supervised professional experience which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

Phil 492-592 Special Problems in Philosophy 1-3
Individual guided research culminating in formal research paper or series of essays. May be repeated until 6 credits are earned.

Phys (Physics)

Undergraduate Courses

Phys 101 Survey of Physics ..... 4 FSSu
Survey of Physics is a one-semester course designed to cover broad topics such as mechanics, states of matter, wave motion, sound, and electricity and magnetism. Focus will be given to development of students' critical thinking skills. Students will be challenged to apply these skills to conceptual-type situations as well as problems that require a fundamental knowledge of basic algebra. Emphasis will also be placed on empowering students to make application of the concepts developed to their own areas of study. Concurrent registration in Phys 102 is required. P, Math 102 or 113. Credit will not be allowed for both Phys 101 and 111-113 or 211-213.

Phys 102 Survey of Physics Lab ..... 0 FSSu
Laboratory for Physics 101, Survey of Physics. Concurrent registration in Phys 101 is required.

Phys 111 Introduction to Physics I ..... 4 FSSu
First semester of a year course, primarily for students in the biological, agricultural, and health sciences. Mechanics, heat, wave motion. Concurrent registration in Phys 112 is required. P, Math 102 or 113. (Credit will not be allowed in both Phys 111-113 and 211-213)

Phys 112 Introduction to Physics I Lab ..... 0 FSSu
Laboratory for Physics 111, Introduction to Physics I. Concurrent registration in Phys 111 is required.

Phys 113 Introduction to Physics II ..... 4 FSSu
Continuation of Phys 111. Electricity, light, atomic and nuclear physics. Concurrent registration in Phys 114 is required. P, Phys 111.

Phys 114 Introduction to Physics II Lab ..... 0 FSSu
Laboratory for Physics 113, Introduction to Physics II. Concurrent registration in Phys 113 is required.

Phys 185 Introduction to Astronomy ..... 3 FS
Introductory course: moon, sun, planets, constellations, galaxies, stellar evolution, radio astronomy, black holes, instrumentation, use of telescopes for viewing.

Phys 211 University Physics I ..... 4 FSSu
For students in physical science and engineering, Mechanics and Thermodynamics. Concurrent registration in Phys 212 is required. P, concurrent registration in Math 224. (Credit will not be allowed in both Phys 111-113 and 211-213.)

Phys 212 University Physics I Lab ..... 0 FSSu
Laboratory for Physics 211, University Physics I. Concurrent registration in Phys 211 is required.

Phys 213 University Physics II ..... 4 FSSu
Continuation of Phys 211. Electricity, waves, and optics. Concurrent registration in Phys 214 is required. P, Phys 211.

Phys 214 University Physics II Lab ..... 0 FSSu
Laboratory for Physics 213, University Physics II. Concurrent registration in Phys 213 is required.

Phys 312 Measurement Theory and Experiment Design ..... 2 F
Selected experiments from various branches of physics. Emphasis on precision and analysis of experimental error. P, junior standing in physics.

Phys 314 Advanced Laboratory I ..... 1 S
Selected experiments in classical and modern physics which illustrate the principles and development of physics and emphasize experiment design and data analysis. Extensive use is made of microcomputers for data collection and analysis. P, Phys 312 and Phys 331 or consent.

Phys 331 Introduction to Modern Physics ..... 3 FSSu
Atomic and nuclear structure with emphasis on impact of 20th century developments on science and engineering. P, Phys 213 or Phys 113 and consent.

Phys 341 Thermodynamics & Statistical Mechanics ..... 3 F
Thermodynamic systems from macroscopic approach considering first and second laws of thermodynamics and their consequences, and from microscopic approach via kinetic theory of gases and statistical mechanics. P, Phys 331 and Math 225.

Phys 351 Classical Mechanics ..... 4 S
Newton's Laws, motion in one and three dimensions, central forces, harmonic oscillations, non-inertial reference frames, rotations of rigid bodies, and Lagrangian Mechanics. P, Phys 113 or Phys 213 and concurrent registration in Math 321.

Phys 361 Optics ..... 3 F
Intermediate course in geometrical and physical optics with emphasis on physical optics. Analysis of refraction phenomena, thick lenses, wave nature of light, interference, diffraction, and polarization. P, Phys 213 or Phys 113 with consent and Math 225.

Phys 412 Advanced Lab II ..... 1 F
Selected experiments in modern physics: gamma ray spectroscopy, half life, beta decay, positron annihilation, neutron capture, bubble chamber events, nuclear statistics, etc.

Phys 421 Electromagnetism ..... 4 S
Principles of electricity and magnetism, with applications to dielectric and magnetic materials. Development of Maxwell's equations, and applications. P, Phys 213 and Math 321.

Phys 431 Introduction to Astrophysics ..... 3 S
The study of stars, star clusters and galaxies. This will include 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. P, Phys 331.

Phys 435 Introduction to Nuclear Engineering ..... 3 S
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. P, Phys 331 or consent.

Phys 439 Physics of the Solid State ..... 3 S
Electronic processes with reference to electrical properties of metals, semiconductors and insulators. P, Phys 331 and Math 321.

Phys 464 Senior Design I ..... 1 FSSu
Capstone senior design project. 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. P, senior standing.

Phys 465 Senior Design II ..... 2 FSSu
Capstone senior design project. The student will construct, assemble, and test the project they designed in Phys 464. P, Phys 464.

Phys 471 Quantum Mechanics ..... 4 F
Nature of space, time and particles. Quantization of translatory motion, rotatory motion, vibratory motion, motion in a Coulombic field. Operators, wave packets, potentials, forces. P, Phys 331 or consent and Math 321.

Phys 481 Mathematical Physics ..... 4 FSSu
The formulation and solution of problems in the various fields of physics. Topics chosen from: series solutions, special functions, computational methods, complex variables, multi-variate methods and transform methods. P, Phys 331, Math 331, or consent.

Phys 490 Physics Colloquium ..... 1 FS
Recent developments in the field of physics, and topics of related interest. Participation required for physics majors for 1 semester during the senior year. P, senior standing.

Phys 492 Special Problems in Physics ..... 1-3 FSSu
Individual study in physics for qualified students at the junior or senior level. The course may be repeated for a maximum of six credits toward the B.S. degree in physics or engineering physics. P, consent.

Phys 493 Special Topics ..... 1-3 FSSu
Special problems. Six total credits may be taken with maximum of 3 credits at one time. P, consent.

Phys 494-495-496 Cooperative Education/Internship/ Field Experience ..... 1-4 FSSu
Planned and supervised professional experience related to physics or engineering physics which takes place outside the formal classroom with private business or industry, or public agencies. P, consent.

Dual Numbered Courses

Phys 433-533 Nuclear and Elementary Particle Physics ..... 3 F
Radioactivity, nuclear spectra and structure, nuclear models, elementary particle theories and high energy physics. P, Phys 471 or consent.

Phys 441-541 Science of Solids ..... 3 F
Topics covered to satisfy 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. P, Phys 439 or consent.

Graduate Courses

Phys 693 Special Topics ..... 1-3 FSSu
Phys 700 Seminar ..... 0-1 FS
Phys 721 Electrodynamics I ..... 3 F
Phys 723 Electrodynamics II ..... 3 S
Phys 743 Statistical Mechanics ..... 3 S
Phys 751 Theoretical Mechanics ..... 3 S
Phys 771 Quantum Mechanics I ..... 3 F
Phys 773 Quantum Mechanics II ..... 3 S
Phys 775 Tensors & General Relativity ..... 3 F
Phys 779 Group Theory in Quantum Mechanics ..... 3 F
Phys 790 Thesis ..... 1-7 FSSu
Phys 791 Thesis Sustaining 0
Phys 792 Research or Design Paper ..... 1- 2 FSSu
Phys 793 Special Topics ..... 1-3 FSSu
Phys 795 Research or Design Paper Sustaining 0
Phys 797 Research ..... 1-9 FSSu

Plan (Planning)

Dual Numbered Courses

Plan 471-571 Principles of State, Regional and Community Planning ..... 3 F
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. P, Enrollment within a minor in planning at the Master's level or consent.

Plan 472-572 Techniques of State, Regional and Community Planning ..... 3 S
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. P, 691.

See also specialized courses in planning within departmental listings in Economics; Education; Engineering; Geography; Horticulture, Forestry, Landscape and Parks; Political Science; and Sociology.

PolS (Political Science)

Undergraduate Courses

PolS 100 American Government ..... 3 FSSu
Origins, development and operation of American government at the national level. Concentration on political institutions. (Credit not allowed for both 100 and 101.)

PolS 101 American Government Honors ..... 3 F
Small group discussion of principles of American government for students with superior high school background. By invitation (credit not allowed for both 100 and 101).

PolS 102 American Political Issues ..... 3 FSSu
Current major issues in American politics, governmental policies and various alternatives being considered in Congress.

PolS 165 Political Ideologies ..... 3 SSu
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.

PolS 210 State & Local Government ..... 3 FSSu
Legal status, forms and functions, interrelationships, current trends and suggested reforms.

PolS 253 Current World Problems ..... 3 F
An examination of several current world problems with a focus on creating world order. Course content varies to accommodate current issues.

PolS 305 Women & Politics ..... 3 S
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.

PolS 310 Tribal Government and Politics 3
A comparative examination of the structures and the politics of several contemporary tribal governments and their relationship to both the federal and state governments. Brief examination of modern Indian movements and their impact on politics at both the tribal and federal levels.

PolS 316 SD Legislative Issues ..... 1 S
Study of the South Dakota legislative process and the issues being considered by the South Dakota legislature. Course involves class trip to Pierre to observe the legislature in action.

PolS 320 Public Administration ..... 3 FS
U.S. public administration; basic elements of administration: personnel, budgeting, planning, organization and management; and importance of federal executives in shaping public policy. P, 100 (or 101) or consent.

PolS 330 Constitutional Law ..... 3 F
Structure and jurisdiction of federal judiciary. Legal basis of American federalism. Constitutional powers of American Presidency, U.S. Congress and state governments as interpreted through U.S Supreme Court decisions. Reasoning of the Court and evolutionary nature of American constitutional law. P, 100 (or 101) or consent.

PolS 331 Civil Rights and Liberties ..... 3 S
Individual First Amendment guarantees, constitutional rights of the accused in the criminal process and equal protection of the law as interpreted through U.S. Supreme Court decisions. P, 100 (or 101) or consent. Crosslisted with CJus 331.

PolS 341 European Democratic Governments..... 3 F
Comparative study of selected governments of West Europe, especially Britain, France, Germany and Italy; decision- making institutions; political culture; political parties.

PolS 343 Russian Politics ..... 3 F
Study of government, politics, and some aspects of society in Russia and the region; emphasis on current politics.

PolS 345 Canada ..... 3 S
Political institutions and patterns; The Constitution and federalism; Quebec and Canada; U.S. - Canadian relations.

PolS 347 Latin American Politics ..... 3 S
Comparative analysis of mainly larger Latin American countries. Political institutions, social movements and patterns of change, political culture, civil-military relations, development strategies.

PolS 350 International Relations..... 3 S
How nations/states behave and why they behave as they do in their relations with each other.

PolS 352 European Union..... 3 F
An interdisciplinary offering which examines integration theory and the structures and politics of the European Community. The theme of the course's content will vary from offering to offering in order to accommodate the availability of cooperating instructors from other disciplines.

PolS 428 Personnel & Budgetary Administration ..... 3 S
Contemporary personnel and budgetary systems in the public sector. Role of the civil servant in government and society, and the political and technological factors which influence the budget. P, 100 (or 101).

PolS 432 The American Presidency ..... 3 F
The Presidency in the American political system, its powers and limitations, and the role individual presidents have played in its development in the 20th century. P, 100 (or 101) or consent.

PolS 433 Administrative Law and Government ..... 3 F
Meaning and historical development of administrative law, legislative and judicial controls, the administrative process and remedies against improper administrative acts.

PolS 435 Political Parties and Campaigns ..... 3 S
U.S. political parties; functions, organization, techniques and significance of parties; varieties of state and local systems; and behavior of the electorate and interest groups.

PolS 438 The Legislative Process ..... 3 F
Congress and state legislatures: functions, organization, leadership, procedures, and participants. Influence of chief executives, bureaucracies, interest groups, and political parties. P, 100 (or 101) or 210 or consent.

PolS 446 China & Asian Politics ..... 3 S
Historical factors and events contributing to present governmental structures, ideologies, and political issues in the area. Emphasis on China and Japan.

PolS 454 International Law and Organizations..... 3 F (even years)
An examination of the rules and principles accepted by the members of the community of nations and some of the organizations that they create under these rules and principles.

PolS 461 Early Political Philosophy ..... 3 S
Types of political theory in historical development. Basis on which these theories rest and the explanatory power of the various thought structures. Includes Plato, Aristotle, Machiavelli, and Hobbes. Crosslisted with Phil 423.

PolS 462 Modern Political Philosophy ..... 3 F
Same approach as 461. Major political theorists after Hobbes including Locke, Rousseau, Mill, Marx, Nietzsche, and others. Crosslisted with Phil 424.

PolS 490 Seminar in Political Science 1-2-3
Selected Political Science fields. May be repeated until 6 credits are earned.

PolS 492 Special Problems..... 1-3
Individual guided research. May be repeated until 6 credits are earned.

PolS 493 Topics in Political Science 1-5
Study of current issues or concerns in political science.

PolS 495 Internship in Political Science ..... 1-12 FSSu
Approximately one credit for each week spent in internship projects off-campus. Written reports and/or a final oral examination will be required. Application for permission to register must be made prior to registration. Non-Political Science majors must show appropriate background. Credits do not count toward meeting the minimum requirements in the major or minor. May be repeated until 12 credits are earned. Graded P or F.

Dual Numbered Courses

PolS 460-560 Topics in Political Science 1-4
An intensive examination of significant political themes, issues, or problems. Topics will include, but are not limited to, the following: Republics and Self-Government; The Constitution and Civil Liberties; Parties, Elections and Campaigns; Presidential-Congressional Relationships.

Graduate Courses

Consent required of those students not majoring or minoring in Political Science.

PolS 592 Special Problems ..... 1-2-3 FSSu

PR (Park Management)

Undergraduate Courses

PR 101 Parks and Society ..... 3 F
Introduction to park and recreation resource management including fundamentals governing public park and recreation agencies. Includes administrative organization, history, types and benefits of parks.

PR 202 Outdoor Recreation Resource Management ..... 3 S (alternate years)
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. P, 101 or consent.

PR 202A Outdoor Recreation Resource Management Lab 0

PR 300 Park Operations and Facility Management ..... 3 F (alternate years)
Principles and practices of park 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 facilities. P, 101, 202 or consent.

PR 300A Park Operations and Facility Management Lab 0

PR 301 Park Interpretation.....3 F (alternate years)
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. P, 101, 202 or by consent.

PR 301A Park Interpretation Lab.....0

PR 302 Commercial Recreation Areas .....3 S (alternate years)
Factors represented by commercial recreation areas to include history, trends, supply, demand, relationships to tourism, management, development and technical assistance. P, 101, 202 or by consent.

PR 303 Forest Ecology and Management ..... 3 F (alternate years)
The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed.

PR 401 Advanced Park Management .....3 S (alternate years)
Current philosophies, advanced techniques, and synthesis of park management principles. P, 101, 202, 300 and 301 or by consent.

PR 401A Advanced Park Management Lab .....:0

PR 492 Special Problems .....1-2 FS
Directed independent study into specific problems or topics related to park and recreation resource management. Maximum of 4 credits. P, consent.

PR 493 Special Topics..... 1-4 FS
Special course offering to address specific topics of current interest to students and professionals in the field of park and recreation resource management.

PR 494-495-496 Cooperative Education/Internship/Field Experience in Park Management .....1-12 FSSu
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 for selected Park Management students. P, Junior standing and must have completed 2 years of the Park Management curriculum, or consent of adviser. 3-12 credits per semester.

PS (Plant Science)

Undergraduate Courses

PS 101 Opportunities in Plant Science .....1 F
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 FS
Practices and principles; crop distribution; growth processes; response to environment. Grain and forage crops, including their distribution, use, improvement, growth, harvesting, and marketing.

PS 103A Crop Production Lab 1

PS 213 Soils .....2 FSSu
Development and classification of soils; physical, biological, and chemical properties; management aspects, including water, fertility, and erosion; soils in the environment. P, Chem 106.

PS 213A Soils Lab.....1

PS 223 Principles of Plant Pathology ..... 2 F
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. P or concurrent registration in, Bio 103 or 153 or Bot 201.

PS 223A Principles of Plant Pathology Lab 1

PS 243 Geology..... 3 FS
The earth's crystalline and sedimentary materials, their characteristics and economic uses together with soil development and water flow through these materials are examined as a basis for conservative management of the earth's surface. The hazards of flooding, earthquakes, volcanism, mass movement, etc. are also studied from a minimization-of-risk perspective. P, 213 or consent.

PS 244 Geology Lab .....1 S
One week of hands on travel and study. The course will begin with the study of glacial geology of eastern South Dakota. The class will then travel to west central South Dakota where sedimentary formations will be observed. In the Black Hills of western South Dakota metamorphic and igneous rock formations will be studied. Mountain building and mountain leveling processes will be observed and discussed. P, 243, or concurrent registration in 243, or consent.

PS 303 Seed Technology .....1 F
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. P, 103 or Ho 111, Bot 201 recommended, or consent of instructor.

PS 303A Seed Technology Lab 1

PS 305 General Entomology..... 2 F
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.

PS 305A General Entomology Lab..... 1

PS 307 Insect Pest Management.....2 S
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.

PS 307A Insect Pest Management Lab.....1

PS 308 Grain Grading.....1 S
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. P, 103, and 303 recommended, or consent of instructor.

PS 308A Grain Grading Lab 1

PS 310 Soil Geography & Land Use Interpretation .....2 F (even years)
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. P, 213 or Geog 132 or consent of instructor. Crosslisted with Geog 310.

PS 310A Soil Geography & Land Use Interpretation Studio 1

PS 312 Grain & Seed Production & Processing..... 2 S (even years)
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. P, 103 or Ho 111, or consent of instructor.

PS 313 Forage Crops & Pasture Management.....2 F
Grasses and legumes; their establishment, management, and use for hay, pasture, and silage. P, 103, or consent of instructor.

PS 313A Forage Crops & Pasture Management Lab 1

PS 320 Crop Judging ..... 1 or 2 F
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. P, 103, and 308 or consent of instructor.

PS 321 Soil Judging .....1 FS
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. P, 213, 310 recommended, or consent of instructor.

PS 323 Soil Fertility & Fertilizers .....3 S
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. P, 213, or consent of instructor.

PS 333 Diseases of Field Crops .....2 S (odd years)
Extensive survey of diseases affecting major food, fiber, and oilseed crops of the world. Emphasis is on diagnosis and disease management strategies. P, 223, or consent of instructor.

PS 333A Diseases of Field Crops Lab 1

PS 334 Diseases of Horticultural Crops ..... 2 F (odd years)
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. P, 223 or consent of instructor.

PS 334A Diseases of Horticultural Crops Lab 1

PS 343 Weed Science ..... 2 F
Fundamentals of mechanical, cultural, biological and chemical weed control practices and factors affecting control. Herbicide classification and mechanism of action. Plant and seed identification of common weeds of North Central States and their interaction with desirable plants. P, 103 or Ho 111, and Chem 120, or consent of instructor.

PS 343A Weed Science Lab 1

PS 362 Environmental Soil Management ..... 2 S
Management systems designed to maintain soil productivity and environmental quality are examined. Soil problems important in production systems and environmental management including compaction, erosion, and nonpoint pollution are analyzed based on underlying environmental and agronomic principles. Computer simulation models are used and applied to soil problems. P, 213, or consent of instructor.

PS 362A Environmental Soil Management Lab 1

PS 373 Rural Real Estate Appraisal .....2 F
Principles and practices of rural real estate appraisal. Principles of soils valuation and their application for farmland appraisal. Cost, market data, and income approaches to farmland and building appraisal. Tax loan and other specialized rural appraisal procedures. Half-day field trips to area farms are required. P, 213 and AgEc 271, or consent of instructor. Crosslisted with AgEc 373.

PS 373A Rural Real Estate Appraisal Lab.....1

PS 383 Principles of Crop Improvement .....2 F
Evaluation of crop species, reproduction in crop plants, use of genetic variability, traits of interest, breeding programs, designs and management. Heritability, plant introduction, vegetative propagation, hands-on lab demonstrations. P, Bio 371 or consent. Crosslisted with Ho 383.

PS 383A Principles of Crop Improvement Lab 1

PS 421 Soil Microbiology ..... 2 S
Effects of soil environmental factors on soil microbial activity; diversity of soil microbes; plant-microbe interactions; biochemical changes and effects due to soil microbes. Crosslisted with Micr 421. P, Micr 231 or consent.

PS 421A Soil Microbiology Lab 1

PS 440 Crop Management with Precision Farming 2
Principles of precision farming for crop production will be the focus. An integrated approach to crop management based on global positioning, geographic information systems, soil testing and fertility recommendations, spatial data storage, and data interpretation for farming and land use decisions will be covered. The use of spatial statistics to make site specific management recommendations will be discussed. P, PS 223, 305 or 307, 323, 343, and Stat 341; or consent.

PS 440A Crop Management with Precision Farming Lab 1

PS 475 Water Quality in Agriculture ..... 3 S (even years)
An integration of a wide variety of topics intended to give students an introduction to the complex interactions between water supplies, demands, and water quality. P, Chem 106 and Bio 101 or 151, or consent of instructor. Crosslisted with Bio 475.

PS 483 Irrigation – Crop & Soil Practices ..... 3 S (even years)
Problems of irrigated agriculture. Soil salinity and salt- affected soils, water quality, management of irrigated crops; cropping systems; water, fertility requirements of irrigated agriculture, water movement, storage, and release in soils. P, 213 and Math 102.

PS 490 Undergraduate Seminar .....1 FS
Review of literature and original investigations in field crops, entomology, plant pathology, and soils with written and oral reports.

PS 492 Special Problems .....1-4 FSSu
Assigned readings, research, and written reports. Limit of four hours for B.S. degree. P, consent.

PS 494 Cooperative Education/Internship in Plant Science .....1-2 FSSu
Planned and supervised professional experience related to the plant sciences which takes place outside the formal classroom with private business, industry, or public agencies. Provides practical experience to supplement classroom training and reinforce career objectives. Written and oral reports required. Application for permission to register must be made prior to the experience. May be repeated for a maximum of 4 credits. P, consent of department program coordinator.

Dual Numbered Courses

PS 412-512 Environmental Soil Chemistry .....3 S (odd years)
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. P, Chem 120 or 111, PS 213, or consent from instructor.

PS 415-515 Mycology .....2 F (odd years)
Comprehensive taxonomic survey of the Kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship of fungi to human affairs. Crosslisted with Bio 415-515.

PS 415A-515A Mycology Lab 1

PS 420-520 Biological Control of Arthropods .....2 F (odd years)
Introduction to the principles of biological control of arthropod pest populations through the use of natural enemies, including parasites, parasitoids and predators. Topics will include the history, theory, and practice of biological control, and relevant aspects of the genetics, ecology and behavior of natural enemies. P, 305 or equivalent, or consent of instructor.

PS 420A-520A Biological Control of Arthropods Lab 1

PS 431-531 Applied Insect Ecology .....2 S (odd years)
An introduction to the principles of insect ecology and their application to pest management tactics. Ecological factors that affect pest and beneficial insects in agricultural environments will be examined. Topics include trophic relationship, population dynamics, sampling and life-table analysis, environmental heterogeneity and dispersal. P, 305 or equivalent, or consent of instructor.

PS 431A-531A Applied Insect Ecology Lab 1

PS 446-546 Agroecology..... 3 S (odd years)
Agroecology uses the science of ecology to study agricultural systems and solve agricultural problems using comparisons between altered and unaltered ecosystems. Including: nutrient cycling, energy flow, hydrology, climatology, species diversity, and population dynamics. Field trips required. P, 213 and Bio 101 or consent.

PS 450-550 Field Studies in Plant Disease Diagnosis 1
Diagnoses of diseases in field and horticultural crops; observing and studying the relationships among hosts, pathogens,and their environments. Emphasis on field disease recognition and laboratory diagnostic techniques. Alternate years. P, consent.

PS 450A-550A Field Studies in Plant Disease Diagnosis Lab 1

PS 453-553 Advanced Genetics .....3 F (even years)
Procedures in genetic studies as they relate to molecular and classical genetic applications. P, Bio 371. Crosslisted with Bio 453-553.

PS 462-562 Molecular Biology I .....2 F
Charge, Partitioning Migration of Molecules; Protein Structure, Enzymes; DNA Structure and Properties, Prokaryotic and Eucaryotic Conjugation, Transduction and Transformation; DNA Replication and Repair; Genetic Recombination; RNA Structure and Properties; RNA Replication and Repair; mRNA Synthesis and Processing; Kinetics; Chromosomes and Chromosome Replication. P, Micr 436, Chem 361, or consent. Crosslisted with Bio 462-562.

PS 464-564 Molecular Biology II..... 2 S
Structure of the nucleus; endocytosis; genome of mitochondria and chloroplasts; cell growth and division; cancer; immune system; pattern formation; homeoboxes; intracellular transport; gene expression and regulation. P, 562-662 or consent of instructor. Crosslisted with Bio 464-564.

PS 465-565 Molecular Biology II Laboratory ..... 2 S
Screening recombinant DNA libraries; DNA sequencing; analysis of proteins; detection of proteins; RNA transfer and hybridization analyses; use of nucleic acid and protein databases. P, 562-662, 563-663, or consent of the instructor. Crosslisted with Bio 465-565.

PS 480-580 Environmental Stress Physiology .....3 S (even years)
Physiology and cellular response of plants to environmental stresses. P, Bot 327. Crosslisted with HO 480/580.

PS 493-593 Special Topics .....1-6 (1-3 per credit) FSSu
Concentrated study, work, or discussion of a particular field in the plant science disciplines. Subject areas vary from semester to semester. Based on interest of students and professionals needing additional study and investigation of topics for which there is a current need but which are not part of a regular class. Offered on sufficient demand. P, consent of instructor.

Graduate Courses

PS 700 Special Topics..... 1-6(1-3 per credit) FSSu
PS 704 Virus & Bacterial Diseases of Plants .....2 F (even years)
PS 704A Virus & Bacterial Diseases of Plants Lab 2
PS 714 Genetics of Disease Resistance and Host-Plant Pathogen Interaction 3
PS 714A Genetics of Disease Resistance and Host-Plant Pathogen Interaction Lab 1
PS 720 Insect Anatomy and Physiology.....2 S (odd years)
PS 720A Insect Anatomy and Physiology Lab 1
PS 721 Integrated Crop Pest Management ..... 3 S (odd years)
PS 722 Behavioral Management of Insects .....2 F (even years)
PS 722A Behavioral Management of Insects Lab 1
PS 732 Field Studies in Pedology..... 2 Su (even years)
PS 733 Advanced Soil Genesis ..... 3 S (even years)
PS 741 Crop Breeding Techniques .....1 Su (even years)
PS 743 Physical Properties of Soils .....3 F (even years)
PS 744 Soil N, P, & K..... 3 S (odd years)
PS 745 Soil/Plant Secondary Macronutrients and Micronutrients ..... 2 S (even years)
PS 746 Plant Breeding ..... 3 S
PS 754 Chemical Properties of Soils..... 3 F (odd years)
PS 756 Quantitative Genetics .....3 S (even years)
PS 761 Taxonomy of Insects.....3 F (odd years)
PS 761A Taxonomy of Insects Lab 1
PS 763 Environmental & Physiological Aspects of Crop Production.....2 S (odd years)
PS 773 Cytogenetics.....2 F (odd years)
PS 773A Cytogenetics Lab 1
PS 780 Advanced Special/Research Problems .....1-2 FSSu
PS 781 Plant Science Graduate Seminar .....1 FS
PS 783 Crop-Water Relationships ..... 2 F (odd years)
PS 790 Thesis, MS. .....1-7 FSSu
PS 791 Thesis Sustaining .....0 FSSu
PS 797 Soil and Plant Analysis .....2 F (odd years)
PS 797A Soil and Plant Analysis Lab 1
PS 798 Biometrical Genetics 3
PS 799 Advanced Plant Breeding 3
PS 890 Dissertation, Ph.D. .....1-7 FSSu
PS 891 Dissertation Sustaining, Ph.D. ..... 0 FSSu

Psyc (Psychology)

Undergraduate Courses

Psyc 101 General Psychology ..... 3 FSSu
Concepts of development, learning, motivation, emotion, frustration, personality, and other basic behavioral processes. Prerequisite for all courses in psychology except 102. Note: credit will not be given for both Psyc 101 and 102.

Psyc 102 Introduction to Psychology ..... 4 F
Fundamentals of behavior, including maturation, physiological processes, sensation and perception, learning, motivation, emotion and frustration, personality, abnormal processes, and methods of investigation. P, major or minor in psychology or consent of instructor. Prerequisite for all courses in psychology taken by majors except transfers who have taken Psyc 101. Note: credit will not be given for both Psyc 101 and 102.

Psyc 202 Advanced General Psychology .....3 FS
Contemporary research related to psychological concepts expounded in Psyc 101 and 102. P, 101 or 102.

Psyc 301 Sensation and Perception..... 3 S
Examination of processes of sensation and perception including sensory mechanisms, cognitive analysis of sensory information, and attentional, motivational and conditioning effects on perception. P, 101 or 102.

Psyc 302 Psychological Investigations ..... 3 F
Methods of investigating human and animal behaviors. P, 101 or 102, Stat 341.

Psyc 303 Experiments in Psychology .....3 S
Review of representative past research in experimental psychology and execution of class laboratory projects. P, 302 or consent.

Psyc 305 Simple Learning & Conditioning .....3 F
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. P, 101 or 102.

Psyc 306 Human Learning & Cognitive Behavior .....3 S
Traditional human learning experimentation and human cognitive behavior such as perceptual-motor skills, verbal learning and behavior, transfer of training, concept formation, memory, natural language behavior, information processing, etc. P, 101 or 102.

Psyc 315 Research Methods in Psychology ..... 3 S
Overview of research methodology and literature for Psychology majors in the Applied or Psychological Services curricula. P, 101 or 102, Stat 341.

Psyc 324 Psychology of Aging .....3 F (alternate years)
Focuses on theories, research and practice concepts relevant to psychological factors in the aging process. Topics covered include cognition, personality, and death and dying.

Psyc 327 Child Psychology ..... 3 SSu
Physical, social, emotional and intellectual aspects of child development. May be counted as an education elective. P, 101 or 102.

Psyc 331 Business & Industrial Psychology ..... 3 F
Application of psychological principles to such problems as employee selection, supervision, job satisfaction, work efficiency and human engineering. P, 101 or 102.

Psyc 356 Psychological Assessment ..... 3 F
Diagnosis and classification by interview and observation techniques, and by intellectual achievement and aptitude, temperament and personality tests. Familiarization at the level of the professional assistant. P, 101 or 102.

Psyc 357 Psychological Therapies ..... 3 S
Traditional and contemporary methods of psychotherapy. Interviewing techniques and the professional assistant's role. P, 101 or 102.

Psyc 358 Behavior Modification ..... 3 S
Principles of learning applied to human behavior modification. P, 101 or 102.

Psyc 362 Theories of Personality ..... 3 S
Major personality theories, including psychoanalytic, stimulus-response and constitutional formulations. P, 101 or 102.

Psyc 366 Psychological Gender Issues ..... 3 S
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. P, 101 or 102.

Psyc 409 History & Systems of Psychology ..... 3 S
Origins and channels of psychological thought, from the British empiricists through major contemporary developments. P, 101 or 102.

Psyc 411 Physiological Psychology ..... 3 F
Role of physiological mechanisms in behavior. Nervous, biochemical and muscular systems that control or modify human and animal adjustment. P, 101 or 102.

Psyc 414 Drugs and Behavior ..... 3 S
Effects of psychoactive drugs on human behavior. History of social drug use. P, 101 or 102.

Psyc 441 Social Psychology ..... 3 F
Basic principles, concepts and methods utilized in analyzing individual and group interactions. P, 101 or 102.

Psyc 442 Health Psychology ..... 3 F (alternate years)
Provides an overview of research and theory on the psychological issues involved in health, focusing on wellness as well as on illness. The mechanisms underlying health and illness are examined. Interventions designed to implement healthy lifestyles and to manage illness and disability are presented. P, 101 or 102

Psyc 451 Abnormal Behavior ..... 3 FSSu
Causative factors, symptoms and treatment of major forms of abnormal behavior, including neurosis, psychosis and the psychophysiologic disorders. P, 101 or 102.

Psyc 490 Psychology Seminar ..... 1 F
Current employment trends and developments within the profession. Required of all majors. P, senior standing or consent.

Psyc 492 Problems in Psychology ..... 1-3 FSSu
Independent investigations. May be repeated for a total of 6 credits. P, 101 or 102, consent of a supervising staff member.

Psyc 493 Topics in Psychology 1-5
Selected topics of current interest in the discipline.

Psyc 495-496 Internship/Field Experience (Topical) ..... 3-12 FSSu
Planned and supervised professional experience which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator. Will not count toward minimum credit requirements in the major.

Dual Numbered Courses

Psyc 460-560 Topics in Psychology: (Topical) 1-4
An intensive examination of significant psychological issues, themes, or problems. May be repeated as topic changes for a total of 8 credits. P, 101 or 102.

Graduate Courses

Psyc 592 Special Problems in Psychology ..... 1-4 FSSu

PT (Physical Therapy)

Undergraduate Courses

PT 142 Intro to Physical Therapy &Occupational Therapy ..... 1 F
Introduces students to the professions of physical and occupational therapy.

PT 492 Special Problems in Sports Medicine 1-3
P, consent.

PT 495 Internship 1-12

PT 496 Field Experience ..... 1-12 FSSu
See HPER 496.

Rang (Range Science)

Undergraduate Courses

Rang 205 Introduction to Range Management ..... 3 F
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. Desirable antecedent*, Bio 101 or 311.

Rang 205A Introduction to Range Management Lab 0

Rang 210 Range Plant Identification ..... 2 F
Instruction and practice in the recognition of important native and introduced range plants of North America.

Rang 210A Range Plant Identification Lab 0

Rang 321 Wildland Ecosystems ..... 3 S (even years)
Structure, function and multiple-use management of the major wildland ecosystems of North America. Ecological concepts and renewable resource management strategies will be examined. Desirable antecedents, 205, Bio 101, 103.

Rang 325 Natural Resource Measurements ..... 3 F (even years)
Principles of sampling, field sampling methods, analysis of data and problem solving. Emphasis will be placed on measurement of important plant, animal and climactic attributes and on factors important in interpretation of that information. Field trips required. P, Stat 341. Desirable antecedent, 205.

Rang 325A Natural Resource Measurements Lab 0

Rang 400 Judging Teams 1

Section 4–Range Plant ID ..... 1 S
Instruction and practice in identification of important range plants of North America.

Rang 415 Range Improvements and Grazing Management ..... 3 F (odd years)
Management of rangelands for various products with emphasis on grazing animals. Planning and application of grazing systems, fire management, mechanical treatments, seedings and fertilization will be included. Two weekend field trips will be required.

Rang 425 Range Ecology Field Trip 3
Two week extended field trip to study major range ecosystems of the Great Plains and Rocky Mountains. Management problems of private ranches, public lands, wildlife refuges, and mining lands will be studied. Course scheduled independent of regular Summer Session. P, consent, of instructor. Special fee required.

Rang 494-495-496 Cooperative Education/Internship/ Field Experience .....1-12 FSSu
Supervised experience in range management activities for exposure to range management problems and solutions, evaluation of career objectives and final career planning. P, consent of program coordinator.

* All courses listed with desirable antecedents will be taught assuming subject matter knowledge in those desired courses.

Dual Numbered Courses

Rang 421-521 Grassland Fire Ecology .....3 F
The course is designed to describe the ecological effects of fire on grassland ecosystems. 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. P, consent; Crosslist with WL 421-521.

Rang 421A-521A Grassland Fire Ecology Lab 0

Rang 491-591 Research Problems in Range Science .....1-3 FSSu
Investigation of problems in Range Science with results submitted as a technical paper.

Rang 492-592 Special Topics ..... 1-3 FSSu
Advanced study of one or more selected topics in Range Science including Grassland Fire Ecology and Grazing Management.

Graduate Course

Rang 621 Grassland Fire Ecology 3

Rang 621A Grassland Fire Ecology Lab 0

Recr (Recreation)

Undergraduate Courses

Recr 205 Skill Concept: Recreational Activity .....1 F
Emphasis on student planning and leadership of recreational activities involving equipment, developing a resource notebook and gaining an appreciation for the variety of recreational opportunities. Crosslisted with PE 205.

Recr 260 Recreation Leadership ..... 2 S
Philosophy and interpretations of leadership as it relates to recreational activities.

Recr 330 Therapeutic Recreation ..... 3 F (odd years)
Theoretical and philosophical foundations of therapeutic recreation, behavioral, therapeutic use of activity; recreative interaction-intervention techniques; survey of major services and agencies. P, HPER 180.

Recr 342 Recreational Sports Programming and Administration..... 2 F
Organization and administration of intramural sports on elementary, secondary, college, and university levels. Program planning, facilities, equipment and financing of intramural sports program. P, sophomore standing. Crosslisted with PE 342.

Recr 350 Recreation Facilities and Area Design ..... 3 F (even years)
An introduction to the principles and practices of planning, financing, management and maintenance of recreation facilities. P, junior or senior standing.

Recr 395 Practicum in Recreation .....1-3 FSSu
Practicum in a supervised recreational experience with a strong emphasis on leadership and supervisory responsibilities. Required of Public Recreation majors before the internship. P, consent.

Recr 414 Current Issues in Recreation .....3 S
Individual reports and group discussions on recent research and management developments in recreation; employment opportunities and procedures for employment. Taken before the internship. P, consent. Crosslisted with HPER 490.

Recr 440 Administration of Leisure Services..... 3 S
Organization and administration of community recreation, program planning and recreational program areas. P, junior or senior standing, HPER 180.

Recr 491 Independent Study in Recreation .....1-9 FSSu
Designed to help students learn about areas of recreation for which there are no courses. P, consent.

Recr 495-496 Recreation Internship/Field Experience .... 1-12 FSSu
Planned and supervised professional experience related to recreation administration which takes place outside the formal classroom with public agencies, governmental units or private business. P, consent and 2.4 GPA.

Rel (Religion)

Rel 213 Introduction to Religion .....3 FS
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 a public and pluralistic setting.

Rel 224 Old Testament..... 3 F
The history, writings and selected theological themes of the Old Testament.

Rel 225 New Testament ..... 3 S
The history, writings and selected theological themes of the New Testament.

Rel 237 Religion in American Culture .....3 FS
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.

Rel 238 Native American Religions .....3 S
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.

Rel 331 Feminism and Theology .....3 S
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.

Rel 332 Environmental Ethics..... 3 F
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 with Phil 332.

Rel 351 World Religions I..... 3 F (alternate years)
Hinduism, Buddhism, Judaism, and New Religions. May not be taken for credit by students who have received credit for Rel 350 (formerly 338).

Rel 352 World Religions II..... 3 F (alternate years)
Chinese Religions, Japanese Religions, Islam and Tribal Religions. May not be taken for credit by students who have received credit for Rel 350 (formerly 338).

Rel 360 Moral and Ethical Perspectives on Death and Dying ..... 3 FSSu
Attitudes and issues that focus on death and dying in society, the religious and moral dimensions of these attitudes and issues. P, 213 or Phil 100, or consent of instructor.

Rel 370 Philosophy of Religion ..... 3 FS
Topics such as proofs for the existence of God, religious knowledge, religious language, religious pluralism, and the nature of religious experience. Crosslisted with Phil 370. No prerequisites.
Rel 401 History of Western Religious Thought I .....3 F
This course surveys important issues in western religious thought from first century Christian origins through the "great medieval synthesis" of the thirteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon emergence and growth of Christian doctrine and ecclesiology. Crosslist with Hist 401.
Rel 402 History of Western Religious Thought II 3
This course surveys important issues in western religious thought from "great medieval synthesis" of the thirteenth century through the Reformation and Counterreformation of the sixteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian doctrine. Crosslist with Hist 402.
Rel 493 Topics in Religion 1-5
Selected topics of current interest in the discipline.
Rel 495 Internship ..... 1-12 FSSu
Planned and supervised professional experience which takes place outside the formal classroom with private business or industry, or public agencies. P, consent of department program coordinator.

Dual Numbered Courses

Rel 492-592 Special Problems in Religion ..... 1-3 FSSu
Individual guided research culminating informal research paper or series of essays. May be repeated until 6 credits are earned.

RTVF (Radio, Television, and Film)

Undergraduate Courses

RTVF 130 Intro to Radio & TV ..... 3 F
History, structure, regulation, and financial support; potentialities and limitations; public responsibilities, impact on society. Crosslisted with MCom 130.
RTVF 144-445 Mass Communication Activities .....1 FSSu
Credit earned by active participation in broadcasting and film activities. May be repeated until eight activity credits are earned. P, consent.
Section I: Radio. P, consent of instructor.
Section II: Television. P, consent of instructor.
Section III: Film. P, consent of instructor
RTVF 160 Introduction to Film ..... 3 F
Film as art; themes and inventions; films and society; introduction to the camera.
RTVF 330 Writing for Radio & TV .....3 S
Preparation of continuities such as commercials, public service announcements, talks, interviews, drama, documentaries, and educational programs. Crosslisted with MCom 330.
RTVF 330A Writing for Radio & TV Lab 0
RTVF 331 Television Production ..... 3 FS
Experience in the production and direction of television programs. Includes preparation and presentation of talks, interviews, discussion, extension and community services for TV broadcast. Crosslisted with MCom 331.
RTVF 331A Television Production Lab 0
RTVF 332 Radio News Reporting ..... 3 FS
Crosslisted with MCom 332.
RTVF 332A Radio News Reporting Studio 0
RTVF 333 Television News Reporting ..... 3 FS
Crosslisted with MCom 333.
RTVF 333A Television News Reporting Studio 0
RTVF 335 Broadcast Programming ..... 3 S
Program types and essentials of effective structure. Audience characteristics and preferences. Managerial problems. Special consideration of agricultural, commercial, and educational broadcast requirements. Crosslisted with MCom 335.
RTVF 336 Radio News Lab 1-3
RTVF 360 Film Narrative .....3 S
Myths, values and beliefs as expressed in selected films; forms, styles, and directors. P, RTVF 160.
RTVF 431 Advanced Television Production .....3 S (alternate years)
Integration of various aspects of broadcasting techniques and production.
RTVF 431A Advanced Television Production Lab 0
RTVF 433 Advanced TV News Reporting 3
RTVF 433A Advanced TV News Reporting Studio.....0
RTVF 492 Special Problems in Radio, TV, Film .....1-2 FSSu
Directed research. May be repeated for a total of 6 undergraduate credits. P, consent.
RTVF 493 Topics in Radio, TV and Film 1-5
Selected topics of current interest in the discipline.

Dual Numbered Courses

RTVF 437-537 Educational & Corporate TV 3 (offered on demand)
Educational broadcasting with practical work in preparation and presentation of educational and instructional materials for radio, TV, and film and their use in the classroom. Crosslisted with MCom 437-537.
RTVF 464-564 Film Studies .....3 (alternate years)
Film art forms, artists and critics. Viewing and making films. Emphasis on major film theories.

Graduate Courses

RTVF 762 Special Problems in Radio, TV, or Film ..... 1-2 FSSu
RTVF 792 Research Methods in Communications 3

Russ (Russian)

Undergraduate Courses

Russ 101-102 Introductory Russian I-II..... 4 FS
Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage.
Russ 201-202 Intermediate Russian I-II..... 3 FS
Aims of First Year Russian continued. More intensive drill of both grammar and conversation. Emphasis on conversation, grammar review, and the short story. P, 101-102.
Russ 381 Workshop in Russian..... 1-4
Skills acquired in basic Russian will be drilled intensely. Designed for students preparing for study in Russia. P, 202 or consent.

SeEd (Secondary Education)

Undergraduate Courses

SeEd 287 Practicum & Professional Lab..... 2 FS
Introduction to effective instructional procedures. Observation and work experience in elementary, junior high, and senior high schools.
SeEd 314 Supervised Clinical/Field Experience .....1 FS
Supervised students will observe and practice various teaching strategies in lab setting, middle schools, and high schools. P, 287, EdFn 338 or VTE 405, VTE 287 or FCS 293.
SeEd 400 Curriculum and Instruction in Secondary Schools ....3 FS
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.
SeEd 405 Audio-Visual Methods & Materials..... 1 FS
Media used in instruction and communication. Emphasis on developing materials for use in the classroom. Small group laboratory sessions correlate with large group demonstration/ lectures. You will also become familiar with the operation of audio-visual equipment. Education elective.

SeEd 405A Audio-Visual Methods & Materials Lab 0

SeEd 410 Social Foundations, Management, & Law ..... 2 FS
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.

SeEd 412 Methods of Teaching Social Studies in Secondary Schools .....3 FS
Designed for prospective teachers of social studies. Course focuses on theories, methods, processes, organization patterns and materials used for teaching social studies and the individual disciplines of economics, geography, history, political science, psychology and sociology. Course includes focus on practice teaching in classroom settings using models of instruction most appropriate for social studies. Required for majors in all of the social sciences. Strongly recommended for social science minors.

SeEd 416 Strategies in Science Teaching ..... 3 F
Theories, methods, applications, and training common to all sciences and scientific behavior. Emphasis will be given to individual science majors who plan to teach in Biology, Chemistry, Physics, and General Science. Required of all science majors. Strongly recommended for Science minors.

SeEd 420 Teaching Special Needs Students .....1 FS
Explores educational and legal perspectives involved in teaching students with special needs in the content area classroom. Instructional and classroom management strategies will be addressed. P, Admission to Professional Semester III.

SeEd 450 Teaching of Reading ..... 3 FS
Designed for secondary content teachers. Basic principles of reading and comprehension, and practical experience in relating principles to everyday demands of the content classroom. A special emphasis upon content instruction which meets the reading/comprehending abilities of individual students. P, EdFn 375, SeEd 287, junior standing, must be taken concurrently with EPsy 302 and SeEd 314, education student. Required for certification.

SeEd 488 Supervised Teaching Internship ..... 10 FS
Assigned in the individual student's major, or if appropriate, the teaching minor. An experiential application of teaching pedagogy and content for an extended period of time. Application must be made through the Placement Supervisor. P, Professional Semester I courses, Professional Semester II courses, acceptance and admittance into Professional Semester III. Application procedure required.

SeEd 491 Directed Studies in Selective Topics..... 1-9 FSSu
A student who is interested in studying a certain topic or acquiring a particular skill in which a faculty member is competent but which is not covered by regular courses at SDSU, may undertake a program of directed study. The work will be planned and implemented by the student and the instructor, with department head approval. Written permission of Department Head required.

SeEd 492 Problems in Education 1-3
Selected studies and activities to meet the needs of undergraduate students. Written permission of Department Head required.

SeEd 493 Undergraduate Course Specials: (Topical) .....1-5 FSSu
Ten or more students who wish to study a topic in which a faculty member is competent but which is not covered by regular courses at SDSU may propose a Special. The duration, subject matter, amount of credit and mode of grading will be planned by the instructor and students, under the general supervision of the head of the department in whose discipline and under whose supervision the Special will be taught. If more than one department is involved, a committee composed of the various department heads and the dean will exercise these supervisory duties. In such cases the Special will be crosslisted. The project will require the approval of the faculty of the department or departments affected.

SeEd 494-495-496 Cooperative Education/Internship/ Field Experience 3-12
Planned and supervised professional experience related to Secondary Education which takes place outside the formal classroom with private business or industry, or public agencies. Written permission of Department Head required.

Dual Numbered Courses

SeEd 481-581 Workshop ..... 1-3 FSSu
Special areas in secondary education are comprehensively explored in an intensive time framework. Designed to increase specific skills and understanding in a current area.

SeEd 490-590 Special Topics .....1-3 FSSu
Advanced courses taught on demand covering such topics as questioning techniques, classroom management, systematic observations of teaching, school policy making, changing roles in education, computer applications, etc.

Graduate Courses

SeEd 672 Motivation and Discipline .....3 FSu
SeEd 682 Seminar..... 1-3 FSSu
SeEd 691 Problems..... 1-3 FSSu
SeEd 740 Secondary School Curriculum..... 3 FSu
SeEd 792 Research Problems in Education .....2 FSSu

Soc (Sociology)

Undergraduate Courses

Soc 100 Introduction to Sociology .....3 FSSu
Comprehensive study of society, with analysis of group life, and other forces shaping human behavior.

Soc 150 Social Problems .....3 FS
Present day problems in American society, such as racism, sexism, ageism, alcoholism, drug addiction, physical and mental health, war and environmental issues—their significance and current policies and action.

Soc 233 Introduction to Leadership .....1 F
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 Sociology of Rural America..... 3 FS
Rural society, rural communities, population composition and trends, social processes; social participation in rural organizations and agencies; and changing relationship between country and city in contemporary society.

Soc 250 Marriage .....3 FS
Courtship and marriage period given special emphasis. Mate selection problems, adjustments in marriage, reproduction, child-parent relations, divorce, and later years of marriage.

Soc 270 Introduction to Social Work ..... 3 FS
History of social work methods, social services to children, family, aged, public welfare clients, mentally ill, and the criminal justice system.

Soc 292 Special Problems..... 1-3 FS
Individualized instruction of an independent nature. P, major or minor, freshman or sophomore, and consent. (Limit of 6 hours of Special Problems toward major.)

Soc 301 Intermediate Sociology ..... 3 FS
Advanced principles of sociology: development of a sociological perspective, conceptual framework and elements of sociological theory and analysis. P, 100.

Soc 309 Research Methods I ..... **3 FS**
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 310 Research Methods II ..... **3 FS**
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. P, 100, 309.

Soc 325 Domestic Violence ..... **3 S**
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.

Soc 330 Self and Society ..... **3 F**
Focus of attention on the nature of social interaction and the dynamic social activities taking place. Includes examination of self-concept, self-attitudes as well as the perception and interpretation of others. P, 100.

Soc 340 Urban Sociology ..... **3 S**
Patterns of urban growth, demographic and ecological processes, institutions, folkways, dynamics of social class, and social problems of modern city and urban fringe areas.

Soc 350 Ethnic and Racial Groups ..... **3 S**
Intergroup relations. Particular focus on ethnic and racial groups in the U.S. and Upper Midwest. Cross-Cultural Comparisons.

Soc 351 Criminology ..... **3 FS**
Nature and causes of crime. Theories of punishment. Agencies and methods of arrest, conviction, and segregation of criminals. Jails, prisons and reformatories. Probation and parole.

Soc 353 Sociology of Work ..... **3 F**
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.

Soc 354 Victimology ..... **3 (on demand with sufficient enrollment)**
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 362 Population Problems ..... **3 FS**
Theories of population: factors involved in birth rate, death rate, and migrations. Social consequences of population change; problems of population composition and population policy.

Soc 370 Social Policy ..... **3 F**
Development of social welfare legislation; current trends and issues in, and implementation and administration of social policy in a variety of practice areas.

Soc 382 The Family ..... **3 FS**
Development 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.

Soc 383 Sociology of Sex Roles ..... **3 S**
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.

Soc 401 Sociological Theory ..... **3 FS**
Introduction to the classics in social theory, various schools of social thought, and modern developments in the discipline. Introduction to the major ideas of the classical and modern theorists, the social environment in which they wrote, and the implications of their contributions. P, 100 and 301 or consent.

Soc 453 Industrial Sociology ..... **3 S**
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 471 Social Work Skills & Methods I ..... **3 S**
Basic concepts and methods common to all social service practice; focus on developing interactional skills. P, 270, to be taken prior to internship.

Soc 490 Seminar ..... **1-3 FSSu (on demand)**
Focus will vary in areas of sociology, anthropology, teaching and research, and by option. Can be repeated. P, 100.

Soc 492 Special Problems ..... **1-3 FSSu**
P, major or minor and junior or senior standing and prior consent of instructor. (Limit of 6 hours of Special Problems toward major.)

Soc 493 Topics in Sociology ..... **1-3 FS (on demand)**
Selected topics of current interest in Sociology. Subject areas vary from semester to semester based on general interest appeal.

Soc 494-495-496 Cooperative Education/Internship/ Field Experience ..... **1-12 FSSu**
Planned and supervised professional experience related to Sociology which takes place outside the formal classroom with business, industry, private/public agencies. Credit will not count toward meeting minimum requirements of the major or minor. May be repeated until 12 credits are earned. Graded P or F. P, major, consent of department program coordinator, minimum GPA of 2.2 to enroll in program.

Dual Numbered Courses

Soc 402-502 Social Deviance ..... **3 F**
This course will examine the nature of negatively evaluated behaviors and the process by which customs, rules and normative structure of society are constructed. A primary goal of the course is the development of a coherent interpretation of contemporary theories and empirical investigations of social deviance. P, undergraduate or graduate and consent of instructor.

Soc 433-533 Leadership & Group Organization **3**
Emergence of leadership patterns. Emphasis on group dynamics, small groups, and leadership in management. P, undergraduate or graduate and consent of instructor.

Soc 451-551 Juvenile Delinquency ..... **3 FS**
Causes of delinquency; patterns of delinquent behavior; Juvenile and alternative solutions currently in operation throughout the US which attempt to reduce the incidence of juvenile delinquency.

Soc 452-552 Sociology of Corrections ..... **3 F (alternate years)**
An examination of the history of adult and juvenile treatment and punishment. Emphasis is upon contemporary community based treatment as well as traditional prison-based incarceration. The process of sentencing, particularly the role of the PSI is covered. Special attention is devoted to internship and career possibilities in the corrections arena.

Soc 460-560 Advanced Criminology ..... **3 S**
A variable topics course concentrating on the most current trends and issues in the field of Criminology. The class is a lecture-discussion seminar format. Topics regularly covered in past seminars have been: terrorism, middle and upper level drug use and dealing, computer crime, organized crime, crime in corporate America, and ethnic-group criminal activities.

Soc 480-580 Sociology of Law ..... **3 S (alternate years)**
This course focuses on the relationship between law and society. Topics focus on 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. P, 351.

Graduate Courses

(see department for schedule of offerings)

Soc 620 Social Organization 3
Soc 621 Social Stratification 3
Soc 630 Social Change 3
Soc 640 Rural Community Planning 3
Soc 709 Evaluation Research 3
Soc 710 Research Methods ..... 3 S
Soc 711 Qualitative Research Methods ..... 3 F
Soc 712 Sociological Theory I ..... 3 F
Soc 713 Sociological Theory II ..... 3 S
Soc 714 Theory Construction 3
Soc 716 Symbolic Interaction 3
Soc 720 Profession of Sociology ..... 3 S
Soc 762 Demographic Resources and Materials 3
Soc 764 Modern Demographic Theory 3
Soc 766 World Population Issues 3
Soc 780 Special Problems in Sociology ..... 1-3 FSSu
Soc 781 Internship in Planning ..... 1-6 FSSu (Pass/Fail)
Soc 790 Thesis ..... 1-7 (Pass/Fail)
Soc 791 Thesis Sustaining ..... 0 FSSu
Soc 792 Seminar ..... 1-4 (on demand) FSSu
Soc 890 Dissertation, Ph.D. as arranged ..... 1-12(Pass/Fail)
Soc 891 Dissertation Ph.D. Sustaining ..... 0 FSSu

Span (Spanish)

Undergraduate Courses

Span 101-102 Introductory Spanish I-II ..... 4 FS
Fundamentals of Spanish are introduced to aid students in learning to understand, speak, read, and write simple Spanish. Hispanic culture is discussed. Classwork may be supplemented with required aural/oral practice outside of class.

Span 201-202 Intermediate Spanish I-II ..... 3 FS
Aims of First Year Spanish continued. Students work more intensively on the development of all skills and on their knowledge of the Hispanic world. Students planning to receive a Spanish major or minor are encouraged to take 311-312 concurrently. P, 102 or equivalent.

Span 283 Applied Spanish (Topical) 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. P, 102 or consent. Classwork may be supplemented by work in the language laboratory.

Span 311-312 Spanish Composition & Conversation ..... 2 FS
Intensive practice in composition and conversation. Classwork may be supplemented by work in the language laboratory. P, 202 or concurrent.

Span 353-354 Spanish Literature 3
Introduction to Spanish literature through reading and discussion in Spanish of recognized works. P, 202 or consent.

Span 355-356 Spanish American Literature 3
Introduction to Spanish American literature through reading and discussion in Spanish of recognized works. P, 202 or consent.

Span 383 Business Spanish 2-3
An introduction to the Spanish language of everyday business dealings and an overview of practical and relevant information necessary for people doing business in Spanish-speaking countries. P, 312 or consent.

Span 411-412 Spanish Advanced Composition & Conversation 2
Development of all language skills to achieve greater accuracy and fluency. P, 312 or consent.

Span 433-434 Spanish Culture and Civilization 1-3
Study of the daily life-ways and significant accomplishments of Spain in the past and present.

Span 435-436 Spanish American Culture and Civilization 1-3
Study of the daily life-ways and significant accomplishments of Spanish American countries in the past and present.

Span 443 Advanced Spanish Grammar 3
In-depth study of traditional grammar as well as an introduction to linguistics as it applies to Spanish. Practical application. Strongly recommended for future teachers and bilingual secretaries. P, 202.

Span 476 19th and 20th Century Spanish Literature 3
Major movements and works. Reading, writing and discussions in Spanish. Topics vary. P, 353-354 or consent.

Span 484 20th Century Spanish American Literature 3
Major movements and works. Reading, writing and discussions in Spanish. Topics vary. P, 355-356 or consent.

Span 492 Special Problems 1-3
Readings and discussions in Spanish as directed by the instructor. May be repeated for credit. P, 202 and consent of the instructor.

Span 493 Topics in Spanish 1-3
Special courses designed to complement the existing curriculum. Will be offered only when student demand and staff availability warrant.

Graduate Course

Span 592 Special Problems 1-3

SpCm (Speech Communication)

Undergraduate Courses

SpCm 101 Fundamentals of Speech ..... 3 FSSu
Required of all students unless granted advanced placement. Emphasis on skill development in research, organization, style, delivery, and listening necessary for effective oral communication.

SpCm 101A Fundamentals of Speech Lab 0

SpCm 201 Interpersonal Communication ..... 3 FS
Current theories and practice in interpersonal communication; stress verbal and non-verbal activity.

SpCm 210 Individual Contest Events ..... 2 F (alternate years)
Introduction to and performance of Extemporaneous Speaking, Original Oratory, and Lincoln-Douglas Debate. Judging and tournament operation experience are included.

SpCm 281 Forensic Activities ..... 1 FS
Active participation in the intercollegiate Forensics program. Activities include competitive debate, oral interpretation, and public speaking. Workshops and non-competitive public performances may also be included. A minimum of 4 performances is required. May be repeated for a total of 8 credits. P, consent of the Director of Forensics.

SpCm 315 Public Speaking ..... 3 FS
Theory and practice of public speaking, including speaking for special occasions. P, 101 or consent of instructor.

SpCm 322 Argumentation and Debate ..... 3 S (alternate years)
Focuses on theories of argumentation and debate practice.

SpCm 334 Discussion ..... 3 FS
Nature, values, and limitations of discussion. Theory and practice.

SpCm 340 Oral Interpretation ..... 3 FS
The oral interpretation of literature in a non-competitive setting. Includes the study of prose, poetry, and drama for oral performance. Includes methods of analysis, interpretation, delivery techniques, and preparation leading to the public oral performance of literature.

SpCm 375 Teaching of Speech ..... 3 F (alternate years)
Problems of the speech teacher. Curriculum, instructional materials, and methods.

SpCm 442 Group Performance of Literature ..... 3 S (alternate years)
Various styles of Reader's Theatre are studied. Includes solo and group performance of multiple literary selections. P, 340 or consent.

SpCm 492 Special Problems .....1-2 FSSu
Directed research. May be repeated for a total of 6 undergraduate credits. P, consent.
SpCm 493 Topics in Speech Communication 1-5
Selected topics of current interest in the discipline.

Dual Numbered Courses

SpCm 416-516 Rhetorical Criticism .....3 F (alternate years)
Critical evaluation of American speakers from Colonial to contemporary. P, consent.
SpCm 452-552 General Semantics .....3 F (alternate years)
Relations between symbols; human behavior in reaction to symbols including unconscious attitudes, linguistic assumptions; and the objective systematization of language. Crosslisted with Ling 452-552.

Graduate Courses

SpCm 700 Instructional Methods in Communication .....3 F
SpCm 707 Speech/English/Drama for Teachers 1-3
SpCm 766 Rhetorical Theory .....3 F (alternate years)
SpCm 790 Thesis ..... 1-7 FSSu (Pass/Fail)
SpCm 791 Thesis Sustaining ..... 0 (Pass/Fail)
SpCm 792 Special Problems in Oral Interpretation ..... 1-2 FSSu
SpCm 794 Special Problems in Public Address .....1-2 FSSu

Stat (Statistics)

Undergraduate Courses

Stat 341 Statistical Methods I .....3 FSSu
Concepts in probability, data description, distributions, sampling, statistical inferences (parametric and non- parametric). P, Math 113 or 102.
Stat 381 Mathematical Statistics .....4 FS
Statistical methods and probability, especially in engineering and physical sciences. Common single and multiple variable densities and moment generating functions. Applications of random sampling to hypothesis testing, confidence limits, correlation, and regression. P, Math 225 or consent. Crosslisted with Math 381.
Stat 442 Analysis of Variance and Regression ..... 3 S
Data interpretation, hypothesis testing and modeling with analysis of variance and regression. P, 341 or 381.

Dual Numbered Courses

Stat 441-541 Statistical Methods II .....3 FS
P, 341 or Math/Stat 381, CSc 210 or 410 or consent of instructor.
Stat 445-545 Nonparametric Statistics ..... 3 F
Stat 481-581 Statistics for the Physical Sciences ..... 3 FS

Graduate Courses

Stat 662 Quality Control ..... 3 FS
Stat 751 Interpretation of Statistical Software Output .....2 S
Stat 761 Experimental Design .....3 S
Stat 792 Special Topics in Statistics ..... 1-3 (6 max/student)

Thea (Theatre)

Undergraduate Courses

Thea 100 Introduction to Theatre .....3 FS
Background of theatrical arts: production, plays, history, and theory.
Thea 131 Acting .....3 FS
Basics of acting.
Thea 135 Theatre Activities – Acting .....1 FSSu
Credit earned by active participation in acting roles. May be repeated for a total of 8 credits. P, consent.
Thea 145 Theatre Activities – Technical Theatre ..... 1 FSSu
Credit earned by backstage and crew work. May be repeated for a total of 8 credits. P, consent.
Thea 195 Theatre Activities – Special Projects .....1 FSSu
Credit earned by completing selected theatre projects. May be repeated for a total of 8 credits. P, consent.
Thea 240 Stage Costuming .....2 F (alternate years)
Historic, aesthetic, and functional elements of costume design.
Thea 241 Stagecraft .....3 FS
Theory and practical experience in theatre production. Lab work on two major theatre productions.
Thea 241A Stagecraft Lab 0
Thea 243 Make-up for the Stage .....3 FS
Principles and application of stage make-up.
Thea 351 Directing ..... 3 F
Play directing. Theory and practice.
Thea 355 Children's Theatre .....3 S (alternate years)
Children's theatre as an art form. Students become proficient in organization, design, and presentation of a children's theatre program. P, 131 or 100.
Thea 397 Theatre Arts Management .....3 F (alternate years)
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. P, 100, 131.
Thea 435 History of the American Musical .....3 S (alternate years)
History and development of American Musical Theatre from 1866 to the present. P, consent.
Thea 441 Scene Design ..... 3 S (alternate years)
History of set design, planning and designing for stage.
Thea 445 Lighting for Stage & TV ..... 3 F (alternate years)
Theatre and TV lighting. Lab and production participation
Thea 445A Lighting for Stage & TV Lab 0
Thea 455 Advanced Acting .....3 S
Textual analysis, movement and acting styles for the theatre. P, consent.
Thea 485 Summer Theatre ..... 5 Su
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. P, consent.
Thea 492 Special Problems .....1-2 FSSu
Directed research. May be repeated for a total of 6 undergraduate credits. P, consent.
Thea 493 Topics in Theatre 1-5
Selected topics of current interest in the discipline.

Dual Numbered Courses

Thea 410-510 Dramatic Literature ..... 3 F (alternate years)
Analysis of important drama through present day.
Thea 460-560 History of Theatre ..... 3 S (alternate years)
Periods, theatres, and representative dramatic literature from the classical to the present day.

Graduate Courses

Thea 792 Special Problems ..... 1-2 FSSu

Vet (Veterinary Science)

Undergraduate Courses

Vet 101 Animal Care and Welfare .....1 FSSu
Training course in the care and handling of animals.

Vet 103 Introduction to Veterinary Medicine .....1 F
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 223 Anatomy & Physiology of Livestock..... 4 S
General principles of anatomy and physiology are applied to all animals and avians, as well as humans. Important facets are discussed in relation to application to other disciplines. P, Chem 120.

Vet 223A Anatomy & Physiology of Livestock Lab 0

Vet 403 Animal Diseases & Their Control..... 3 F
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 assessment of disease impact.

Vet 494-495-496 Cooperative Education/Internship/Field Experience ..... 1-12 FSSu
Consent of department head required.

Dual Numbered Courses

Vet 424-524 Medical and Veterinary Virology ..... 4 S (odd years)
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. Laboratory exercises emphasize techniques in virus isolation, characterization, and detection by immunological assays. P, Micr 422 or consent. Crosslisted with Micr 424-524.

Vet 424A-524A Medical and Veterinary Virology Lab 0

Vet 490-590 Problems in Veterinary Science .... 1-3 (as arranged) FS
Consent of department head required.

Graduate Courses

Vet 723 Systemic Physiology .....4 F (odd years)

Vet 723A Systemic Physiology Lab 0

Vet 792 Special Problems .....1-4 FSSu

Vet 793 Special Topics ..... 1-3 FSSu

VTE (Vocational Technical Education)

Undergraduate Courses

VTE 105 Principles of Vocational Technical Education 1-3
A study of vocational technical education terminology, service areas, instructional programs and basic principles of vocational technical education.

VTE 190 Technical Specialty: 1-32
(Name of the technical program.) Granted to students who have successfully completed an approved program from a vocational technical institute or school.

VTE 201 Mentorship/Practicum I .....2 F (alternate years)
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.

VTE 202 Mentorship/Practicum II.....2 S (alternate years)
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 VTE 201.

VTE 208 Occupational Internship I 1-3
Coordinated work experience in an occupation related to a specific vocational education content area. Prior application is required. Prerequisite: Permission of Instructor.

VTE 251 Occupational Analysis.....1-3
An analysis breakdown of a trade or occupation to determine units for instruction.

VTE 287 Practicum in Vocational Education 1
Introduction to effective instructional practices and the roles of the vocational educator in competency-based vocational education: agriculture or family and consumer sciences. Observation and field experience in middle school and/or high school vocational classroom.

VTE 301 Mentorship/Practicum III .....2 F (alternate years)
This class is the third class in a two-year mentorship/practicum program designed for new faculty in their second year in 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 VTE 201 and 202. Emphasis will be placed on developing leadership skills and abilities in the education profession.

VTE 302 Mentorship/Practicum IV .....2 S (alternate years)
This course is the fourth class in a two-year mentorship/practicum program designed for new faculty in their second year in 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 VTE 201, 202 and 301. Emphasis will be placed on developing leadership skills and abilities in the education profession.

VTE 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 VTE 208 and substantiate a progressive educational experience. Prior application is required. Prerequisite: VTE 208 and prior approval of instructor.

VTE 311 Vocational 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.

VTE 312 Technical Education 1-3
Technical education programs are studied in regard to their development, curriculum content, equipment, and staff requirements.

VTE 313 Organization and Coordinating 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.

VTE 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.

VTE 352 Instructional Resources Development 2
Study of instructional materials, sources and application; emphasis on principles for making resources useful to VTE teachers. Construction and application of materials required.

VTE 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.

VTE 380 Technical Industrial Training 0.5-6
(Registration is initiated by submitting VTE 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 VTE 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.

VTE 405 Philosophy of Vocational Technical Education..... 2 FS
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. For prospective teachers and guidance personnel. P, sophomore in education.

VTE 408 Occupational Internships III 1-3
Coordinated work experience in an occupation related to a specific vocational education content area. Coordinated plan must build upon VTE 308 and substantiate a progressive educational experience. Prior application is required. Prerequisite: VTE 308 and prior approval of instructor.

VTE 419 Methods of Teaching.....2-3
The identification and analysis of factors essential to helping students learn; types of teaching situations and techniques; measuring results and evaluating student progress in laboratory and related technical content area. Junior field experience fee assessed.

VTE 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.

VTE 440 Vocational Technical Curriculum.....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.

VTE 457 Instructional Technology 2
Visual aids used in vocational and technical education and their relationship to the various occupational areas.

VTE 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.

VTE 474 Industrial Conference Leading 1-3
Methods, procedures and techniques utilized by the vocational technical educator in arranging and conducting conferences with industrial personnel.

VTE 475 Vocational Youth Organizations 1-3
Methods of establishing organizations at the local level.

VTE 476 Seminar in VTE.....2-3
Discussion and research concerning selected problems in vocational technical teaching and in industry.

VTE 477 Job Analysis and Employee Evaluation 3
Analyzing jobs and evaluating employee performance for purposes of training, promotion, salary adjustments, and establishing hiring criteria.

VTE 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.

Dual Numbered Courses

VTE 473-573 Special Problems 1-4
Directed reading and research in selected individual topics.

VTE 490-590 Special Topics 1-3
Advanced courses taught on demand covering such topics as computer applications, state and federal rules and regulations, new curriculum development, etc.

Graduate Courses

VTE 599 Methods of Teaching 2-3
VTE 625 Development of Vocational Education Thought & Practice..... 3 Su
VTE 700 Technology in Vocational Education 3
VTE 710 Curriculum Design in Vocational Education 3
VTE 720 Entrepreneurship in Vocational Education 3
VTE 730 Cooperative Education Coordination Techniques 3
VTE 731 Administration & Supervision of Vocational Education ..... 3 Su
VTE 743 Special Topics 1-3
VTE 751 Curriculum in Family Consumer Sciences Education..... 2
Cross-listed with FCSE 751.
VTE 761 Evaluation in Family Consumer Sciences 2
Cross-listed with FCS 761.
VTE 776 Curriculum in Agricultural Education 2
Cross-listed with AgEd 776.
VTE 782 Seminar 1-3
VTE 789 Graduate Internship..... 1-3
VTE 790 Thesis in Vocational Technical Education 5
VTE 791 Thesis Sustaining in Vocational Technical Education 0
VTE 792 Research Problems 2
VTE 793 Problems 1-3

WEL (Wellness)

Undergraduate Courses

WEL 100 Skills for Healthy Living 1
Interdisciplinary survey of topics pertaining to healthy lifestyle choices. Lecture topics will include cardiovascular fitness, addictive behaviors, nutrition and weight control, stress management, and sexually transmitted diseases. Laboratories introduce students to physical activities that can be used across the lifespan and will apply the theories and concepts presented in the lectures. Students must register for WEL101-119 when registering for WEL 100.

WEL 101-119 Skills for Healthy Living Labs 1
Students must register for WEL 100 when registering for wellness lab (WEL 101-119).

101 Aerobics
102 Racquet Activities
103 Road Work
104 Dance
105 Running and Walking
106 Cross Training
107 Court Activities
108 Field Activities
109 Water Conditioning
110 Strength Training
111 Circuit Weight Training
112 Cardiovascular Training
113 Outdoor Activities
114 Walking/Hiking
115 Individual Activities
116 Challenge Activities
117 Mind-Body
118 Restricted
119 Special Topics

WL (Wildlife & Fisheries Sciences)

Undergraduate Courses

WL 110 Environmental Conservation ..... 2 FS
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.

WL 220 Introduction to Wildlife and Fisheries Management .....2 F
An introduction to the basic principles used in the management of wildlife and fish populations. The course is directed toward the presentation of general concepts.

WL 230 Wildlife and Fisheries Techniques ..... 3 S (even years)
Techniques involved with the collection and analysis of wildlife and fisheries population and habitat information and data are the primary contents of the course. P, 220.

WL 292 Research Problems .....1-3 FSSu (as arranged)
Individualized instruction on specific research problems. P, consent of instructor.

WL 363 Ornithology..... 4 S
Identification of game and non-game bird species; life histories, habits, and special structural and physiological adaptations of various groups. Introduction to the ecology of native and introduced game birds of North America.

WL 363A Ornithology Lab 0

WL 367 Ichthyology .....3 F
Characteristics and relationships of fish; adaptations, modifications, and ecological relationships; identification of common game and non-game fishes; economic and recreational importance of various groups. Special reference to fishes of the north-central and northern Great Plains states.

WL 367A Ichthyology Lab.....0

WL 370 Limnology .....3 F (even years)
Physical, chemical, and biological characteristics of water bodies. Analysis of factors and processes that operate in freshwater systems. Methods of measuring and evaluating these factors and processes. P, one semester of chemistry.

WL 370A Limnology Lab.....0

WL 411 Principles of Wildlife Management .....4 F
Application of ecological principles to the management of wild birds and mammals. History and development of wildlife management as a science; characteristics of, and factors affecting wildlife populations; techniques and theory of management; wildlife conservation. P, 363, Zool 355, or consent of instructor.

WL 411A Principles of Wildlife Management Lab 0

WL 412 Principles of Fisheries Management ..... 3 S
Fisheries management as a science with emphasis on freshwater game fishes and freshwater ecosystems. Fish life histories, food habits, length-weight relationships, and age and growth characteristics. Methods of study of fish habitat, fish populations, and yield. Managing lakes, streams, and ponds for fish production. P, 367 or consent of instructor.

WL 412A Principles of Fisheries Management Lab..... 0

WL 420 Wildlife Law and Enforcement ..... 3 S (odd years)
Evolution of laws relating to fish and wildlife, enforcement of wildlife law, federal versus state jurisdiction, types of violations, native hunting and fishing rights, and other topics. Guest speakers from state, federal, and local law enforcement agencies. P, junior-senior standing.

WL 420A Wildlife Law and Enforcement Lab 0

WL 430 Human Dimensions in Wildlife and Fisheries .....3 S (even years)
Interactions between various publics, resource management agencies, and the wildlife and fisheries resource are studied. Topics such as public attitudes and expectations; agency structure, administration, and policy; tangible and intangible values of fish, wildlife, and their habitats; the consumptive and non-consumptive resource user as agency clientele; and the philosophy and ethics of resource use and management are included.

WL 430A Human Dimensions in Wildlife and Fisheries Lab.....0

WL 490 Undergraduate Seminar .....1 FS
Individual reports and group discussions of recent research and management developments in wildlife, fisheries, and related fields; employment opportunities and procedures for employment. Required of majors; each student allowed two credits toward graduation. Taken fall semester of sophomore year and spring semester of senior year.

WL 492 Research Problems ..... 1-3 (as arranged) FSSu
Individualized instruction on specific research problems. P, consent of instructor.

WL 494-495-496 Cooperative Education/Internship/ Field Experience .....1-12, FSSu
Planned and supervised professional experience related to wildlife and fisheries conservation which takes place outside the formal classroom and is associated with federal, state, or private operations.

Dual Numbered Courses

WL 413-513 Advanced Fisheries Management.....3 F (even years)
Principles and techniques of selected practices for reservoir, lake, pond, and lotic fisheries management. P, WL367, WL412, and/or consent of instructor.

WL 413A-513A Advanced Fisheries Management Lab 0

WL 415-515 Upland Game Ecology and Management .....3 F (even years)
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. P, 411 and/or consent of instructor.

WL 415A-515A Upland Game Ecology and Management Lab 0

WL 417-517 Large Mammal Ecology and Management..... 3 S (even years)
Big game life histories and distributions. Relationships of nutrition, reproduction, interspecific competition, and predation to management of big game habitat and harvest. Techniques for research and management of big game. P, 411 and/or consent of instructor.

WL 417A-517A Large Mammal Ecology and Management Lab.....0

WL 419-519 Waterfowl Ecology and Management .....3 F (odd years)
Analysis of ecological and socio-economic factors affecting waterfowl habitat and waterfowl populations. State and federal programs affecting wetland drainage and wetland preservation. Field inspection of waterfowl production habitat in the north-central states. P, 411 and/or consent of instructor.

WL 419A-519A Waterfowl Ecology and Management Lab 0
WL 421-521 Grassland Fire Ecology ..... 3 F (even years)
The course is designed to describe the ecological effects of fire on grassland ecosystems. It also provides insight into the history of fires, the people who used 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. P, consent of instructor.
WL 421A-521A Grassland Fire Ecology Lab 0
WL 423-523 Fish Culture ..... 3 F (odd years)
Extent and potential for aquaculture. Emphasis placed on culture methods of important commercial and sport fishes and invertebrates of North America. P, consent of instructor.
WL 423A-523A Fish Culture Lab 0
WL 493-593 Special Topics in Wildlife & Fisheries ..... 1-3 FSSu
Students may secure small-group instruction in a variety of special topics. Contact department head concerning planned special topics. P, graduate or senior undergraduate and consent of instructor.

Graduate Courses

WL 712 Wetland Ecology and Management ..... 3 F (odd years)
WL 712A Wetland Ecology and Management Lab 0
WL 713 Animal Population Dynamics ..... 3 F (even years)
WL 713A Animal Population Dynamics Lab 0
WL 714 Fish Structure and Function ..... 3 S (odd years)
WL 714A Fish Structure and Function Lab 0
WL 715 Wildlife Research Design ..... 3 S (odd years)
WL 715A Wildlife Research Design Lab 0
WL 717 Advanced Limnology ..... 3 S (even years)
WL 717A Advanced Limnology Lab 0
WL 718 Ecology of Aquatic Invertebrates ..... 3 F (even years)
WL 718A Ecology of Aquatic Invertebrates Lab 0
WL 719 Stream Ecology and Management ..... 3 F (odd years)
WL 719A Stream Ecology and Management Lab 0
WL 790 Thesis ..... 1-7 FSSu
WL 791 Thesis Sustaining ..... 0 FSSu
WL 792 Graduate Seminar ..... 1 FS
WL 793 Research Problems ..... 1-3 FSSu

WmSt (Women's Studies)

Undergraduate Courses

WmSt 101 Introduction to Women's Studies ..... 3 F
Exploration of women's issues in both historical and contemporary contexts, including introduction to feminist theory.
WmSt 300 Topics in Women's Studies 3
An interdisciplinary examination of women's issues within a larger framework, e.g., the Social Sciences, the Humanities and Fine Arts, and the Natural Sciences. (May be repeated for credit when the topic is different.)
WmSt 492 Special Problems in Women's Studies ..... 1-3 FSSu
In depth study in a topic area in which the student has taken the course offered or in a topic area in which there is currently no course available. Three credits required for minor. May be repeated for a total of six credits. P, 101 and consent of supervising faculty.

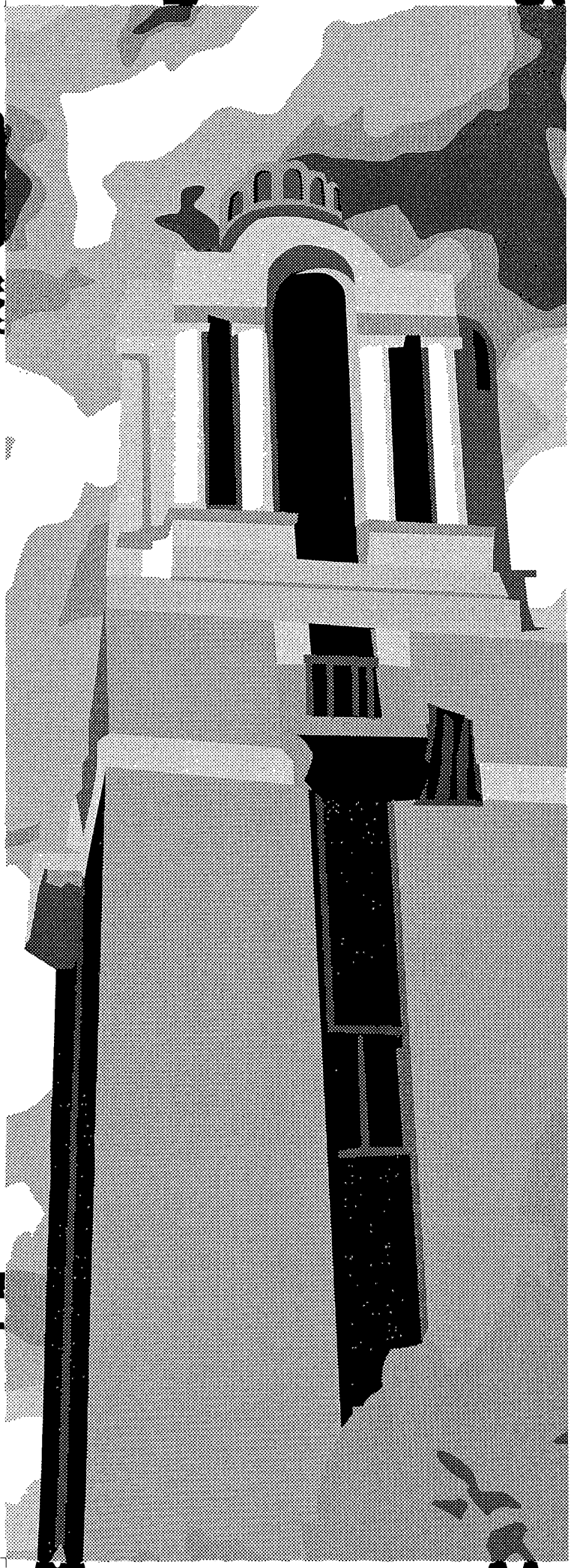
Zool (Zoology)

Undergraduate Courses

Zool 221 Anatomy ..... 3 FSSu
Structure of various systems of the body as basis for physiology. Models and charts are used with references to skeletons. Injected and embalmed rats are used for a limited amount of dissection.
Zool 222 Anatomy Lab 0
Zool 301 Animal Behavior ..... 3 S
Animal behavior from many aspects, including communication, social organization, orientation, imprinting, courtship and mating, agonistic behavior, control systems, and the evolution of behavior patterns. P, Bio 101 or 151 or consent.
Zool 325 Mammalian Physiology ..... 4 FS
Basic cell physiology, neural, hormonal and neuroendocrine control systems. coordinated body functions. P, 8 credit hours of Chemistry and Zool 221 or consent.
Zool 325A Mammalian Physiology Lab 0
Zool 355 Mammalogy ..... 3 F
Identification of game, furbearing, 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 areas. P, Bio 101 or 151.
Zool 355A Mammalogy Lab 0
Zool 357 Invertebrate Zoology ..... 4 S
Phyla of invertebrate animals, emphasis on taxonomy, morphology, ecology, phylogenic relationships, and economic importance. Some field work. P, Bio 101 or 151.
Zool 358 Invertebrate Zoology Lab 0
Zool 365 Vertebrate Zoology ..... 4 F
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. P, Bio 101 or 151.
Zool 365A Vertebrate Zoology Lab 0
Zool 383 Embryology ..... 4 S
Classical and current concepts of embryology. Introduction and elementary aspects of embryological development in the animal kingdom. P, Bio 101 or 151. Bio 371 desirable antecedent.
Zool 383A Embryology Lab 0
Zool 441 Vertebrate Histology ..... 4 F
Microscopic study of cells and fundamental tissues. Structures of organs and systems are stressed to integrate structure and function. P, Bio 101 or 151.
Zool 441A Vertebrate Histology Lab 0
Zool 467 General Parasitology ..... 3 F
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. P, Bio 101 or 151.
Zool 467A General Parasitology Lab 0
Zool 492 Special Problems ..... 1-4 FSSu
Independent study in specialized area of zoology. Objectives, scope of work and plan of study specified by instructor and student(s). P, Bio 101 or 151 and consent of instructor and department.
Zool 493 Special Topics in Zoology ..... 1-5 FSSu
(As arranged) Qualified students may investigate special topics under supervision of department staff in the following and other selected areas: Human Genetics, Principles of Animal Taxonomy, Helminthology, Herpetology.

Graduate Courses

Zool 723 Systematic Physiology 4
Zool 723A Systematic Physiology Lab 0
Zool 782 Special Problems ..... 1-4 FSSu
Zool 797 Special Topics in Zoology ..... 1-5 FS



Advocacy Office

The purpose of the Advocacy Office is to promote diversity and work to eliminate discrimination at SDSU. SDSU is committed to maintaining an environment which respects individual 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 Advocacy Officer with questions and concerns relating to diversity issues on campus, discrimination/harassment prevention information, reporting discrimination, and complaint procedures.

The Advocacy Officer, Ms. Saila Gandhi, can be reached at 605-688-6361, e-mail: gandhis@adm.sdstate.edu, or in Room 217 of the Administration Building.

Agricultural Experiment Station

The research function of the College of Agriculture and Biological Sciences results from carefully designed experiments providing a base of new knowledge and service to the citizens of South Dakota.

This new knowledge is effectively used by farmers, ranchers, homemakers, by industry, in the campus classroom, and in extension education programs throughout the state. Courses in the College of Agriculture and Biological Sciences and in the College of Family and Consumer Sciences are especially strengthened by this new knowledge. State, area, and county extension specialists in Agriculture and Family and Consumer Sciences have immediate access to this information.

Much of the Agricultural Experiment Station research is done at Brookings. However, a considerable amount is conducted at six field stations and at the West River Agricultural Research and Extension Center at Rapid City. Field stations are maintained to conduct research designed to solve local or special purpose problems. Beyond this, research on farms and ranches, in wildlife areas, in streams and reservoirs, and with cooperating businesses and institutions results in research being conducted in nearly every county of the state.

Research may be grouped in the following subject matter areas: livestock, crops and soils, community and public affairs, animal health, fertilizers, garden and orchard, home and consumer, water resources and irrigation, forestry, insects, farm machinery, marketing, business management, farm buildings, pollution, range and grass, fisheries, plant diseases, wildlife, sociology, and biostress in plants, animals, and humans.

Research is financed by state and Federal appropriations, industry grants, and Federal and state grants. Research results are published in Experiment Station or Extension bulletins, journals of scientific societies, and a quarterly publication, Farm and Home Research. Many of these publications are available from the County Extension Office or the Experiment Station Bulletin Room on campus.

For information contact the Director, Agricultural Experiment Station, South Dakota State University, Box 2207, Brookings, SD 57007-0291, phone (605) 688-4149 or e-mail: rustens@mg.sdstate.edu.

Alumni Association

The purpose of the SDSU Alumni Association, a separate entity from the University, shall be 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 Executive Director, V.J. Smith, can be reached at (605) 697-5198, e-mail: vj@alumni.sdstate.edu, or Box 515, Brookings, SD 57007-0299.

Animal Disease Research and Diagnostic Laboratory (ADRDL)

The South Dakota Animal Disease Research and Diagnostic Laboratory is a public service laboratory that is totally integrated with the Veterinary Science department. Career service personnel and professional diagnosticians that are also department faculty staff 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 lab is a reference lab and only receives cases by referral from veterinarians or state officials. The ADRDL mission is to provide high quality veterinary diagnostic services and research as a means to promptly and accurately establish causes of animal health problems. Such diagnoses will aid attending veterinarians and health officials in the treatment, control, prevention, and surveillance of animal diseases to the benefit of the SD livestock industry, other animal owners, and society at large.

Career and Academic Planning Center

I. Introduction

Planning for the type of career you want after graduation should begin with your first advising session at SDSU. The Career and Academic Planning (CAP) Center, located in Medary Commons, supports the following services to assist you with that planning.

II. College of General Registration

The College of General Registration is for students who would like to explore their interests and abilities and the majors at SDSU before declaring a major. At SDSU, each student is assigned to an academic adviser who is responsible for providing guidance intended to help them investigate, identify, and accomplish their academic and career plans. Students in the College of General Registration are assigned to advisers who are specially trained to help them decide about their academic goals. Students from all colleges and majors are welcome to consult with CAP Center staff about their academic plans if they need special academic advising assistance.

III. Career Planning Services

If you're looking for assistance in selecting a major, planning for a career or finding a job, the CAP Center is the place for you. Through this office you can visit with a career counselor; take an interest/skill inventory; or participate in career development workshops. The CAP Center's Career Resource Library provides information on more than 21,000 careers, major employers in the United States, various academic majors at SDSU, and the employment status of SDSU graduates. The College of General Registration in conjunction with the College of Education and Counseling offers Academic and Career Exploration, a one credit class for students who desire help in exploring the world of work.

IV. Employment Services
http://www.sdstate.edu/capcenter

The CAP Center is the place to go for help in your search for part-time, summer, intern, or full-time employment. The staff at the Career and Academic Planning Center offer workshops and individual assistance to help you prepare a resume, develop interview skills, improve your job hunting strategies, and contact employers. Over 150 companies recruit on campus each year. In addition, the CAP Center annually receives between 6,000 and 8,000 job vacancy notices. These openings are published in a weekly job vacancy listing called "Job Notes." Students may also establish a professional reference file at the Career and Academic Planning Center. Finding the best employment opportunities takes time and effort. The CAP Center staff can help you learn a variety of techniques for effective job searching.

V. Academic Support Services

Staff at the CAP Center instruct a two credit course designed to help students become more effective learners. The course is called "Mastering Lifetime Learning Skills" (EdFn 143) and is offered each semester. In addition, students who need individual assistance in developing good study habits or overcome test anxiety may make individual appointments with professional staff in the office.

Computing Services

SDSU Computing Services provides computer access and support to SDSU faculty, staff and students to support quality instruction and an environment of multiple educational opportunities, both in the classroom and in other settings. Our goal is to equip SDSU with currently available computer based technology options, always keeping in mind the implementation of new and expanding technologies.

For students, we provide five general access computer labs, plus a computer design lab, with 18 to 32 IBM compatible machines in each lab. These computer labs provide students with access to a variety of major computer application programs, e-mail, and the Internet. Many individual departments and colleges provide separate labs for the special needs of students in particular majors. Among these, four departments provide Macintosh based labs for their students. Most residence halls are also equipped to offer computer access to students who live in these facilities. Berg and Bailey apartments currently provide, and all other residence halls will offer direct Internet connection by Fiscal Year 1999.

Computing Services coordinates planning and implementation of campus-wide local area networks and management of access into state and national computer networks. Besides offering free e-mail services for students, the opportunity is provided for students to create their own WWW homepages. Students can access these two services through terminal centers and in all general access computer labs.

Training for students, student computer hotline, and computer lab monitors are available to assist students who need computer assistance or have technical questions. The User Services office also provides both students and faculty with access to laser printers (both for IBM compatible and Macintosh machines), virus-protection software, scanners, and other miscellaneous services.

To assist faculty members, Computing Services provides computers to instructors through the Academic Computer Technology Service (ACTS) program. Also, in-house repair of university computers, computer training classes, and smart-classroom network support are provided to enable quality education. Research support is provided through local and wide-area network access to desktop, UNIX based mid-range and mainframe computers.

Cooperative Extension Service

The mission of the Cooperative Extension Service 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 is the off-campus informal educational function of the College of Agriculture and Biological Sciences and the College of Family and Consumer Sciences.

The service extends the SDSU campus to every community and the advantages of higher education to all people. Through its extension agents and specialists, the Cooperative Extension Service disseminates the findings of research and encourages the application of knowledge to solution of problems encountered in everyday living, across the entire state. Much of the economic progress of farmers and ranchers can be traced to this unique type of non-formal, out-of-school learning opportunity provided them for more than 75 years by SDSU in cooperation with the U.S. Department of Agriculture and with county governments.

Approximately fifty percent of the funds supporting Cooperative Extension educational programs are appropriations to SDSU by the Legislature, and 50 percent come from Federal appropriations. Additionally, over $2 million is provided by SD counties in the form of in-kind support. Extension program emphasis is constantly changing to meet the needs and opportunities of people who help determine instructional needs.

The following broad areas of educational programming describe the scope for this service:

1. Agricultural product marketing.
2. Agricultural production practices for large and small producers.
3. The business of farming and ranching.
4. Agricultural, natural resource, and environmental management.
5. Farm/home safety, health, and nutrition.
6. Family and community resiliency.
7. Agriculture and community vitality.
8. Enhancing quality of life for elderly South Dakotans.
9. Human resource development.
10. Strengthening family relationships and roles.
11. Youth development.

The Extension staff is dedicated to the task of assisting individuals and groups to meet the challenges of change in farming, ranching, marketing, the home, state and nation. They use the press, radio, TV, satellite, interactive audio-visual, the Internet, educational publications, group methods, and individual contacts to inform and teach. Resident students are encouraged to become acquainted with Extension staff members on campus and take advantage of the information available in Extension publications to enrich their regular course of study. Extension also offers rewarding career opportunities for college graduates in Agriculture, Family and Consumer Sciences, Natural Resources, and the Social Sciences.

For information contact Mylo A. Hellickson, Associate Dean, College of Agriculture and Biological Sciences; Director, Cooperative Extension Service, South Dakota State University, Box 2207, Brookings, SD 57007. Phone (605) 688-4792; e-mail: hellickm@mg.sdstate.edu.

Crime Reports

South Dakota State University publishes an annual report each Fall in compliance with the Campus Security Act of 1990. The report which describes policies, enforcement, statistics, and prevention and information programs is distributed to all staff and students at registration time and is also available upon request from the office of the Dean of Student Affairs.

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 administered directly under the Vice President for Academic Affairs.

Dairy Science

The Chair in Cheese Chemistry and Technology in Dairy Science has been established in recognition and in memory of Alfred Gonzenbach and the late Alfred Nef for their contributions to the cheese industry and economic development through establishment of Valley Queen Cheese Factory, Inc., in Milbank.

The Alfred Chair was created on July 1, 1991, and is funded by the SA Education Foundation in Watertown.

The Alfred Chair will be a continuing campus position with faculty rank filled by a dairy/food scientist with experience in cheese chemistry and technology. The addition of the Alfred Chair, a prestigious faculty appointment, is expected to maintain national prominence of the SDSU Dairy Science Department in the dairy processing profession.

Engineering Resource Center (ERC)

The ERC, established in 1986, exists to serve the University, citizens, and industry in South Dakota. Six 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 six programs are: Engineering Extension; Office of Remote Sensing; South Dakota Space Grant Consortium; Local Transportation Assistance Program; University/Industry Technology Service; and Manufacturing Extension Partnership.

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 ERC has an on-line expertise database to identify potential faculty and industrial consultants. Another database contains information on the manufacturers and processors in South Dakota.

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. Three programs satisfy these needs:

1. Occupational safety and health surveys of the workplace for any South Dakota employers who request the service.
2. Training workshops and seminars to update skills regarding technical needs and to certify individuals who are required to work under specific government regulations, e.g., asbestos.

The **Office of Remote Sensing** (ORS) uses multispectral remotely sensed imagery and geographic information systems (GIS) for natural resource studies and mapping projects in South Dakota and throughout the world.

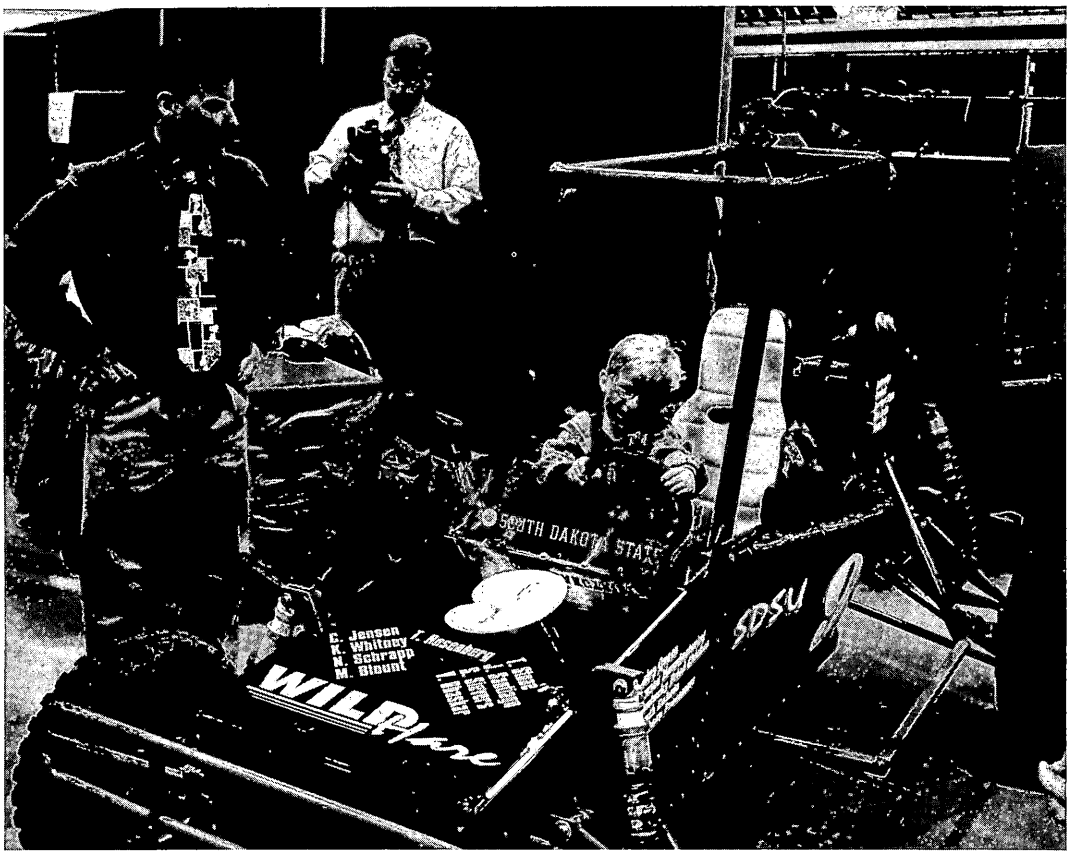
The South Dakota Space Grant Consortium is a program funded in part by the National Aeronautics and Space Administration. Consortium members are SDSU, SDSM&T, Augustana College and the EROS Data Center. Goals of the Consortium are to create an enthusiasm for aerospace sciences among students and faculty 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.

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.

The **Manufacturing Extension Partnership** (MEP) works to enhance the competitive position of South Dakota's small and medium-sized manufacturers by helping them to adopt advance manufacturing technology and business practices.

For information, contact Kevin Dalsted, Director, Engineering Resource Center, SDSU, Box 2220, Brookings, SD 57007-0199; phone (605) 688-4184; e-mail: dalstedk@mg.sdstate.edu.



Fees and Refunds

Application Fee – Non-refundable charge assessed 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 cover health, student union and other university services, 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, testing and other instruction related costs. Also, to assist in providing services that benefit students which are not funded from other sources.

Late Charge – If you do not pay tuition and fees during the regular established payment periods, you will be assessed a late charge. If you fail to satisfy financial obligations when due, you will be 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.

Special Expenses for Education Students – Education students enrolled in selected Education courses are assessed a fee of $100 per semester for Junior Field Experience, $200 per semester for Senior Student Teaching, and $100 one-time fee for Master's Level Internships.

Special Expenses for Engineering Courses A fee of $12.85 per credit hour is charged for courses in the College of Engineering. This fee applies to Mathematics and Computer Science courses as well.

An Engineering/Science Lab Fee of $19.55 per designated course is charged to all lab classes in engineering, mathematics, and selected sciences. These funds are used for supplies and materials and 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 2 credits of nursing courses are assessed a major fee of $292.50 for the Undergraduate program, $134.60 for the RN Upward Mobility program, and $134.60 for the Graduate program. Students enrolled in the Family Nurse Practitioner program are assessed a fee of $478.00 per semester.

Special Expenses for Pharmacy students – Students in the Pharm.D. program are assessed a major fee of $562.80 for semesters 5-8 and $787.80 for semesters 9-10 and $49.25 per credit hour per Pharm D Clerkship (10 required) for semester 11 and 12.

Tuition, Living, and Other Expenses

(As of 4/1/98)

All charges and procedures listed are subject to change pending Board of Regents action.

	Resident*	Non-Resident
TUITION AND FEES		
Tuition — undergraduate on-campus		
per semester credit	$56.15	$178.65
graduate on-campus per semester credit	85.25	251.45
University Support Fee per credit	26.78	26.78
Activity Fee — per credit	11.77	11.77
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.		

* For residency information, contact the Admissions Office. For Minnesota-South Dakota reciprocity information, contact the Reciprocity Officer, Dean of Student Affairs Office.

CAMPUS ROOM AND BOARD COSTS

Meal Plan, per semester

Students have a choice of 11 Meal Plans ranging from $602.50 to $877.20 per semester. For more detailed information, contact the Food Service Office or Residential Life.

Residence Hall Rent, per semester		
Single occupancy	883.00	883.00
Double room	659.30	659.30

INITIAL PAYMENTS REQUIRED FOR NEWLY ENROLLING STUDENTS

Application fee (nonrefundable)	$15.00	$ 15.00
Residence Hall Advance Payment (Part of room rent)	50.00	50.00
First time international student charge		100.00

TYPICAL EDUCATION EXPENSES FOR FULL TIME UNDERGRADUATE FOR ONE SEMESTER

Tuition — 16 credits	$ 898.40	$2,858.40
University Support & Activity Fees — Health Service, Union, Students' Association	616.80	616.80
Books and supplies (estimate)	350.00	350.00
Meal Plan	705.00	705.00
Residence hall rent	659.30	659.30
	$3,229.50**	$5,189.50**

** Expenses will be higher if a student takes course work requiring lab fees or special discipline fees. See accompanying text.

PAYMENT PROCESS

On registration day each student makes a partial payment of charges ranging from $125 to $2,400 dependent primarily on number of credit hours registered, residency status, and campus housing. Final fee payment will be made approximately four weeks later.

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.

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, Adm 208, for information.

Food Service and Room Rent Refunds – A charge of 10 percent of the total semester's rent is made for each week or part of a week. No refund made after tenth week. Meal Plan will be refunded according to purchasing power remaining.

Financial Aid – All students receiving financial aid who are considering withdrawal should consult the Financial Aid Office about the detailed refund procedures. There are four procedures in particular that you should know about. First, you may be required to document your class attendance and if you have not attended class you will be required to repay the full amount of the aid received. Second, if you are a loan recipient you are required to have exit loan counseling. Third, when calculating a refund, the student's term expenses are determined. If the student has not paid the total expenses (unpaid charges), the student may not get a refund and may owe money to the student aid program and/or to SDSU. The financial aid office uses the fair and equitable refund policy to determine if a refund is due. As applicable, refunds are returned in the following order: 1) Unsubsidized Federal Stafford Loan; 2) Federal Stafford Loan; 3) Federal PLUS Loan; 4) Federal Perkins Loan; 5) Federal Pell Grant; 6) Federal SEOG; 7) Other Title IV Aid Programs; 8) Other federal, state, or institutional student financial assistance programs; and 9) student. If the student had a cash disbursement from student aid, as applicable, repayment is due in the following order: 1) Federal Perkins Loan; 2) Federal Pell Grant; 3) Federal SEOG; 4) Other non-loan Title IV Programs; 5) Other federal, state, private, or institutional student financial aid programs.

Fourth, if you are a **first-time SDSU student receiving federal financial aid,** you are subject to a different refund schedule. If you withdraw within the first 60% of the enrollment period, you are eligible for a prorated refund rather than the refund schedule in this section which applies to all other students.

Schedule of Refunds For Tuition and Per Credit Hour Fees

Complete Withdrawal

Standard Semester	% of Non-Standard Semester (In Class Days)	Refund
Up to 2 weeks	0% to 13%	100%
>2 to ≤3 weeks	14% to 20%	50%
>3 to ≤4 weeks	21% to 26%	25%
>4 weeks	>26%	0%

Dropped Courses

A student receives a 100% refund of tuition and per credit hour fees for dropped courses in the first two weeks of a standard semester or the first 13% of instruction of a non-standard semester.

Federal Financial Aid Refund Examples

Example A: Student withdrawing during the time period when school is assessing 50% tuition and fees. Student lives off-campus so only institutional semester charges are tuition and fees. Student received a Federal Unsubsidized Stafford Loan. The semester charges for tuition and fees total $1,240.

Step One - Unpaid Charges	
Total Institutional Costs	$1,240
Total Aid Paid to Institution Costs	- 0
Scheduled Cash Payment	$1,240
Student's Cash Paid	- 1,240
Unpaid Charges	$ 0

Step Two - Amount Retained	
Total Institutional Costs	$1,240
% Allowed to Retain	x .50
Initial Amount Retained by School	$ 620
Unpaid Charges	- 0
Amount Retained	$ 620

Step Three - Refund Amount	
Total Paid to Institution Costs	$1,240
Amount Retained	- 620
Refund Amount Returned to SFA Programs	$ 620

The $620 will be refunded to the Federal Stafford Loan.

Example B: First-time SDSU student so the Pro Rata Refund Policy is used. The semester charges total $2,500. Student received a Federal Pell Grant of $250 and a Federal Stafford Loan of $1,200 for the semester. Student withdrew during the time period of a pro rata refund of 70% of the tuition and fees, room, and board charges. The student made a $450 cash payment at registration.

Step One - Unpaid Charges	
Total Institutional Costs	$2,500
Total Aid Paid to Institution Costs	- 1,450
Scheduled Cash Payment	$1,050
Student's Cash Paid	- 450
Unpaid Charges	$ 600

Step Two - Refund Amount	
Pro Rata Institutional Costs	$2,500
% Allowed to Refund	x .70
Initial Refund Amount	$1,750
Unpaid Charges	- 600
Actual Refund Returned to SFA Programs	$1,150

The $1,150 will be refunded to the Federal Stafford Loan.

Financial Assistance

General Information

Approximately 80% 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 (Federal/State grants, loans, work) as determined by the Free Application for Federal Student Aid, 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. Educational costs are determined by the Financial Aid Office and family contribution is calculated from information on the Free Application for Federal Student Aid.

The SDSU award policy gives priority for some federal financial aid programs to students completing the Free Application for Federal Student Aid before March 15. 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 contact the Financial Aid Office for summer financial aid procedures.

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 non-citizen.
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 (sent to all financial aid recipients and available upon request for others). Satisfactory Progress is the measurement of a student's academic performance (credits completed and cumulative grade point average) 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 in the "SDSU Financial Aid," The U.S. Department of Education's "The Student Guide," and other financial aid materials. 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 degree.
   2. Federal Supplemental Educational Opportunity Grant awards are based on Pell Grant eligibility and available funds.

B. Loans provide an opportunity to borrow money for educational expenses. Loans must be repaid. First time loan recipients are required to attend Entrance Loan Counseling sessions.
   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 a variable rate, not to exceed 8.25%.
   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 variable, not to exceed 9%.
   4. The Federal Perkins Loan is an SDSU award based on financial need and SDSU award policy. Interest (5%) and repayment begin nine months after half-time enrollment ends.
   5. The Nursing Student Loan is for nursing majors based on financial need and SDSU award policy. Interest (5%) and repayment begin nine months after half-time enrollment ends or ending the nursing degree program.
   7. The Health Professions Student Loan is for pharmacy majors based on financial need and SDSU award policy. Interest (5%) and repayment begin 12 months after full-time enrollment ends or ending the pharmacy degree program.

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 Job Location and Development Program as part of the Career and Academic Planning Services and South Dakota Job Service.

III. Scholarships

The SDSU scholarship programs have increased yearly with additional scholarships for new, continuing, and transfer students. SDSU awards over 1,400 scholarships to undergraduate students. There are approximately 400 new-freshmen 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 academic scholarships.

A. Selected new freshmen scholarships.
   1. Renewable scholarships, upon meeting academic standards, include: Dan Bocklund Memorial; Stephen F. Briggs; Dick Clarin; Earl F. Ferguson; Philip and Viola May; Henrietta Nichols; LaVerne Noyes; and National Merit Semi-Finalists.
   2. Valedictorian Scholarships are for all students entering SDSU upon their high school graduation with a number one class rank and who do not receive other SDSU academic scholarships.
   3. Leaders for Tomorrow scholarships are for students meeting criteria of high school academic rank and college entrance test scores, and who do not receive other SDSU academic scholarships.
   4. 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 a competitive scholarship application process. Selected scholarships are the Wilbur Allen; Amdahl; F.O. Butler; William and Byrne Griffith; Hilda Hasslinger; Lackey; Larson Manufacturing; H.B. Mathews; Matthew Tiernan; and many others.

C. Talent and participation scholarship awards are available by contacting the specific areas:
   4H: County Agents or Program Leader, SDSU
   Air Force ROTC: Professor of Aerospace Studies, SDSU
   Army ROTC: Professor of Military Science, SDSU
   Music: Music Department, SDSU
   Theatre: Theatre Department, SDSU

D. Local and national scholarship information and applications may be available through your high school, various organizations and groups.

IV. Financial assistance may also be available through various agencies including Vocational Rehabilitation and other special services agencies.

V. SDSU is fully accredited for Veterans Assistance benefits for qualified students.

VI. Please contact the SDSU Financial Aid Office, Box 2201, Administration 106, Brookings, SD 57007. Phone (605) 688-4695 for specific applications, forms, and information.

Foundation

The SDSU Foundation is an independent, non-profit organization established and incorporated in order to sustain and enhance the mission of South Dakota State University. The Foundation is intended to be a vehicle through which independent financial resources, creative ideas, and willing human talent might be invested to extend the land-grant college mission and further South Dakota State University's essential purposes.

The Interim Director of Development, Edd Storey, and Interim Director of Operations, David Marquardt, can be reached at (605) 697-7475, e-mail: ed@foundation.sdstate.edu or david@foundation.sdstate.edu, or Box 525, Brookings, SD 57007.

Instructional Technology & Telecommunications

The Instructional Technologies Center (ITC) at SDSU provides faculty, staff, and students access to state-of-the-art technologies.

The ITC is located in Pugsley Center Room 101. Service areas include Instructional Technologies, Media Development, and Telecommunications. In addition to the Pugsley facilities the ITC operates a Technical Support Center in the Rotunda for Arts and Science.

Instructional Technologies provide audio visual, video, multimedia, and related equipment in support of classroom instruction, meetings, and other University functions.

The Rotunda for Arts and Science is a modern classroom building. Instructional technology support is provided via projection on large rear-projection screens in each room. ITC personnel support users and operate a service center in the Rotunda.

Media Development includes a professional Photo Lab, Digital Processing, Presentation Graphics, Video Production, and Multimedia Production. The Photo Lab is a full service lab with in-house processing of all black and white services as well as production and processing of color slides. Video production produces instructional and informational videotape resources.

Presentation Graphics are enhanced using computer based programs. High Resolution slides and transparencies along with other graphics make this service one of the most complete in South Dakota.

Instructional Telecommunications. SDSU operates state-of-the-art two way interactive video telecommunication facilities. The facilities are connected to the South Dakota Rural Development Telecommunications Network allowing SDSU to extend educational opportunities across South Dakota. The center also provides satellite uplink and downlink services and facilities, ISDN based connections, an on-campus fiber network, and a faculty Multi-Media lab in PC107.

For additional information an any of the above services, please contact the Instructional Technologies Center, PC 101, 688-6312.

Intercollegiate Athletics

South Dakota State University is a charter member of the North Central Intercollegiate Athletic Conference and offers competition in nine sports for women and ten sports for men. Competition for both women and men is governed by the National Collegiate Athletic Association (NCAA). Women compete in cross country, indoor and outdoor track and field, volleyball, basketball, swimming, golf, tennis, and softball. Men may compete in cross country, indoor and outdoor track and field, football, basketball, swimming, golf, tennis, wrestling, and baseball.

South Dakota State has claimed 128 conference championships (108 men, 21women) and success has not been confined to one or two sports. SDSU won the conference all-sports championships for men and women in 1996-97. In 1996, SDSU placed fourth in the Sears Directors' Cup competition honoring the top all-around Division II athletic programs, then placed seventh in 1997. The Jackrabbit men's cross country team won the national championship in 1996, the fifth overall crown for the men. The SDSU men's basketball team has qualified for the NCAA tournament 18 times, the women's basketball team has qualified for the playoffs four times in the decade of the '90s, and the wrestling team has placed in the top five in the country each of the past four years. SDSU also won four conference baseball titles in the '90s, and the Jackrabbit softball team hosted the NCAA regional in 1996. The Jacks have also qualified for NCAA tournament play in golf, both men and women.

For general athletic department information call 688-5625, for athletic ticket information, call 688-5422 or 1-800 JACKS-TX (SD only) or e-mail: lobant@mg.sdstate.edu.

Intramurals and Recreational Sports and Sports Clubs

The purpose of the intramural program is to provide the opportunity for all activity-fee-paying women and men 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 good and lasting attitude toward physical activity and the worthy use of leisure time. Activities are organized on an individual, team, and club basis, and leagues are established for women, men, and co-rec., and residence hall, independent, and organizational groups, thereby providing for the interests and needs of all students. 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 688-4724 or e-mail: cookr@ur.sdstate.edu.

Library, Hilton M. Briggs

Library services and collections are housed in the spacious three-level Briggs Library, which is named for President Emeritus Hilton M. Briggs. Library collections consist of more than 540,000 bound volumes, 350,000 government documents, and additional holdings of microtext, maps, newspapers and pamphlet materials.

More than 3,000 journal titles are received currently, with another 800 titles available electronically in full text format. Bibliographic access to journal holdings is provided through a strong collection of published indexes and abstracts and by the availability of searching of online and CD/ROM databases.

Book and periodical holdings are conveniently available on open stacks for use by students and faculty during the 98 hours per week the library is open.

A wide variety of other resources and equipment also are available in the library including a microcomputing laboratory, photocopiers, conference rooms, individual study carrels, a resource room for the visually impaired, and several informal study lounge areas. Special collections of archival, local history, and curriculum materials also are maintained within the library building.

In addition to local holdings, the library provides access to a wide variety of resources through electronic networks including OCLC, CARL/Uncover, Dialog, FirstSearch, and Internet.

Hilton M. Briggs Library also is a founding member of the South Dakota Library Network, which provides electronic access to the holdings of 46 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 approximately three million volumes which are available through interlibrary loan to students at any member institution.

McCrory Gardens

McCrory Gardens is nationally recognized as one of the top ten small ornamental display gardens in the U.S. 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 research. It is composed of a 20-acre public display area and a 45-acre arboretum.

Museums/Collections

The South Dakota Art Museum holds in its permanent collection significant bodies of work by noted artists Harvey Dunn, the son of South Dakota pioneers, and Oscar Howe, a Yanktonai Sioux. Noted childrens' book author and illustrator Paul Goble recently donated the original paintings for his books to the museum's permanent collection. The museum also houses notable collections of Native American tribal art, works by South Dakota artists, works by contemporary American artists and a complete collection of the world famous Marghab embroidered linens. A portion of the permanent collection is always on display along with temporary exhibitions which change monthly. The South Dakota Art Museum is one of only two museums in South Dakota which is accredited by the American Association of Museums.

The Museum anticipates closing its galleries to the public for a remodeling and construction project in 1998-99. Contact the Museum for specific information at (605) 688-5423.

Northern Great Plains Water Resources Research Center (NGPWRRC)

The Northern Great Plains Water Resources Research Center is a research center within the College of Engineering. The mission of the Center is to enhance the habitability and economic development of the Northern Great Plains through multidisciplinary research of the region's vast water and related land resources. The Center supports this mission through the conduct of engineering and related research on significant issues affecting water resources by focusing on various disciplines in higher education such as agriculture, health and social sciences, law, chemistry, and biology in partnership with engineering, to assure a critical mass of researchers working to foster multi- and interdisciplinary work on the conservation, development, management and use of water and related land resources.

Residential Life — Housing and Food Service

The Director of Residential Life administers programs and facilities for all on-campus housing. Housing staff members will assist you with questions regarding nearly any area of the University. Complete information and policies are printed in Residence Hall Information and Family Student Housing Information booklets. The Residential Life Office is located in Wecota 115. The telephone number is 605-688-5148.

Residence Halls – Residence Halls at SDSU are living/learning centers where students are challenged to develop as individuals, as well as to study and to meet other students. All unmarried students are required to enter into Residence Hall and Food Service contracts with the University. Students who have completed four semesters of full time enrollment at an institution of post high school education or who are two or more years beyond graduation from high school are excused from these requirements. Release from the residence hall obligation must be requested in writing and postmarked on or before June 30 for Fall Semester and November 30 for new Spring Semester contracts in order to avoid a monetary penalty. Currently, University residence hall facilities rent for $1,280 - $1,716 per academic year. Usually, two students are assigned to each room. However, some rooms are available for rent as single rooms. Students who do not reside in on-campus facilities may seek off-campus housing assistance from the personnel of the Students' Association Off-Campus Housing Assistance Office. The Off-Campus Housing Assistance Office is located in USU 062. The telephone number is 605-688-5916.

Residence Hall Advanced Payment – A residence hall information, application, and contract booklet is sent to students after they are admitted to the University. The booklet includes detailed information regarding the residency requirement and residence hall and food service facilities and services. A $50 Advance Housing Payment must accompany all applications/contracts for residence hall space. The $50 Advance Housing Payment will appear as a credit on the student's final fee slip. Any person, whose written request for release from the residency requirement is postmarked on or before June 30 for Fall Semester or November 30 for new Spring Semester contracts, who is released from the residency requirement, will have the $50 Advance Housing Payment refunded. Any person, whose written notice of cancellation is postmarked on or before June 30 for Fall Semester or November 30 for new Spring Semester contracts, will have the $50 Advanced Housing Payment refunded. Any person, whose application or contract is canceled at their request after these dates, will be assessed a monetary penalty.

Family Student Housing – 80 unfurnished, one-bedroom apartments and 8 unfurnished, two-bedroom apartments are available for rent on campus. Currently, rent for the one-bedroom apartments ranges from $191.00-$257.00 per month. Rent for the two-bedroom apartments is $308 per month. Each apartment includes a refrigerator, stove, and all utilities. Admission to the University, a spouse and/or at least one dependent who will reside in the apartment with you, and enrollment in a set number of credit hours are required before a student can be assigned. Contact Residential Life Office personnel for more information.

Apartment Residence – 4-single-bedroom apartments for single students are available in Berg and Bailey Apartments. These new buildings opened in 1994. Rent, including all utilities, modern kitchen appliances, and air conditioning, is $235/person per month unfurnished and $245/ person per month with furnished bedrooms. Both 9 and 12 month contracts are available and a security deposit equal to one month's rent is required when a contract is signed. Contact Residential Life Office personnel for more information..

Food Service – SDSU Dining Services is committed to providing a food service program that is both economical and of the highest quality. SDSU's Dining Service utilizes a Student I.D. "One Card System", that allows access to all food venues and meal plans. Larson Commons is an "all-you-can-eat-facility", while students can also choose to eat at the newly renovated food court at the Student Union, Jacks' Deli, Walder Dining Room and Medary Commons, along with convenience stores and a pizza delivery operation. There are approximately 11 meal plans to choose from, giving the student a lot of variety to choose a plan that best meets their particular eating needs. All SDSU students living in Residence Halls are required to purchase a meal plan. Complete information about the Dining Service's meal plans, costs, hours of operations and programs is included with the Residence Hall information and a brochure is distributed to all students. Other food programs are available for off-campus "commuter" students, faculty and staff. The Dining Services office is located in the University Student Union, Room #157. The telephone number is (605) 697-2550.

Student Activities

The Department of Student Activities includes the management of the University Student Union and co-curricular programming for students to develop leadership abilities, increase cultural awareness, and provide recreational activities.

Services provided by the Department include the Leisure Skills Center (billiards, video arcade, banner making, rental of camping and cross country ski equipment, off-campus housing), Information Exchange (check cashing, fax service, ticket sales), Technical Services (lighting, staging, and sound for events), and Central Reservations. The Student Enrichment Programs office provides advisement and support for the University Program Council (which includes Arts, Community Service, Concerts, Hobo Day, Lectures and Forums, Publicity and Graphics, Recreation and Travel, Showcase, and Special Events), the Greek system (which includes Alpha Xi Delta, Alpha Gamma Rho, Ceres, Chi Omega, FarmHouse, Lambda Chi Alpha, Sigma Alpha Epsilon, Sigma Phi Delta, Sigma Phi Epsilon) and all student organizations; as well as the coordination of the New Student Orientation Program.

Other student organizations and services housed in the Union are the COLLEGIAN/JACKRABBIT publications, Students' Association, KSDJ 90.7 (the campus radio station), and Student Legal Services. The Marketplace, Jacks' Place, Walder Cafe, the Bookstore, meeting rooms, and Volstorff Ballroom are also found in the University Student Union.

For information, phone 688-6127, or for Central Reservations (room/space reservations) call 688-4022. Fax: (605) 688-4973.

Student Affairs Division

The Student Affairs Division provides services and activities which are designed to help you gain the greatest benefit from your university education. The following departments and programs are included in Student Affairs: Admissions, Disabled Student Services, Financial Aid, Food Service, Health and Counseling Services, International Student Affairs, Native American Advising, Records, Residential Life, Student Activities, and Veterans Affairs. If you have questions or need information about any of these areas, contact the Dean of Student Affairs office in Room 318, Administration Building, telephone number (605) 688-4493. The specific programs and services offered by the departments are listed below and elsewhere in this catalog.

Admissions – Questions concerning enrollment information, admission and transfer evaluation should be directed to Admissions Office, Room 200, Administration Building, South Dakota State University, Box 2201, Brookings, SD 57007-0649, telephone number (605) 688-4121.

Counseling Service – SDSU provides an on-campus counseling service offering personal, confidential assistance to students. Adjustment to university life, personal decision making, conflict resolution, self-concept issues, and goal setting are common issues which the Counseling Center staff is prepared to address. These and other services are provided by appointment through one-to-one counseling or group counseling. Specific services addressing stress management, eating disorders, sexuality concerns, alcohol/drug problems, and abuse issues are available. Most services provided at the Counseling Center are available at no cost to students. Additional or specialized services are provided by referral when necessary. Call 688-6146, West Hall 112, for further information.

Disabled Student Services – Assistance is available for students with a wide range of disabilities. Services include assisting in: acquisition of taped materials, facility accommodations, course scheduling assistance, classroom accommodations, referral to other service agencies, advising and other services. The Disabled Student Services Adviser is located in the Dean of Student Affairs Office, Administration Building 318, telephone (605) 688-4496.

Drug and Alcohol Programs – SDSU, through the Department of Student Health and Counseling Services, provides alcohol and drug abuse information and prevention programs to the campus community. Alcohol and drug abuse assessment is available on an individual basis. Medical treatment and counseling services are available to students and referrals to other agencies are available to everyone on campus. Call 688-6146 or 688-4157 for information.

Financial Aid – Student financial assistance programs, including federal and state financial aid, scholarships, and governmental agency awards (BIA, Veterans Administration, Vocational Rehabilitation, etc.) are administered by the Student Financial Aids Office in Room 106, Administration Building, telephone (605) 688-4695.

Health Education and Prevention Services – The Health Education and Prevention Services are a separate, but integrated, program sponsored by Student Health and supervised by the Director of Student Health. The program emphasizes awareness, prevention, and response to sexual assault and date rape. Closely related issues of alcohol/drug abuse, STD's (including HIV/AIDS), and unplanned pregnancies are addressed. In addition to program presentations for students and faculty, the Health Educator also trains and supervises 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, residence hall student staff training, and at new student orientation. The Health Educator 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 Health Educator at 605-688-4312 for assistance or information.

Health Service – All usual medical outpatient services are provided on an appointment basis, including GYN examinations and sexuality services. Many of the services, including the office visit and medical consultation, are prepaid by the Activity Fee required of all students. When medically indicated, appropriate referral may be arranged. Laboratory and pharmacy services, allergy injections, immunizations, and physical examinations are provided on-site on a fee-for-service basis. All enrolled fee-paying students are eligible to receive services. Health Service will assist students in meeting Board of Regents immunization compliance regulations for measles and rubella. A supplemental hospitalization, accident and sickness insurance program, approved by the Board of Regents, is available for all students. **Non-U.S. citizens are required to purchase the BOR insurance plan.** The Health Service is located on the second floor of West Hall and is open

from 8:00 a.m. to 5:00 p.m. Monday through Friday when school is in session during fall, spring, and summer. When Student Health Service is closed students may go to the Brookings Hospital emergency room for care. Any bills incurred are the responsibility of the student.

You may call 688-5588 for further information, a medical appointment, or medical record assistance.

International Student Affairs – This office administers policies and provides a broad range of support services relative to the nonimmigrant status of international students and scholars. Services include processing of admission applications, 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 U.S. For further information, contact the office at Room 312, Administration Building, SDSU, Brookings, SD 57007, telephone (605) 688-4122.

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. The Native American adviser may be contacted at (605) 688-4126, Administration Building 318 for further information.

Records – The Office of the Registrar maintains official records on enrollment, biographical student data, grades, credits, and degrees conferred; administers registration and assesses tuition and fees; prepares and sends transcripts when written, signed requests are received from students; processes enrollment verifications; checks athletic eligibility; prepares semester schedules and assigns classrooms; supplies reports and analysis of enrollment, grades and other scholastic matters; coordinates with college deans the procedure for clearing candidates for graduation and submitting candidate lists; and assists with the graduation ceremonies. The Registrar's Office is in Room 208, Administration Building, Box 2201, telephone number (605) 688-4121.

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, Room 108, Administration Building, South Dakota State University, Box 2201, Brookings, SD 57007, telephone number (605) 688-4700, for application forms and information concerning their benefits.

South Dakota resident veterans who served between June, 1950, and May, 1975, 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, Room 106, Administration Building, or telephone (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, Room 208, Administration Building, 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.

If you are interested in social activities you are invited to become a member of the SDSU Vets Club.

Water Resources Research Institute (WRRI)

The Water Resources Institute was conceptualized in 1964 through the Water Resources Act and began services on October 8, 1964, as an administrative unit of South Dakota State University. In September, 1990, WRI was placed under the administrative authority of the College of Agriculture and Biological Sciences. The mission of WRI is to provide the leadership in coordinating the 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 the funds received from the U.S. Department of 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. Graduate research training, technology transfer, and information transfer are services which are provided through the Institute.

The Water Resources Institute also houses the Water Quality Laboratory. This laboratory serves the needs of the people of the state by providing analytical services for determination of inorganic constituents (and some pesticides) in water. Both the Institute and the Laboratory are housed on the second floor of the Agricultural Engineering Building.

Phone (605) 688-4910 or e-mail: wrisdsu@mg.sdstate.edu for information.

Wellness Center

The Wellness Center is an on-campus health, exercise, and sports facility located in the Stanley J. Marshall HPER building. Our mission is to enhance all dimensions of wellness. This reflects commitment aimed at providing high quality educational and wellness opportunities. The center offers aerobics, free weights, a 1/8 mile indoor run/walk track, machine weights racquetball, a 25 yard indoor swimming pool, cardiovascular exercise deck, and basketball courts. Classes are offered in nutrition and weight control, smoking cessation, stress management, and other specialized classes. Students become members upon payment of their student activity fee. Specialized programs may require an extra charge. Employment opportunities for students include aerobic instructors, service desk attendant, weight room and child care supervisor.

Phone (605) 688-6415 e-mail: martina@ur.sdstate.edu.

Logos, Seals, Caricatures (Official Symbols)

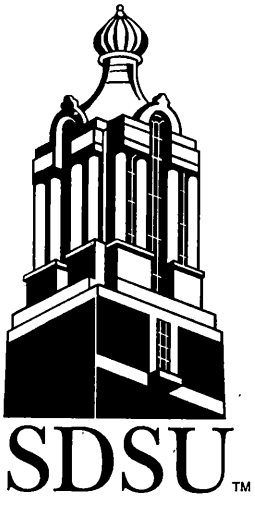
Official Name:
South Dakota State University or **SDSU** (no periods)

Official School Colors:
PMS Blue 287 and **PMS Yellow 109**

Athletic Team Name:
Jackrabbits or **Jacks**

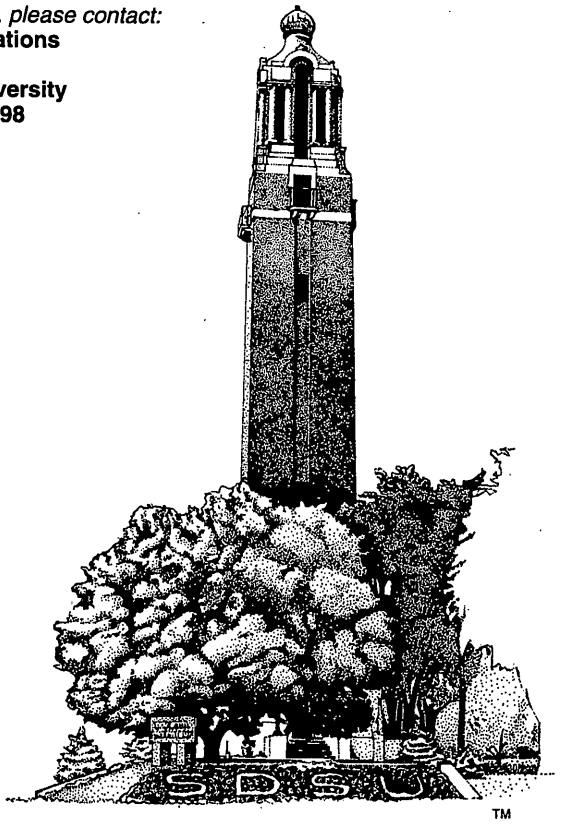
For information on usage, please contact:
Office of University Relations
Box 2230
South Dakota State University
Brookings, SD 57007-1498

(605) 688 6161
FAX (605) 688-6357



Official SDSU Logo
(as of May 1994)

Official SDSU Seal



The Coughlin Campanile occupies
a central focus on campus

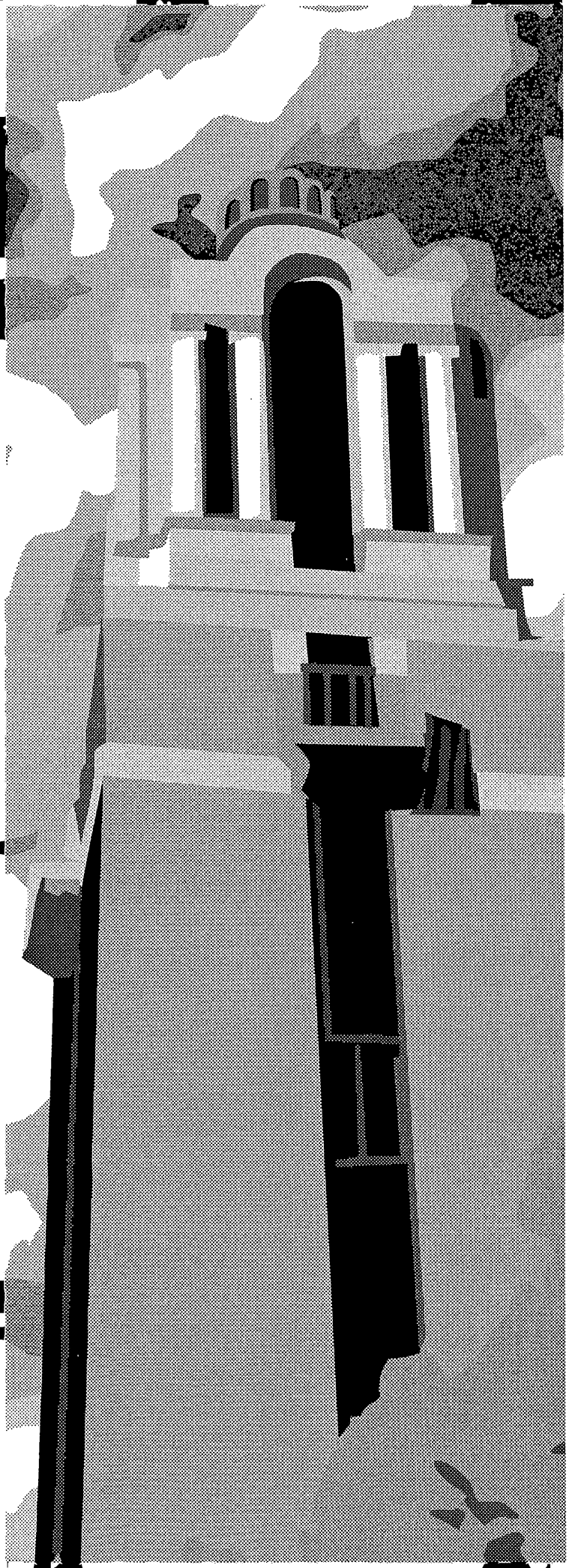
Official SDSU Alumni Logo

The "spirit" of Hobo Days (Homecoming)
is represented by "Weary Willie"

Offical SDSU Athletics Logo

Offical SDSU Athletics Logos

SDSU Athletics mascot is the Jackrabbit



Organization and *Administration*

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

Honorable Jack Rentschler
(Term expires March 31, 2003)
Sioux Falls

Honorable David Gienapp
(Term expires March 31, 2003)
Madison

Honorable Curt Jones
(Term expires March 31, 2003)
Britton

Honorable Harvey Jewett, IV
(Term expires March 31, 2003)
Aberdeen

Honorable James Hansen
(Term expires March 31, 2001)
Pierre

Vacant at time of publication
(Term expires March 31, 2004)

Honorable Pat Lebrun
(Term expires March 31, 1999)
Rapid City

Honorable Dan Cronin
(Term expires March 31, 2004)
Gettysburg

Honorable Jason Glodt
Student Regent (Expires July 1, 1998)
Spearfish

Honorable Robert T. (Tad) Perry
Executive Director
Pierre

General Administration

President
Peggy Gordon Elliott, Ed.D.
Vice President for Academic Affairs
Carol J. Peterson, Ph.D.

Vice President for Administration
Michael P. Reger, Ph.D.
Assistant Vice President for Academic Affairs
Edward P. Hogan, Ph.D.

Registrar
Ranny B. Knutson, M.Ed.

Deans

College of Agriculture and Biological Sciences
David A. Bryant, Ph.D., Dean
W. Eugene Arnold, Ph.D., Associate Dean and Director of Academic Programs
Mylo A. Hellickson, Ph.D., Associate Dean and Director of Cooperative Extension Service
Fred A. Cholick, Ph.D., Associate Dean and Director of Agricultural Experiment Station

College of Arts and Science
Herbert E. Cheever, Jr., Ph.D., Dean
Allen R. Branum, Ph.D., Assistant Dean
College of Education and Counseling
Dee Hopkins, Ed.D., Dean
College of Engineering
Duane E. Sander, Ph.D., Dean
Virgil G. Ellerbruch, Ph.D., Assistant Dean
College of General Registration
Gail Dobbs Tidemann, Ph.D., Dean
College of Family and Consumer Sciences
Laurie Stenberg Nichols, Ph.D., Dean

College of Nursing
Roberta K. Olson, Ph.D., Dean
College of Pharmacy
Danny L. Lattin, Ph.D., Dean
Graduate School
David Hilderbrand, Ph.D., Dean
Library
Steve R. Marquardt, Ph.D., Dean
Student Affairs
Robert Tomlinson, Ed.D., Dean
Marysz Palczewski-Rames, Ed.D., Interim Associate Dean

Directors

Admissions
Tracy Welsh, B.A.
Alumni Association
V. J. Smith, B.S.
Budget/Finance
Wesley G. Tschetter, M.B.A.
Chief Business Officer
Jerome C. Fiedler, M.Ed.
Computing Services
Delmar R. Johnson, M.Ed.
Diagnostic Laboratory
David Zeman, D.V.M., Acting
Financial Aid
Jay A. Larsen, M.Ed.
HPER/Athletics
Fred M. Oien, Ed.D.
Instructional Technologies
Jerry Jorgensen, Ph.D.
International Programs
Harriet P. Swedlund, M.S.
Physical Plant
Richard C. Waldner, A.A.
Residential Life
Henry Fulda, Ed.D., Interim Director
South Dakota Art Museum
John Awald, M.S., Acting
SDSU Foundation/Development
Edd Storey, M.A., Interim Director of Development
David Marquardt, M.A., Interim Director of Operations
Student Activities
Brian Wagner, M.A., Interim
University Bookstore
Gary G. Burdick, B.A.
University Relations
Jennifer Crickard, M.A.
Water Resources
Fred A. Cholick, Ph.D.

Department Heads (by college)

Agriculture and Biological Sciences
Animal and Range Sciences
Vacant at time of publication
Biology and Microbiology
Charles R. McMullen, Ph.D.
Dairy Science
John G. Parsons, Ph.D
Economics
Richard Shane, Ph.D.
Horticulture, Forestry, Landscape and Parks
Peter R. Schaefer, Ph.D.
Plant Science
Dale J. Gallenberg, Ph.D.
Rural Sociology
James L. Satterlee, Ph.D.
Veterinary Science
David Zeman, D.V.M. (Acting)
Wildlife and Fisheries Sciences
Charles G. Scalet, Ph.D.

Arts and Science
Aerospace Studies
LTC Jeff Boulware, M.S.
Chemistry and Biochemistry
Harry Hecht, Ph.D. (Acting)
Communication Studies and Theatre
Michael R. Schliessmann, Ph.D.
English
George A. West, Ph.D.
Foreign Languages
Karen Cárdenas, Ph.D.
Geography
Roger K. Sandness, Ph.D.
Health, Physical Education and Recreation
Fred M. Oien, Ed.D.
History
Rodney E. Bell, Ph.D.
Journalism and Mass Communication
Richard W. Lee, Ph.D.
Military Science
LTC Jan Griesenbrock, M.S.
Music
Corliss L. Johnson, D.M.A.
Philosophy and Religion
Robert Burns, Ph.D.
Political Science
Robert Burns, Ph.D.
Psychology
Allen R. Branum, Ph.D.
Visual Arts
Norman Gambill, Ph.D.

Education and Counseling
Counseling and Human Resource Development
Richard L. Roberts, Ph.D.
Educational Leadership
Ralph L. Erion, Ph.D.
Undergraduate Teacher Education
Kathryn Penrod, Ph.D.

Engineering
Agricultural Engineering
Darrell DeBoer, Ph.D.(Acting)
Civil and Environmental Engineering
Dwayne A. Rollag, Ph.D.
Computer Science
Gerald E. Bergum, Ph.D.
Electrical Engineering
Lewis F. Brown, Ph.D.
General Engineering and Technology
Jerry Sorensen, M.Ed. (Acting)
Mathematics and Statistics
Kenneth L. Yocom, Ph.D.
Mechanical Engineering
Donell P. Froehlich, Ph.D.
Physics
Oren Quist, Ph.D.

Family and Consumer Sciences
Apparel Merchandising and Interior Design
Sandra J. Evers, Ph.D.
Human Development, Consumer and Family Sciences
Mary Kay Helling, Ph.D.
Nutrition and Food Science
Marilyn A. Swanson, Ph.D.

Nursing
Graduate Nursing
Roberta K. Olson, Ph.D.(Acting)
Research and Special Projects
Roberta K. Olson, Ph.D.(Acting)
Undergraduate Nursing
Judith Vinson, Ph.D.
West River Nursing
Penny Powers, Ph.D.

Pharmacy
Clinical Pharmacy
Brian L. Kaatz, Pharm.D.
Pharmaceutical Sciences
Gary S. Chappell, 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 (One Dupont Circle, Suite 710, Washington, D.C. 20036-1191; Phone 202-778-0818) promotes the aims expressed in the Morrill Act of 1862, and in the subsequent acts of Congress relating to Land-Grant Colleges; and the American Association of State Colleges and Universities (One Dupont Circle, Suite 700, Washington, D.C. 20036-1192; Phone 202-293-7070).

The North Central Association of Colleges and Schools (30 North LaSalle Street, Suite 2400, Chicago, Il., 60602-2504; Phone 312-263-0456) is the regional accrediting agency. 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 April 2000.

The Athletic Training Program is accredited by the Commission of Accreditation of Allied Health Education Programs (35 E. Wacker Drive, Suite 1970, Chicago, IL 60601; Phone: 312-553-9355).

The bachelor's and master's degree programs in the College of Nursing are accredited by the National League for Nursing (350 Hudson, New York, New York 10014; Phone 212-645-9685 or 800-669-9656).

The Chemistry Department is accredited by the American Chemical Society (1155 Sixteenth St., N.W., Washington, DC 20036; Phone 202-872-4589).

The dietetic program is accredited by the American Dietetic Association (216 W. Jackson Blvd, Chicago, IL 50505-6995; Phone 800-877-1600).

The curriculum in Family and Consumer Sciences is accredited by the American Association of Family and Consumer Sciences (1555 King Street, Alexandria, VA 22314; Phone 703-706-4600).

The curriculum in Journalism 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).

The Music Department has full membership in the National Association of Schools of Music (11250 Roger Bacon Drive, Suite 21, Reston, VA 22090; Phone 703-437-0700).

Preparation of secondary teachers at both the undergraduate and graduate levels is accredited by the National Council for Accreditation of Teacher Education (2010 Massachusetts Ave., NW, Suite 500, Washington, D.C. 20036-1023; Phone 202-466-7496).

The programs of Agricultural, Civil, Electrical, and Mechanical Engineering are accredited by the Accreditation Board for Engineering and Technology (111 Market Place, Suite 1050, Baltimore, MD 21202; Phone 410-347-7700).

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).

The curriculum in Pharmacy is accredited by the American Council on Pharmaceutical Education (311 West Superior Street, Chicago, IL 60610; Phone 312-664-3575).

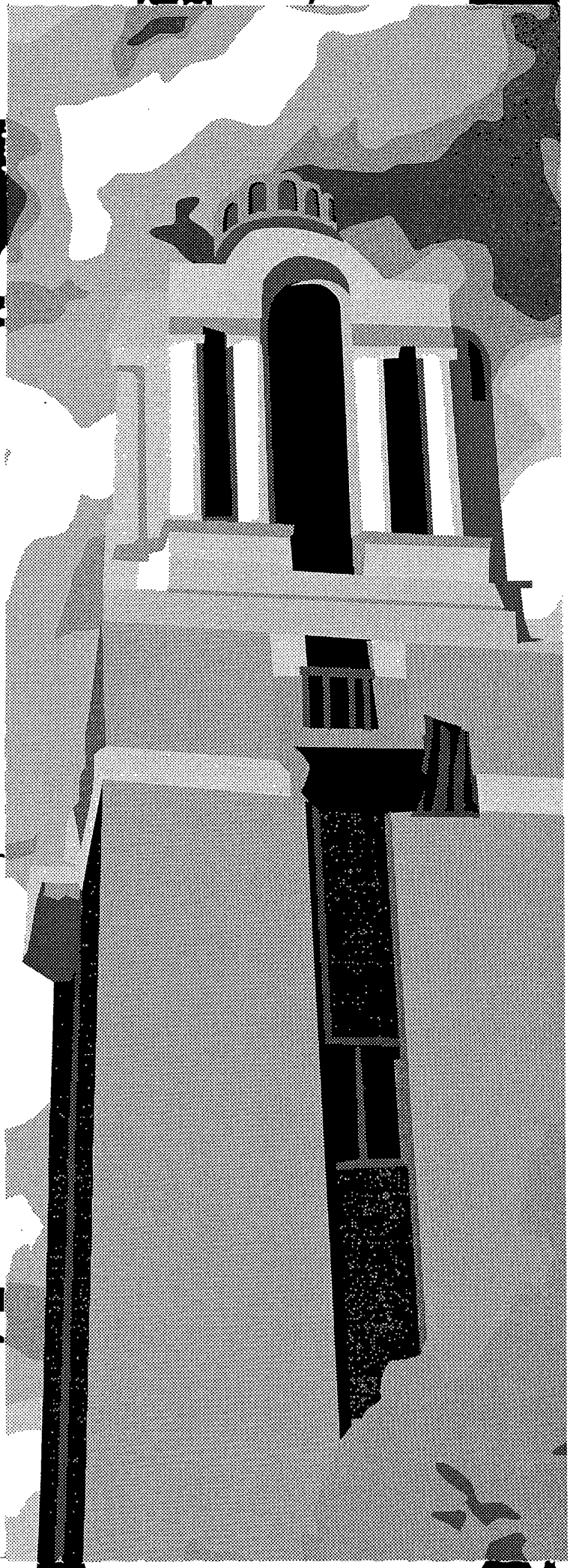
The Agricultural Systems Technology program is accredited by the American Society of Agricultural Engineering (2950 Niles Road, St. Joseph, MI 49085-9659; Phone: 616-429-0300).

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 800-424-2460).

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).

The University also holds membership in the American Council on Education, the American Association of University Women, the American Association of Colleges of Pharmacy, the American Society for Engineering Education, the Association of Accredited Schools and Departments of Journalism, the American Association of Colleges of Nursing, the American Library Association, Associated Western Universities, Inc., Council of Graduate Schools in the U.S., National Association for Foreign Student Affairs, American Association for Higher Education, CUIDES (Consejo Universitario Intermericano parael Dessarrollo Economico y Social) (American translation – Interamerican University Council for Economic and Social Development), 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).

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.



University *Staff*

UNIVERSITY STAFF

As of March 1998

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

Elliott, Peggy Gordon, President, Professor of Education, 1998; B.A., Transylvania University, 1959; M.S., Northwestern University, 1964; Ed.D., Indiana University, 1975; L.L.D., Transylvania University (Honorary Degree), 1993.

Peterson, Carol J., Vice President for Academic Affairs, Professor of Nursing, Graduate Faculty, 1977, 1987; Diploma in Nursing, Methodist Kahler School of Nursing, 1960; B.S., University of Minnesota, 1963; M.Ed., 1964; Ph.D., 1969.

Reger, Michael P., Vice President for Administration, Assistant Professor of Education, Graduate Faculty, 1979, 1993; B.A., Western Illinois University, 1970; M.S., 1972; Ph.D., Ohio State University, 1983.

Hogan, Edward P., Assistant Vice President for Academic Affairs, Professor of Geography, Graduate Faculty, 1967, 1991; B.S., St. Louis University, 1961; M.A., 1962; Ph.D., 1969.

Tomlinson, Robert, Dean of Student Affairs, 1994; B.S., Indiana State University, 1968; M.Ed., Mississippi State University, 1974; Ed.D., 1979.

Welsh, Tracy, Director of High School Relations and Admissions, 1984, 1997; B.A., Fontbonne College, 1980.

Knutson, Ranny B., Registrar, 1968, 1985; B.A., Huron College, 1968; M.Ed., SDSU, 1973.

Marquardt, Steve R., Dean of Libraries, Professor of Library Science, Graduate Faculty, 1996; B.A., Macalester College, 1966, M.A., University of Minnesota, 1970, 1973; Ph.D., 1978.

Tschetter, Wesley G., Director of Finance and Budget, 1982, 1985; B.S., SDSU, 1969; M.B.A., University of South Dakota, 1971.

Waldner, Richard C., Director of Physical Plant, 1965, 1994; A.A., South Dakota State University, 1975.

ACADEMIC DEANS

Bryant, David A., Dean of the College of Agriculture and Biological Sciences, Professor of Animal and Range Sciences, Graduate Faculty, 1987; A.A., Lower Columbia College, 1963; B.S., Washington State University, 1966; M.S., Texas Technical University, 1967; Ph.D., University of Arizona, 1971.

Cheever, Jr., Herbert E., Dean of the College of Arts and Science, Professor of Political Science, Graduate Faculty, 1968, 1992; B.S., SDSU, 1960; M.A., University of Iowa, 1962; Ph.D., 1967.

Hilderbrand, David, Dean of the Graduate School, Professor of Chemistry, Graduate Faculty, 1974, 1997; B.A., Southwest Baptist College, 1967; M.A., University of Missouri, 1969; Ph.D., 1971.

Hopkins, Dee, Dean of the College of Education and Counseling, Professor of Education, Graduate Faculty, 1997; B.S., Indiana University, 1972; M.S., 1974; Ed.D. 1982.

Lattin, Danny, Dean of the College of Pharmacy, Professor of Pharmaceutical Sciences, Graduate Faculty, 1995; B.S., University of Kansas, 1965; Ph.D., University of Minnesota, 1970.

Nichols, Laurie Stenberg, Dean of the College of Family and Consumer Sciences, Professor of Human Development, Consumer and Family Sciences, Graduate Faculty, 1994; B.S., SDSU, 1978; M.S., Colorado State University, 1984; Ph.D., Ohio University, 1988.

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., St. Louis University, 1984.

Sander, Duane E., Dean of the College of Engineering, P.E., Professor of Electrical Engineering, Graduate Faculty, 1967, 1990; B.S., South Dakota School of Mines and Technology, 1960; M.S., Iowa State University, 1962; Ph.D., 1964.

Tidemann, Gail Dobbs, Dean of the College of General Registration, Associate Professor of Human Development, Consumer and Family Sciences, Graduate Faculty, 1986, 1997; B.S., Jacksonville University, 1977; M.A., University of Alabama, 1978; Ph.D., 1986.

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.

Briggs, Hilton M., President Emeritus, Distinguished Professor of Agriculture Emeritus, 1958, 1975; B.S., Iowa State University, 1933; M.S., North Dakota State University, 1935; Ph.D., Cornell College, 1938; D.Sc., North Dakota State University, 1963.

Wagner, Robert T., President Emeritus, Professor Emeritus of Rural Sociology, Distinguished Professor of Higher Education, 1970, 1997; B.A., Augustana College, 1954; M.Div., Seabury Western Theological Seminary, 1957; S.T.M., 1970; Ph.D., SDSU, 1972; L.H.D., Augustana College, 1994; D.P.S., SDSU, 1997.

DISTINGUISHED PROFESSORS

Burns, Robert V., Distinguished Professor, Graduate Faculty, 1970, 1994; B.S., SDSU, 1964; M.A., University of Missouri, 1966; Ph.D., 1973.

Costello, William, Distinguished Professor of Animal and Range Sciences, Graduate Faculty, 1965, 1991; B.S., North Dakota State University, 1954; M.S., Oklahoma State University, 1960; Ph.D., 1963.

Evenson, Donald P., Distinguished Professor of Chemistry, Graduate Faculty, 1981, 1996; B.A., Augustana College, 1964; Ph.D., University of Colorado, 1968.

Gritzner, Charles F., Distinguished Professor of Geography, Graduate Faculty, 1980, 1995; B.A., Arizona State University, 1958; M.A., Louisiana State University, 1960; Ph.D., 1969.

Hegge, Margaret J., Distinguished Professor of Nursing, Coordinator of Research, Graduate Faculty, 1969, 1990; B.A., Gustavus Adolphus College, 1969; M.Ed., SDSU, 1972; Ed.D., University of South Dakota, 1983; M.S., University of Minnesota, 1984.

Hess, Donna J., Distinguished Professor 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.

Malo, Douglas D., Distinguished Professor of Plant Science, Graduate Faculty, 1975, 1997; B.S., Iowa State University, 1971; M.S., North Dakota State University, 1974; Ph.D., 1975.

Redhead, Ruth W., Distinguished Professor Emerita of Foreign Languages, 1962, 1993; B.Ed., University of Vermont, 1945; M.A., University of Minnesota, 1954; Ph.D., 1971.

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.

Widvey, Lois I., Distinguished Professor of Education, Graduate Faculty, 1973, 1998; B.S., Northern State College, 1955; M.S.Ed., 1958; Ed.D., University of Nebraska, 1971.

Woodard, Charles L., Distinguished Professor of English, Graduate Faculty, 1975, 1992; B.S., Dakota State College, 1964; M.A., University of Nebraska, 1966; Ph.D., University of Oklahoma, 1975.

Wrage, Leon J., Distinguished Professor of Plant Science, Extension Specialist, 1961, 1994; B.S., SDSU, 1961; M.S., 1964.

FACULTY, STAFF

Aamot, Mary E., 4-H Specialist, Professor of Extension, 1967, 1995; B.A., Mount Marty College, 1965; M.A., SDSU, 1976; Ed.D., University of South Dakota, 1985.

Aanderud, Wallace G., Professor Emeritus of Economics, 1963, 1985; B.S., North Dakota State University, 1950; M.S., 1960; Ph.D., Oklahoma State University, 1963.

Aaron, David B., Assistant Professor of Physics, 1986; B.S., SDSU, 1975; M.S., University of Wisconsin, 1981.

Abraham, Ross P., Assistant Professor of Mathematics and Statistics, 1997; B.S., Augustana College, 1990; M.A., University of Montana, 1993; Ph.D., University of Houston, 1997.

Ackman, John D., Associate Professor of Communication Studies and Theatre, 1978, 1997; B.S., SDSU, 1978; M.F.A., University of Montana, 1984.

Adams, Dwight L.,Professor Emeritus of Military Science, 1962, 1973; B.B.A., University of Georgia, 1959.

Adamson, Dwight W., Associate Professor of Economics, Graduate Faculty, 1989, 1995; B.A., Washington State University, 1976; M.A., 1983; Ph.D., 1988.

Adelaine, Michael F., Extension Computer Specialist, Associate Professor, 1990, 1995; B.S., Michigan State University, 1974; M.S., University of Nebraska, 1985; Ph.D., 1989.

Alexander, Ruth A., Professor Emerita of English, 1952, 1990; B.A., Michigan State University, 1945; M.A., University of Minnesota, 1947; Ph.D., Michigan State University, 1952.

Ali, Ahmed A., Visiting Scientist, 1996; B.S., College outside of U.S., 1993.

Allen, Herbert R., Professor Emeritus of Economics, 1963, 1987; B.S., Iowa State University, 1950; M.S., 1952; Ph.D., SDSU, 1968.

Ambur, Janet L., 1986, B.S., SDSU, 1982.

Amiotte, Lowell R., Associate Professor of Educational Leadership, Coordinator of American Indian Activities, 1990, 1996; B.S., Black Hills State University, 1964; M.A., University of South Dakota, 1971.

Andersen, Brenda F., Nurse Practitioner/Instructor of Nursing, 1982, 1985, B.S. N., SDSU, 1979, M.S., 1986.

Anderson, Arthur W., Professor Emeritus, Extension Economist, 1947, 1985; B.S., University of Minnesota, 1938; M.S., 1942.

Anderson, Gary A., Associate Professor of Agricultural Engineering, Graduate Faculty, 1987, 1992; B.S., SDSU, 1975; M.S., Iowa State University, 1985; Ph.D., 1987.

Anderson, Nancy, Research Assistant II, Station Biochemistry, 1989; B.S. Augustana College, 1971.

Andrawis, Alfred S., Associate Professor of Electrical Engineering, Graduate Faculty, 1981, 1996; B.S., Alexandria University, 1974; M.S., SDSU, 1982; Ph.D., Virginia Polytechnic Institute and State University, 1991.

Andrawis, Madeleine Y., Associate Professor of Electrical Engineering, Graduate Faculty, 1980, 1996; B.S., Cairo University, 1977; M.S., SDSU, 1983; Ph.D., Virginia Polytechnic Institute and State University, 1991.

Aparasu, Rajender R., Assistant Professor of Pharmaceutical Sciences, 1995; B.Pharm, Kakatiya University, 1988; M.Pharm., Jadavpur University, 1991; Ph.D., Northeast Louisiana University, 1995.

Arnold, W. Eugene, Associate Dean of the College of Agriculture and Biological Sciences, Director of Academic Programs, Professor of Plant Science, Graduate Faculty, 1970, 1988; B.S., Oklahoma State University, 1965; Ph.D., North Dakota State University, 1970.

Aro, Carlene D. , Assistant Professor/Serials Librarian, 1989, 1994; B.A.,Oregon State University, 1981; M.A.L.S., University of Michigan 1982; M.Ed., SDSU, 1993.

Arwood, Donald E., Associate Professor of Rural Sociology, Graduate Faculty, 1986, 1994; B.S., SDSU, 1980; M.S., 1982; Ph.D., 1989.

Austin, Jane E., Adjunct Assistant Professor, 1997; B.S., University of Maine, 1980; M.S., University of Missouri, 1983; Ph.D., 1988.

Avallone, Nicole, Assistant Professor of Foreign Language, 1997; B.S., University of Louisiana, 1989; M.A., University of Michigan, 1991; Ph.D., 1995.

Awald, John C., Director, Agricultural Heritage Museum, 1977, 1995; B.A., University of Arizona, 1972; M.S., University of Wisconsin, 1974.

Ayers, Clara J., Professor of Mathematics, 1964, 1997; B.S., Minot State College, 1958; M.A., University of Minnesota, 1962.

Badheart Bull, Loretta M., Adjunct Instructor of Nursing, 1990, 1992; B.S., SDSU, 1986; M.P.H., University of Oklahoma, 1989.

Baer, Rebecca K., Assistant Professor of Pharmaceutical Sciences, 1983; B.S., University of Georgia, 1982; B.S., SDSU, 1993; Pharm.D., SDSU, 1995.

Baer, Robert J., Professor of Dairy Science, Graduate Faculty, 1982, 1992; B.S., University of Georgia, 1977; M.S., 1979; Ph.D., 1983.

Bahr, Ann Marie B., Associate Professor of Philosophy and Religion, Graduate Faculty, 1988, 1993; B.A., Lawrence University, 1972; M.A., Stanford University, 1975; Ph.D., Temple University, 1989.

Bailey, James, Professor Emeritus of Animal and Range Sciences, 1968, 1986; D.V.M., Iowa State University, 1946.

Baker, Diane R., Research Assistant I, EPSCoR, 1990, 1992; B.A., Mount Marty College, 1972.

Baker, Philip R., Professor of Foreign Languages, 1973, 1985; B.A., University of Connecticut, 1959; M.A., Middlebury College, 1965; M.A.T., University of Hartford, 1968; Ph.D., Florida State University, 1973.

Baker, Roscoe, Professor Emeritus of Microbiology and Dairy Science, 1950, 1982; B.S., Iowa State University, 1942; M.S., 1947; Ph.D., 1950.

Ball, John J., Associate Professor of Horticulture, Forestry, Landscape and Parks, 1991, 1996; B.S., Michigan Technological University, 1976; M.S., Michigan State University, 1979; Ph.D., 1982.

Bare, Jr., Thomas B., Extension Specialist: Video, Teletext, Ag Communications, Assistant Professor, 1980, 1984; B.A., West Virginia University, 1964; M.A., Michigan State University, 1966.

Barnes, Allen R., Dean Emeritus of Arts and Science, Regental Professor Emeritus of Foreign Languages, 1961, 1987; B.A., Hastings College, 1948; M.A., University of Idaho, 1951; Ph.D., University of Madrid, Spain, 1953.

Barrios, Phil, Coach/Instructor of Health, Physical Education, and Recreation, 1992; B.S., Dakota State University, 1988; M.S., SDSU, 1994.

Bassett, Kurt D., P.E., Coordinator of IAC Lab, Associate Professor of Mechanical Engineering, Graduate Faculty, 1982, 1997; B.S., SDSU, 1981; M.S., 1983; Ph.D., North Dakota State University, 1995.

Bates, Merritt W., Professor Emeritus of Foreign Languages, 1969, 1981; B.A., University of Americas, 1954; M.A., 1958; Ph.D., Universidad National De Rosaria (Argentina), 1969.

Bauer, Elizabeth A., Adjunct Instructor of Nursing, 1987; B.S., SDSU, 1980; M.S., 1990.

Baumberger, Julie P., Assistant Professor of Counseling and Human Resource Development, Graduate Faculty, 1995; A.A., Dakota State University, 1977; B.S., 1979; M.Ed., SDSU, 1984; Ed.D., University of South Dakota, 1995.

Bayer, Michelle Ann, Coach/Lecturer of Health, Physical Education, and Recreation, 1996; B.A., SDSU, 1995.

Beattie, Patricia K., Professor of Foreign Languages, 1968, 1986; B.S., SDSU, 1963; M.A., Middlebury College, 1964; Ph.D., University of Minnesota, 1983.

Beauzay, Patrick Bennett, Research Associate I of Plant Science, 1994; B.S., SDSU, 1992; M.S., 1995.

Beck, Dwayne L., Research Manager, Redfield/Dakota Lakes Field Station, Professor of Plant Science, 1979, 1995; B.S., Northern State University, 1975; Ph.D., SDSU, 1983.

Becker, Sara, Instructor of West River Nursing, 1990, 1991; B.S.N., University of Utah, 1981; M.S., University of Portland, 1990.

Bell, Fayne D., Computer Resource Specialist, 1985; B.S., Jamestown College, 1955; M.Ed., SDSU, 1984; B.A., 1995.

Bell, Julie Ann, Assistant Professor of Human Development, Consumer and Family Sciences, 1975, 1980; B.S., SDSU, 1970; M.S., 1976.

Bell, Rodney E., Professor and Head of History, Graduate Faculty, 1970, 1980; B.S., Jamestown College, 1955; M.A., University of Michigan, 1956; Ph.D., 1975.

Bender, Alan R. Assistant Professor of Agricultural Engineering, 1981, 1992; C.L.T1, Saint Louis University, 1968; B.S., SDSU, 1966; M.S., 1980.

Benedict, Linda, Instructor of Nursing, 1993; B.S.N., University of Iowa, 1969; M.A., 1970.

Benfield, David A., Professor of Veterinary Science, Graduate Faculty, 1979, 1989; B.S., Purdue University, 1973; M.S., 1976; Ph.D., University of Missouri, 1979.

Benne, Candice L, Adjunct Instructor of Nursing, 1992; B.S., SDSU, 1976; M.S., 1992.

Berg, Donald J., Associate Professor of Geography, Graduate Faculty, 1990, 1995; B.A., North Dakota State University, 1964; M.A., 1966; M.A., University of California, 1971; Ph.D., 1976.

Berg, Jerry A., Supply Clerk, Military Science, 1989; B.S., SDSU, 1974.

Berg, Jr., Robert K., Manager, SESD Experiment Station Farm, Assistant Professor, 1993; B.S., Oklahoma State University, 1981; M.S., 1982; Ph.D., Iowa State University of Science & Technology, 1987.

Berg, Sherwood O., President Emeritus, 1975, 1984; B.S., SDSU, 1947; M.S., Cornell University, 1948; Ph.D., University of Minnesota, 1951.

Berg, Thomas F., Assistant Professor of Pharmacy, 1996; B.S., Creighton University, 1981; Ph.D., Medical University of South Carolina, 1990.

Bergmann, Peter J., Research Assistant II in Wildlife and Fisheries Sciences, 1990; B.A., Gustavus Adolphus College, 1989; M.S., SDSU, 1992.

Bergum, Gerald E., Head of Computer Science, Professor of Mathematics, Graduate Faculty, 1970, 1987; B.S., University of Minnesota, 1958; M.S., University of Notre Dame, 1962; Ph.D., Washington State University, 1969.

Berkland, Diana, Adjunct Instructor of Nursing, 1996; B.S.N., SDSU, 1972; M.S.N., 1994.

Berry, Jr., Charles R., Adjunct Professor of Wildlife and Fisheries Sciences, Graduate Faculty, 1985, 1991; B.S., Randolph-Macon College, 1967; M.S., Fordham University, 1970; Ph.D., Virginia Polytechnic Institute, 1976.

Betlach, Melanie, L., Instructional Technologist, 1981, 1997; B.S., SDSU, 1976.

Beutler, Martin K., Acting Director of West River Research and Extension Center/Professor of Economics, 1986, 1997; B.S., Utah State University, 1980; M.S., 1982; Ph.D., Purdue University, 1986.

Bielfeldt, Dennis D., Assistant Professor of Philosophy and Religion, Graduate Faculty, 1995; B.S., SDSU, 1977; M.A., University of Iowa, 1984; Ph.D., 1987.

Bierman, Sheri J., Research Associate I in Animal and Range Sciences, 1995; B.S., University of Nebraska, 1993; M.S., 1995.

Billow, Joye Ann, Professor of Pharmaceutical Sciences, Graduate Faculty, 1972, 1986; B.S., Temple University, 1966; Ph.D., 1972.

Binkley, Mark Richard, Instructor/Academic Development Specialist, 1985, 1995; B.S., SDSU, 1978; M.Ed., 1986; B.S., 1987.

Birch, Carol, Instructor of Nursing, 1990; B.S.N., Loyola University, 1979; M.S., Northern Illinois University, 1981.

Bischoff, John H. , Assistant Professor in Water Resources Institute, 1979, 1990; B.S., SDSU, 1977; M.S., 1983.

Black, George A., District Extension Supervisor, Assistant Professor, 1977, 1984; B.S., SDSU, 1961; B.D., North American Baptist Seminary, 1964; M.Div, 1975; M.Ed., SDSU, 1984.

Blauwet, Judy K., Adjunct Instructor in Nursing, 1990; B.S.N., Creighton University, 1972; M.P.H., University of Minnesota, 1989.

Blazey, Charles H., Professor Emeritus of Health Science, 1965, 1987; B.S., State University of New York, 1950; M.S., 1960; D.Ed., University of Oregon, 1971.

Bleakley, Bruce H., Associate Professor of Microbiology, Graduate Faculty, 1991, 1995; 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.

Bly, Anthony G., Research Associate II in Plant Science, 1990; B.S., SDSU, 1988; M.S., 1992.

Boe, Arvid A., Professor of Plant Science, Graduate Faculty, 1976, 1991; B.A., Pacific Lutheran University, 1972; M.A., University of South Dakota, 1976; Ph.D., SDSU, 1979.

Boetel, Mark A., Research Associate II in Plant Science, 1986; B.S, SDSU, 1986; M.S., 1989, Ph.D., 1996.

Boettcher, Susan, Research Associate I in Horticulture, Forestry, Landscape and Parks, 1992; B.S., SDSU, 1986; M.S., University of Kentucky, 1989.

Boggs, Donald L, Extension Beef Specialist, Professor of Animal and Range Sciences, 1988, 1996; B.S., University of Illinois, 1975; M.S., Kansas State University, 1977; Ph.D., Michigan State University, 1982.

Bohn, Curtis L., Coach/Instructor, 1996, B.A., Nebraska Wesleyan University, 1990, MS, University of Nebraska, 1993.

Bonnemann, Howard H., Dairy Plant Manager/Instructor, 1997, B.S., SDSU 1982, 1987, M.S. 1984.

Bonnemann, Joseph J., Assistant Professor Emeritus of Plant Science, 1955, 1992; B.S., SDSU, 1951; M.S., 1964.

Bonzer, Boyd J., Associate Professor Emeritus of Animal and Range Sciences, 1948, 1985; B.S., SDSU, 1942; M.S., 1959.

Booher, James M., Head of Athletic Training/Professor of Health, Physical Education and Recreation, Graduate Faculty, 1967, 1983; B.A., Nebraska Wesleyan University, 1965; R.P.T., School of Physical Therapy, Mayo Clinic, 1967; M.S., SDSU, 1969; Ph.D., University of Utah, 1976.

Borchard, Janet M., Accounts Payable Supervisor, 1996, 1996, B.S., Northern State University, 1988.

Bortnem, Robin, Research Associate I in Plant Science, 1985; B.S., SDSU, 1984; M.S., 1989.

Boulware, Jeffrey, Professor and Head of AFROTC, 1997; B.S., Montana State University, 1974; M.S., Embry-Riddle Aeron University, 1987.

Bowen, Clyde L., Internal Auditor, 1991; B.S., Northeast Missouri State University, 1961; M.B.A., Saint Ambrose University, 1990.

Boysen, Roxann K., Instructor of Nursing, 1989; L.P.N., Worthington Community College, 1974; A.A., University of South Dakota, 1979; B.S., SDSU, 1989; M.S., 1995.

Brage, Burton L., Professor Emeritus of Plant Science, 1950, 1990; B.S., University of Minnesota, 1946; Ph.D., 1950.

Brandt, Bruce E., Professor of English, Graduate Faculty, 1979, 1989; B.A., University of Denver, 1969; M.A., 1971; Ph.D., Harvard University, 1977.

Branum, Allen R., Assistant Dean of the College of Arts and Science, Professor and Head of Psychology, Graduate Faculty, 1970, 1994; B.S., Montana State University, 1966; M.A., University of Montana, 1968; Ph.D., 1971.

Branum, Judy R., Assistant Professor of Human Development, Consumer and Family Sciences, 1975, 1986; B.S., SDSU, 1975; M.S., 1977.

Brashier, Mary, Information Specialist, Assistant Professor, Ag Communications, 1973, 1979; B.A., University of Nebraska, 1958; M.S.T., University of Wisconsin, 1967.

Brinkman, Mark, Research Associate I in Plant Science, 1990; B.S., Sioux Falls College, 1990; M.S., SDSU, 1992; Ph.D., 1995.

Britzman, Mark J., Adjunct Assistant Professor of Education and Counseling, 1987; B.S., SDSU, 1982; M.Ed., 1984; Ed.D., University of South Dakota, 1987.

Brooks, April, Associate Professor of History, 1993, 1997; B.A., Hunter College, 1966; M.A., Tulane University, 1968; Ph.D., 1974.

Broschat, Robert A., Associate Professor Emeritus of Mathematics and Statistics, 1966, 1986; B.S., Valley City State College, 1960; M.S., North Dakota State University, 1962; M.S., University of Wisconsin, 1966.

Broschart, Michael R., Research Assistant II in Wildlife and Fisheries Sciences, 1995; B.S., Purdue University, 1975; M.S., SDSU, 1984.

Brost, Todd D., Instructor of Mathematics and Statistics, 1992; B.S., SDSU, 1990, M.S. 1993.

Brotsky, Robert L., Adjunct Professor of General Engineering and Technology, 1997, B.S., SDSU, 1956.

Brown, Lewis F., Associate Professor and Head of Electrical Engineering, Graduate Faculty, 1992, 1997; B.S., SDSU, 1984; M.S., Iowa State University, 1986; Ph.D., 1988.

Brown, Marilyn H., Instructor of English, 1985, 1993; B.A., Ohio State University, 1964; B.S., 1964; M.A., 1968.

Brown, Mary M., Professor Emeritus of English, 1955, 1982; B.A., Briar Cliff College, 1938; M.A., University of South Dakota, 1947; Ed.D., 1964.

Brown, Michael, Assistant Professor of Wildlife and Fisheries Sciences, Graduate Faculty, 1994; B.S., Arkansas Technical University, 1986; M.S., Texas A&M University, 1989; Ph.D., 1993.

Browning, Larry, Associate Professor of Physics, 1990, 1993; B.S., Syracuse University, 1975; M.S., Purdue University, 1980; Ph.D., 1984.

Bruce, James D., Associate Professor Emeritus of Electrical Engineering, 1960, 1974; B.S., Northern State College, 1936; M.A., University of South Dakota, 1942; B.S., Kansas State University, 1952; M.S., 1959; Ph.D., University of Missouri, 1968.

Brundige, Gary C., Adjunct Assistant Professor of Wildlife and Fisheries Sciences, 1983; B.S., University of Idaho, 1983; M.S., SDSU, 1985; Ph.D., Syracuse University, 1991.

Bruns, Kelly W., Instructor/Coach, Animal and Range Sciences, 1995; B.S., University of Nebraska, 1992; M.S., Michigan State University, 1995.

Bryn, Milo F., Professor Emeritus of Mathematics and Statistics, 1962, 1989; B.S., North Dakota State University, 1954; M.S., 1959; M.A., University of Illinois, 1962.

Buchenau, George W., Professor Emeritus of Plant Science, 1959, 1980; B.S., New Mexico State University, 1954; M.S., 1955; Ph.D., Iowa State University, 1960.

Bugg, Wesley A., Director Emeritus of Finance, 1957, 1982; B.Ed., Western State University, 1942; B.S., Walton School of Commerce, 1949.

Bunkers, Linda, Adjunct Instructor of Nursing, 1972; B.S.N., St. Olaf College, 1968; M.Ed., SDSU, 1976.

Burckhard, Suzette R., Assistant Professor of Civil and Environmental Engineering, 1997, B.S., SDSU, 1986, M.S. 1992, 1993, Kansas State University.

Burdick, Gary G., Director, University Bookstore, 1983; B.A., University of Minnesota, 1970.

Burggraff, Denise, Instructor in Nursing, 1992; B.S., SDSU, 1985; M.S., 1994.

Burke, Robert S., Associate Dean of Student Affairs, Professor of Psychology, 1971, 1995; B.A., Wheaton College, 1966; Ph.D., Baylor University, 1972.

Burton, Jr., John E., Extension 4-H Program Leader, 1994, 1997; B.S., Utah State University, 1969; M.S., 1973; Ph.D., Iowa State University, 1976.

Bush, Leon F., Associate Professor Emeritus of Animal and Range Sciences, 1974, 1978; B.S., University of Kentucky, 1950; M.S., 1951; Ph.D., Cornell University, 1954.

Butler, Jr., Eugene T., Affirmative Action Officer/ADA Coordinator, 1970, 1990; A.A., Modesto Junior College, 1960; B.A., California State College, 1965; M.Ed., SDSU, 1969.

Butler, III, Eugene T , Adjunct Associate Professor of Plant Science, 1991; B.S., University of California, 1973; Ph.D., 1978

Byrne, Mary E., Coach/Lecturer, Intercollegiate Athletics, 1993; B.S., University of Nebraska, 1985.

Calhoon, Catherine C., Instructor of Nursing, 1991; B.S.N., Loretto Heights College, 1973; M.S., University of Utah, 1977.

Campbell, William P., Assistant Professor of Agricultural Engineering, 1997; B.S., Iowa State University, 1984; M.S., Purdue University, 1987; Ph.D., 1991.

Canaan, Charles W., Professor of Music, Director of Choral Activities, 1986, 1992; B.S., California State University, 1965; M.A., Western Michigan University, 1973; D.M.A., Arizona State University, 1986.

Cárdenas, Karen Hardy, Professor and Head of Foreign Languages, Graduate Faculty, 1992, 1994; B.A., Grinnell College, 1965; M.A., University of Kansas, 1970; Ph.D., 1973.

Carlson, C. Gregg, Professor of Plant Science, Extension Specialist, Graduate Faculty, 1974, 1994; B.S., Western Illinois University, 1969; M.S., SDSU, 1972; Ph.D., 1978.

Carlson, C. Wendell, Professor Emeritus of Animal and Range Sciences, 1949, 1985; B.S., Colorado State University, 1942; M.S., Cornell University, 1948; Ph.D., 1949.

Carlson, Philip N., Assistant Professor of Military Science, 1995; B.A., University of South Dakota, 1987.

Carson, Paul L., Professor Emeritus of Plant Science, 1948, 1985; B.S., Northwest Missouri State University, 1941; M.S., Iowa State University, 1947.

Carson, Paula P., Associate Professor of Nursing, 1983, 1995; B.S., SDSU, 1975; M.S.N., University of Minnesota, 1983; Ph.D., University of Arizona, 1992.

Carter, Alan C., Computer Specialist, 1975, 1994; B.S., SDSU, 1975.

Carter, Catherine D., Associate Professor of Plant Science, Graduate Faculty, 1989; B.M.E., George Peabody College, 1971; B.S., 1975; M.S., 1976; Ph.D., University of Kentucky, 1982.

Caspers Graper, Mary E., Professor/Assistant Reference Librarian/Acting Circulation Librarian, 1985, 1997; B.A., Luther College, 1979; M.A., University of Iowa, 1980; M.L.S., University of Arizona, 1985.

Cassel, E. Kim, Professor of Dairy Science, Extension Dairy Specialist, 1989, 1997; B.S., Delaware Valley College, 1975; M.S., Cornell University, 1978; Ph.D., 1983.

Catangui, Michael A., Extension Associate in Plant Science, 1986, 1995; B.S., 1982; M.S., SDSU, 1987; Ph.D., University of Nebraska, 1992.

Cecil, Charles F., Instructor Emeritus of Journalism and Mass Communication, 1965, 1987; B.S., SDSU, 1959; M.A., 1970.

Cecil, Kristin K., Instructor of Foreign Languages, 1996; B.A., Colorado State University, 1992; M.A., 1996.

Ceglian, Cindi Penor, Assistant Professor of Human Development, Consumer and Family Sciences, 1979, 1997; B.S., SDSU, 1979; M.Ed., 1980; Ph.D., 1997.

Chappell, Gary S., Professor and Head of Pharmaceutical Sciences, Graduate Faculty, 1973, 1987; B.S., Ohio State University, 1963; Ph.D., University of Kansas, 1968.

Chappell, Rosemary L., Assistant Professor of Nursing, 1977, 1983; B.S., Capital University, 1963; M.S., SDSU, 1983.

Chase, Christopher, Associate Professor, Animal Disease Research and Diagnostic Lab, Graduate Faculty, 1992, 1996; D.V.M., Iowa State University, 1980; M.S., University of Wisconsin, 1987; Ph.D., University of Wisconsin, 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.

Cheesbrough, Thomas M., Associate Professor of Biology and Microbiology, Graduate Faculty, 1990, 1995; B.S. University of Wyoming, 1976; M.S., 1978; Ph.D., Purdue University, 1982.

Chen, Chen H., Professor Emeritus of Biology, 1960, 1975; B.S., National Taiwan University, 1954; M.S., Louisiana State University, 1960; Ph.D., SDSU, 1964.

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Cholick, Fred A., Associate Dean of the College of Agriculture and Biological Sciences, Director of the Agricultural Experiment Station, Director of Water Resources, Professor of Plant Science, Graduate Faculty, 1981, 1994; B.S., Oregon State University, 1972; M.S., Colorado State University, 1975; Ph.D., 1977.

Christensen,Joe A., Lecturer in Mathematics and Statistics, 1989; B.A., Augustana College, 1980.

Christianson, Kenneth D., P.E., Professor Emeritus of Mechanical Engineering, 1955; B.S., SDSU, 1949; M.S., 1958.

Christopher-Hennings, Jane, Assistant Professor of Veterinary Science, 1990, 1996; B.S., University of Wisconsin, 1975; D.V.M., University of Minnesota, 1983; M.S., University of Wisconsin, 1990.

Chu, Shu-Tung, P.E., Professor of Agricultural Engineering, Graduate Faculty, 1967, 1981; B.S., National Taiwan University, 1956; M.S., University of Minnesota, 1960; Ph.D., 1966.

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Clapper, Jeffrey A., Swine Specialist, Assistant Professor of Extension, Graduate Faculty, 1997, B.S., Ohio State University, 1982, M.S. 1987, Ph.D., Purdue University, 1992.

Clark, Marvin B., Classroom Technology Specialist, 1993, 1997, B.A., SDSU, 1992.

Clark, Tina M., Research Associate I of Animal and Range Sciences, 1997, B.S., Oregon State University, 1993, M.S. 1996.

Clay, David E., Associate Professor of Plant Science, Graduate Faculty, 1989, 1996; B.S., University of Wisconsin, 1976; M.S., University of Idaho, 1984; Ph.D., University of Minnesota, 1988.

Clay, Sharon A., Associate Professor of Plant Science, Graduate Faculty, 1989, 1993; B.S., University of Wisconsin, 1977; M.S., University of Idaho, 1982; Ph.D., University of Minnesota, 1986.

Clem, James, Associate Professor of Clinical Pharmacy, 1992, 1997; B.S., University of Iowa, 1989; Pharm.D., 1991.

Clever, Charles C., Associate Professor of Mathematics and Statistics, 1965, 1977; B.S., Grove City College, 1961; M.A., University of Kentucky, 1965.

Clever, Kay S., Coordinator, Student Information Systems, 1966; B.S., Grove City College, 1962; M.S., University of Kentucky, 1966.

Cline, Dorothy J., Associate Professor Emerita of Journalism, 1971, 1985; B.S., University of Colorado, 1940; M.S., SDSU, 1975.

Cline, R.A., Extension Agronomist Emeritus, 1949, 1972; B.S., Montana State University, 1930.

Clites, Janet G., Adjunct Instructor of Health, Physical Education, and Recreation, 1996, B.S., Central Missouri State University, 1970, M.Ed., SDSU, 1974.

Cogswell, Kurt D., Assistant Professor of Mathematics and Statistics, 1997, BS., Massachusetts Institute of Technology, 1978, M.S. North Dakota State University, 1991, Ph.D. Northwestern University, 1996.

Colburn, J. Duane, Associate Professor Emeritus of Plant Science, 1957, 1990; B.S., SDSU, 1950; M.S., 1960.

Colburn, Zora, Professor Emerita of Nutrition and Food Science, 1955, 1977; B.S., SDSU, 1942; M.S., 1954.

Coll, Kenneth, Associate Professor of Education and Counseling, Graduate Faculty, 1997, B.S., Bloomsburg State College, 1978, M.S., Emporia State University, 1982, Ph.D., Oregon State University, 1989.

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Sondey, John A., Associate Professor of Economics, Graduate Faculty, 1990, 1995; B.A., Bucknell University, 1962; M.B.A., Fairleigh Dickinson University, 1976; M.S., Arizona State University, 1979; Ph.D., Washington State University, 1989.

Soren, Vicki L., Purchasing Agent, 1984, 1991; A.A., Longview Community College, 1976; B.B.A., University of Missouri, 1978.

Sorensen, Jerry A., Professor and Acting Head of General Engineering, Graduate Faculty, 1984, 1990; B.S.E., University of South Dakota, 1963; M.Ed., University of Illinois, 1967.

Sorenson, Dianna L., Associate Professor of Nursing, Graduate Faculty, 1983, 1994; B.S., SDSU, 1977; M.N., Montana State University, 1983; Ph.D., University of Arizona, 1990.

Spear, Debra J., Assistant Professor in Psychology, 1995; B.S., University of Maryland, 1977; M.A., University of North Carolina, 1980; Ph.D., 1987.

Specker, Bonny L., Director and Professor of Ethel Austin Martin-Edward Moss Martin Chair of Human Nutrition, 1997; B.S., University of Cincinnati, 1977; M.S., 1980; Ph.D., 1983.

Spencer, Mary A., Associate Professor of Music, 1971, 1992; B.M.E., Yankton College, 1967; M.M., University of Cincinnati, 1970.

Spinar, Leo H., Professor Emeritus of Chemistry and Biochemistry, 1966, 1970; B.A., University of South Dakota, 1951; M.S., University of Wisconsin, 1953; Ph.D., 1958.

Spinar, Melvin F., Professor of Visual Arts, 1969, 1989; B.A., Dakota Wesleyan University, 1962; M.A., University of Iowa, 1965; M.F.A., 1966.

Spurgeon, Kenneth R., Professor Emeritus of Dairy Science, 1958, 1985; B.S., Purdue University, 1942; M.S., 1948; Ph.D., University of Wisconsin, 1951.

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Stange, Kenneth W., Assistant Professor of Agricultural Engineering, 1981, 1985; B.S., University of Minnesota, 1978; M.S., 1981.

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Sternhagen, Mark T., Instructor of General Engineering, 1986, 1992; A.A.S., University of South Dakota, 1984; B.S., SDSU, 1986; B.S.E., Dakota State College, 1986; M.S., SDSU, 1991.

Sterud, Karl D., Lecturer in Education and Counseling, 1997.

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Stevens, Dennis, Adjunct Professor of Nursing, 1996; B.A., Indiana University, 1970, M.D., 1974.

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Stine, Lawrence C., Professor Emeritus of Communication Studies and Theatre, Director Emeritus of Theatre, Associate Dean Emeritus of Arts and Science, 1952, 1977; B.A., Butler University, 1947; M.A., University of Iowa, 1951; Ph.D., 1962.

Stocke-Yamada, Amy, Instructor of Foreign Languages, 1993; B.A., Wheeling College, 1991; M.A., West Virginia University, 1993.

Stoflet-Gouldin, Dorothy, Professor Emerita of Textiles, Clothing, and Interior Design, 1963, 1977; B.A., Coe College, 1933; M.S., Iowa State University, 1948.

Storry, Junis O., Dean and Professor Emeritus of Engineering, Amdahl Distinguished Professor of Engineering, 1967, 1985; B.S., SDSU, 1942; M.S. 1949; Ph.D., Iowa State University, 1969.

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Stover, Ronald G., Professor of Rural Sociology, Graduate Faculty, 1983, 1992; B.A., University of Georgia, 1970; M.A., 1973; Ph.D., 1975.

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Streich, Galen A., Research Engineer in Training, 1993, 1996; B.S., SDSU, 1993, M.S., 1997.

Strickler, Susan C., Assistant Professor in Apparel Merchandising and Interior Design, 1991; B.S., SDSU, 1982; M.S., Texas Tech University, 1985; Ed.D., University of South Dakota, 1996.

Struck, Donald J., Assistant Professor of Mathematics, 1964, 1972; B.S., St. Cloud State University, 1960; M.S., North Dakota State University, 1963.

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Suich, Mark W., Assistant Professor in Military Science, 1997; B.A., Edinboro State College, 1986.

Sunde, Carl R., Professor of Foreign Languages, 1970, 1980; B.A., Luther College, 1962; M.A., University of Iowa, 1967; Ph.D., 1974.

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Sutton, Fedora, Associate Professor of Plant Science, Graduate Faculty, 1990, 1994; B.A., University of Maryland, 1981; Ph.D., Howard University, 1985.

Svec, Harriet, Instructor of Computer Science, 1994; B.S., Black Hills State University, 1971; M.S., Mankato State University, 1991.

Svec, Harry R., Assistant Professor Emeritus of General Engineering, 1940, 1958.

Svec, Harvey A., Instructor of General Engineering and Technology, 1994; B.S., SDSU, 1968; M.Ed., 1973.

Svec, Roger J., Instructor of General Engineering, 1966; B.S., SDSU, 1964.

Swan, Ronald K., Senior Livestock Superintendent, Animal and Range Sciences, 1983; B.S., SDSU, 1973.

Swanson, Marilyn A., Professor and Head of Nutrition and Food Science, Graduate Faculty, 1996; B.S., University of Delaware, 1967; M.S., University of Wisconsin, 1969; Ph.D., Washington State University, 1987.

Swedlund, Harriet P., Assistant Professor of Apparel Merchandising, Director of International Programs/Director of Honors Program, 1984, 1994; B.S., Iowa State University, 1954; M.S., 1957.

Sweeney, Jerry K., Professor of History, Graduate Faculty, 1970, 1980; B.A., Fort Hays Kansas State College, 1962; M.A., Kansas State University, 1967; Ph.D., Kent State University, 1970.

Swinson, Cindy R., Assistant Director of Financial Aid, 1982, 1993; B.A., SDSU, 1981; M.S., 1984.

Swinson, Robert L., Brookings Bureau Chief, 1997, B.A., SDSU, 1982.

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Taylor, Charles A., Professor Emeritus of Biology, 1949, 1968; B.S., Cornell University, 1935; M.S., 1939.

Taylor, Donald C., Professor Emeritus of Economics, 1980, B.S., Cornell University, 1959; M.S., University of Minnesota, 1964; Ph.D., 1965.

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Thiex, Nancy, Associate Professor of Chemistry, 1970, 1994; B.A., Northern State College, 1970; M.Ed., SDSU, 1972; M.S., 1974.

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Uresk, Daniel W., Adjunct Associate Professor of Wildlife and Fisheries Sciences, 1983; B.S., University of Utah, 1964; M.S., 1967; Ph.D., Colorado State University, 1972.

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Wake, Carol M., Instructor in Horticulture, Forestry, Landscape and Parks, 1991, B.S., SDSU, 1990, M.S., 1993, Ph.D., 1997.

Wakeman, G. Harvey, Assistant Professor Emeritus of General Engineering, 1941, 1958; A.S., SDSU, 1956.

Walder, Florence L., Manager Emerita of Professional Personnel, 1941, 1976; B.S., SDSU, 1929.

Walker, Julie A., Area Beef Specialist/Assistant Professor in Extension, 1997, B.S., North Dakota State University, 1983, M.S., Purdue University, 1990, Ph.D., University of Kentucky, 1995.

Walker, Darwin E., Professor Emeritus of Music, 1973, 1979; B.S., Northern State College, 1959; M.A., University of Northern Colorado, 1968; Ed.D., 1972.

Wallace, Scott, Assistant Professor of Visual Arts, 1995; B.F.A., Northern Illinois University, 1981; M.A., 1983; M.F.A., University of Arizona, 1985.

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Walstrom, Robert J., Professor Emeritus of Plant Science, 1955, 1988; B.S., University of Nebraska, 1947; M.S., 1949; Ph.D., Iowa State University, 1955.

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Wang, Chunyang, Associate Professor of Nutrition and Food Science, Graduate Faculty, 1993, 1997; B.S., 1985; M.S., Iowa State University, 1989; Ph.D., 1993.

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Weber, Erin M., Admissions Counselor, 1996; B.A., SDSU, 1996.

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Wells, Darrell G., Professor Emeritus of Plant Science, 1962, 1985; B.S., SDSU, 1941; M.S., State College of Washington, 1943; Ph.D., University of Wisconsin, 1949.

Wenande, Heidi, Adjunct Instructor in Nursing, 1992, B.A., Augustana College, 1974; M.S., University of North Florida, 1980; M.B.A., 1992.

Wermers, Julie, Research Coordinator of Martin Endowed Human Nutrition Program, 1990; B.S., SDSU, 1987; M.S., 1992.

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West, John K., Extension Associate, 1992; A.S., Sheridan College, 1967; B.S., University of Wyoming, 1970.

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Westby, Carl A., Professor of Microbiology, Graduate Faculty, 1973, 1981; B.A., University of California, 1958; Ph.D., 1965.

Westgate, Mark E., Adjunct Professor of Plant Science, 1997; B.S., University of Dayton, 1974; M.S., 1977; Ph.D., University of Illinois, 1984.

Westin, Frederick C., Professor Emeritus of Plant Science, 1947, 1986; B.S., University of Wisconsin, 1941; M.S., 1947; Ph.D., 1952.

Wey, Howard E., Associate Professor in Nursing, 1997; B.S., Wright State University, 1975; Ph.D., University of Cincinnati, 1980.

Whalen, Richard H., Professor of Biology, Graduate Faculty, 1967, 1990; B.S., College of St. Thomas, 1954; M.S., University of Illinois, 1956; Ph.D., Purdue University, 1965.

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Wiersma, John L., Professor Emeritus of Agricultural Engineering, 1943, 1983; B.S., SDSU, 1943; M.S., 1950; Ph.D., University of California, 1970.

Willgohs, Jo Ann, Instructor of Biology and Microbiology, 1986, 1992; B.A., Southwest State University, 1982; M.S., SDSU, 1988.

Williams, Charlene M., Instructor of Nursing, 1991, 1995; B.S., Montana State University, 1982; M.S., University of Wyoming, 1994.

Williams, Elizabeth E., Assistant Professor in Journalism and Mass Communications, 1981; B.S., SDSU, 1962; M.A., 1983; M.A., University of Wisconsin, 1964, Ph.D., SDSU, 1997.

Williams, Louis P., Professor of English, Graduate Faculty, 1965, 1983; B.A., University of Texas, 1960; M.A., 1965; Ph.D., University of Minnesota, 1976.

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Williams, Sandra A., Instructor of Nursing, 1985, 1992; B.S., Augustana College, 1967; M.S., SDSU, 1992, Ed.D., University of South Dakota, 1997.

Williamson, Edward, Associate Professor Emeritus of Plant Science, 1947, 1990; B.S., SDSU, 1947; M.S., 1952.

Williamson, Warren E., Professor Emeritus of Health, Physical Education and Recreation, 1956, 1987; B.S., SDSU, 1951; M.S., 1954; Dir. in Rec., Indiana University, 1969.

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Woldt, Bradley, Assistant Professor of Psychology, 1995; B.S., SDSU, 1988; M.A., University of Montana, 1991; Ph.D., 1993.

Wood, Leon, Professor Emeritus of Plant Science, 1955, 1990; B.S., Kent State University, 1949; M.S., Ohio State University, 1951; Ph.D., University of Minnesota, 1958.

Woodard, Howard J., Associate Professor of Plant Science, Graduate Faculty, 1990, 1995; B.S., University of Rochester, 1973; Ph.D., Rutgers University, 1985.

Woodson, W. David, Adjunct Assistant Professor of Plant Science, Graduate Faculty, 1991; B.S., Texas A&M University, 1984; M.S., 1986; Ph.D., Oklahoma State University, 1990.

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Yocom, Kenneth L., Professor and Head of Mathematics and Statistics, Graduate Faculty, 1962, 1980; B.S., S.D. School of Mines and Technology, 1960; M.S., University of Wyoming, 1962; Ph.D., 1972.

Yost, Josie L., Associate Professor Emeritus of Textiles, Clothing, and Interior Design, 1973; B.S. Syracuse University, 1960; M.A., 1962.

Young, Sandra L., Adjunct Instructor of Graduate Nursing, 1996; B.S., SDSU, 1979; M.S., 1990.

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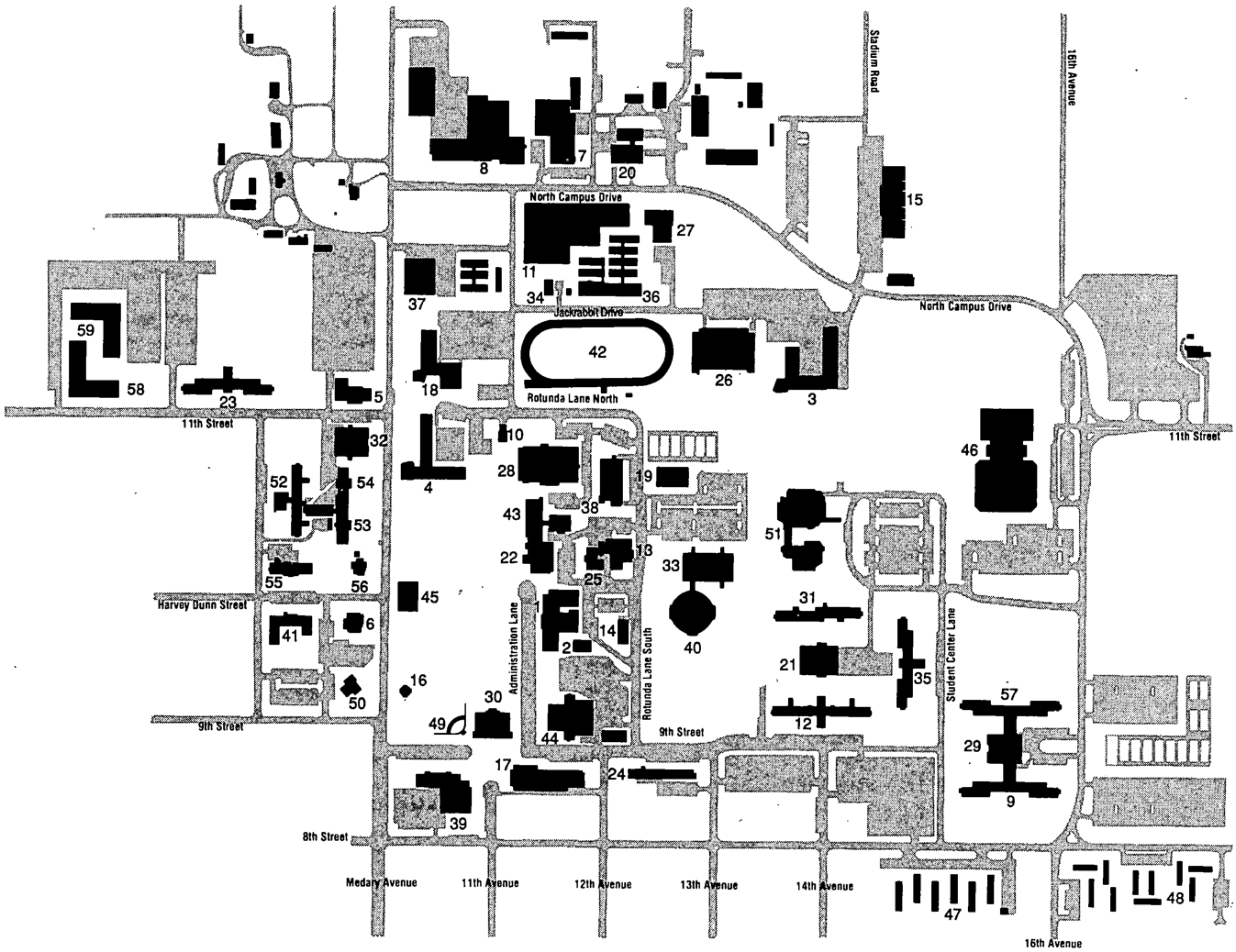
South Dakota State University Campus



1 Administration Building
2 Agricultural Communications Center
3 Agricultural Engineering
4 Agricultural Hall
5 Agricultural Heritage Museum
6 FRMC *also houses* Safety & Security (University Police Dept.)
7 Animal Disease Research and Diagnostic Laboratory
8 Animal Science Complex
9 Binnewies Hall
10 Biology Annex
11 Northern Plains Biostress Laboratory
12 Brown Hall
13 Central Heating Plant
14 Communications Center
15 Coughlin-Alumni Stadium
16 Coughlin Campanile
17 Crothers Engineering Hall
18 Dairy Microbiology
19 DePuy Military Hall
20 Foundation Seed Conditioning Plant
21 Grove Hall
22 Guilford C. Gross Pharmacy Building
23 Hansen Hall
24 Harding Hall
25 Heat/Power Laboratory
26 H.M. Briggs Library
27 Horticulture-Forestry
28 Intramural Building
29 Larson Commons
30 Lincoln Music Hall
31 Mathews Hall
32 Medary Commons
33 Nursing-Home Economics
34 Physiology Laboratory
35 Pierson Hall
36 Plant Science Building
37 Plant Science Seedhouse
38 Printing and Journalism Building (includes U.S. Postal Service)
39 Pugsley Continuing Education Center
40 Rotunda for Arts and Science
41 Scobey Hall
42 Sexauer Field
43 Shepard Hall
44 Solberg Hall
45 South Dakota Art Museum
46 Stanley J. Marshall Health, Physical Education and Recreation Center
47 State Court
48 State Village
49 Sylvan Theatre
50 Tompkins Alumni Center
51 University Student Union
52 Waneta Hall
53 Wecota Hall
54 Wenona Hall
55 West Hall
56 Woodbine Cottage (President's Residence)
57 Young Hall
58 Berg Hall
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