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South Dakota State University

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*South Dakota State University Bulletin Quarterly*

# SOUTH DAKOTA STATE UNIVERSITY

*A Land-Grant University established in 1881*



CELEBRATING



**125**  
YEARS

1881-2006

SDSU  
DOES IT  
BETTER

HOBO'S IN PARADISE  
HOBO D  
October 12, 1954  
SPSU vs USU

"STOMP  
THE SIOUX"  
HOBO DAY 1954  
OCT. 23 RD

HOBO DAY  
45  
OCTOBER  
1956

SHOO THE SIOUX  
OCT. 1958  
HOBO DAY

ST. JOHN'S VS SDSU  
OCT. 23  
1958



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

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*The 1950  
Jack Rabbit*

**SOUTH DAKOTA  
STATE UNIVERSITY**

**GENERAL CATALOG**

**2006**

• • • •

**2007**

**WWW.SDSTATE.EDU**



# FREQUENTLY CALLED NUMBERS

## GENERAL NUMBERS

Admissions	605-688-4121 or 1-800-952-3541
Administrative and Research Computing	605-688-6136
Agricultural Experiment Station	605-688-4149
Agricultural Heritage Museum	605-688-6226
Alumni Office	605-697-5198
Athletic Ticket Office	605-688-5422
Board of Regents	605-773-3455
Bookstore	605-688-4163
Cooperative Extension Service	605-688-4792
Disability Services	605-688-4504
Diversity Office	605-688-6361
Environmental Health & Safety	605-688-4264
Financial Aid Office	605-688-4695
Graduate School	605-688-4181
Health Services	605-688-4157
Human Resources	605-688-4128
Information Exchange	605-688-6127
International Affairs	605-688-4913
Jackrabbit Ticket Office	605-688-5422 or 1-866-GO-JACKS
Library	605-688-5107
Multicultural Affairs Office	605-688-6129
Physical Plant	605-688-4136
Placement Office/CAP Center	605-688-4153
Registrar	
(on-campus)	605-688-6195
(off-campus)	605-688-6397
Transcripts (ordering)	605-688-6637
Research Office	605-688-4181
Residential Life	605-688-5148
SDSU Dining Services	605-697-2550

SDSU Foundation	605-697-7475
South Dakota Art Museum	605-688-5423
Student Activities	605-688-4960
Student Affairs Vice President	605-688-4493
Student Health	605-688-5588
Theatre Box Office	605-688-6425
University Police Department	605-688-5117
University Relations	605-688-6161
USDSU Sioux Falls	605-367-5640

## ADMINISTRATIVE NUMBERS

President's Office	605-688-4111
Provost and Vice President for Academic Affairs	605-688-4173
Executive Vice President for Administration	605-688-6157
Vice President for Research and Dean of the Graduate School	605-688-4181
Vice President for Student Affairs	605-688-4493
College of Agriculture and Biological Sciences	605-688-4148
College of Arts and Science	605-688-4723
College of Education and Counseling	605-688-4321
College of Engineering	605-688-4161
College of Family and Consumer Sciences	605-688-6181
College of General Studies and Outreach Programs	605-688-4153
College of Nursing	605-688-5178
College of Pharmacy	605-688-6197
Graduate School	605-688-4181
Honors College	605-688-4913

## SOUTH DAKOTA STATE UNIVERSITY NON-DISCRIMINATION POLICY

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

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

Discrimination complaints including complaints of harassment or sexual discrimination in educational programs should be directed to: Equal Opportunity Officer/Title IX Coordinator, Human Resources, Administration Building Room 324, South Dakota State University, Brookings SD 57007, Phone (605) 688-4128.



UNIVERSITY CALENDARS.....	INSIDE BACK COVER	ACADEMIC GENERAL INFORMATION .....	29
CAMPUS MAP .....	424	Academic Advising Role Statements .....	30
FREQUENTLY CALLED NUMBERS .....	2	Affirmative Action/EEO/Title IX .....	31
SDSU NON-DISCRIMINATION POLICY .....	2	Disability Policy Statement.....	31
		E-Mail Policy Statement .....	31
PURPOSES AND OBJECTIVES .....	5	Family Educational Rights and Privacy Act (FERPA) .....	32
History and Mission: The Land-Grant Heritage .....	6	Graduation Policies and Procedures .....	32
Purposes .....	7	Non-Degree Courses .....	32
Educational Objectives .....	7	Policy on Sexual Harassment,	
Research, Scholarship and Creative Activities .....	8	Other Forms of Harassment .....	33
		Policy on Institutional Record of Student Complaints .....	34
ADMISSION POLICIES AND PROCEDURES .....	9	Student Code of Freedom and Responsibility .....	35
Application Procedures .....	10	Trip Regulations .....	35
Undergraduate Admission Requirements .....	10	University-Sponsored Student Athletic Trip Regulations .....	35
Residency Requirements .....	14		
ACADEMIC EVALUATION .....	15	GRADUATION REQUIREMENTS .....	37
Introduction .....	16	General Degree Requirements .....	38
Academic Amnesty .....	16	General Education .....	38
Assessment Program .....	16	General Education Requirements for B.S. Degree .....	39
Proficiency Examinations .....	17	System General Education Requirements (SGRs) .....	40
Information Technology Literacy .....	17	Institutional Graduation Requirements (IGRs) .....	43
Credits .....	17	Globalization Requirement .....	46
Examination for University Credit .....	17	Advanced Writing Requirement .....	47
Dean's List and Honors Designation .....	18	General Education Requirements for Associate Degree .....	48
Modern Language Credit .....	19	Policies Applicable to SGRs .....	49
Grading .....	19	Transfer Students.....	50
		College and Major Field Requirements .....	50
ACADEMIC EXPECTATIONS .....	21	DEGREES AND ASSOCIATED MAJORS .....	51
Academic Performance .....	22	Degree Definitions .....	52
Academic Honesty .....	22	Degrees and Associated Majors .....	53
Attendance.....	23	Majors Sorted by General Degree Type .....	54
Class Definition.....	23	All Authorized Majors, Minors, Certificates	
Electives .....	23	and Specializations .....	55
Rate of Progress .....	23	Organizational Structure of SDSU .....	60
ACADEMIC CHANGES .....	25	COLLEGES .....	61
Auditing a Course .....	26	Agriculture and Biological Sciences.....	62
Drop-Add Procedure .....	26	Arts and Science .....	65
Repeated Courses .....	26	Education and Counseling .....	67
Petitions and Appeals .....	27	Engineering .....	70
Withdrawal .....	27	Family and Consumer Sciences .....	72
		General Studies and Outreach Programs .....	74
		Graduate School .....	75
		Honors College .....	76
		Nursing .....	77
		Pharmacy .....	78

CONTINUED ON PAGE 4



DEPARTMENT AND PROGRAM DESCRIPTIONS .....	81
EXTENDED PROGRAMS.....	127
Summer Term, Evening College .....	128
USDSU (Sioux Falls Programs) .....	128
Outreach Programs .....	129
MAJOR AND MINOR REQUIREMENTS .....	131
COURSE DESCRIPTIONS .....	241
Curriculum Entries (how to read) .....	242
Abbreviations .....	243
Course Types .....	244
Other Important Definitions .....	245
x9x Common Course Descriptions .....	246
Course Descriptions (alpha-numeric by prefix) .....	248
SERVICES AND FACILITIES .....	361
Agricultural Experiment Station (AES).....	362
Alumni Association .....	362
Animal Disease Research and Diagnostic Laboratory (ADRDL) .....	362
Career and Academic Planning Center .....	363
Chief Information Technology Office.....	364
Cooperative Extension Service (CES) .....	365
Crime Reports .....	365
Diversity Enhancement, Office of .....	365
Endowed Chairs .....	366
Engineering Resource Center (ERC) .....	367
Environmental Health & Safety Office.....	367
Fees .....	368
Refunds .....	369
Financial Assistance .....	370
Foundation, SDSU .....	371
Intercollegiate Athletics .....	371
International Affairs .....	372
Intramurals and Recreational Sports and Sports Clubs .....	372
Library, Hilton M. Briggs .....	372
Logos, Seals, Caricatures, Wordmarks .....	373
McCrary Gardens .....	374
Museums/Collections .....	375
Physical Plant .....	375
Print Lab .....	375
Residential Life–Housing and Food Service .....	376
Service Learning .....	376
Student Affairs Division .....	377
The Union .....	378
University Relations .....	379
Water and Environmental Engineering Research Center (WEERC).....	379
Water Resources Institute (WRI) .....	380
Wellness Center.....	380

ORGANIZATION AND ADMINISTRATION.....	381
Board of Regents.....	382
General Administration .....	382
Deans/Associate and Assistant Deans.....	382
Directors .....	383
Department Heads.....	383
Affiliations and Accreditations .....	384
UNIVERSITY STAFF .....	385
General Administration .....	386
Academic Deans .....	386
Regental Distinguished Professors .....	386
Distinguished Professors .....	386
Faculty, Staff .....	387
Emeriti Faculty, Staff .....	409
INDEX .....	415
CAMPUS MAP .....	424



Initiated by the Class of 1903, "Flag Rush" became a game whereby classes would compete to hoist their class flags at the highest point on campus. The water tower, pictured above, was a popular albeit dangerous site. The administration ended the competition some ten years later.



PURPOSES AND OBJECTIVES.....5

*History and Mission:*

*The Land-Grant Heritage* .....6  
*Purposes* .....7  
*Educational Objectives* .....7  
*Research, Scholarship, and Creative Activities*.....8



# History and Mission: The Land-Grant Heritage

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**Establishment.** An act of the Territorial Legislature, approved February 21, 1881, provided that “an Agriculture College for the Territory of Dakota be established 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 (renamed College of General Studies and Outreach Programs in 2001) was established to provide assistance to students who are undecided as to major, are preprofessional, or who want a one, two, or four 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 Honors Program was renamed Honors College in Fall 1999.

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

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

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

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

The following curriculum is approved for South Dakota State University:

A. Undergraduate Programs

- Associate degree programs in General Studies and General Agriculture.
- Baccalaureate programs in the agricultural sciences, education, engineering and technology, family and consumer sciences, humanities and liberal arts, nursing, performing and visual arts, pharmaceutical sciences, physical and biological sciences, and social sciences.

B. Graduate Programs

- Masters degrees in arts and sciences, agricultural and biological sciences, family and consumer sciences, education and counseling, engineering and technology, and nursing.
- Doctor of Philosophy Degrees in Agriculture and Engineering, and the Computational, Physical, Biological, and Social Sciences; and Nursing.
- Professional programs – the Doctor of Pharmacy (Pharm D).

# Purposes

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

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

1. A strong foundation of general education for all graduates in all majors.
2. Learning in the fields of agriculture; engineering and engineering technology; consumer and family sciences; liberal arts; pharmacy; nursing; teacher and counselor education; basic physical, biological, and social sciences; humanities and arts at the undergraduate and graduate levels.
3. Research and scholarship in agriculture; engineering and engineering technology; consumer and family sciences; liberal arts; nursing; pharmacy; teacher and counselor education; basic physical, biological and social sciences; humanities and arts at the undergraduate and graduate levels.

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

## Educational Objectives

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

Specific objectives that flow from this broad educational objective are:

### **Intellectual and professional competence is attained when a graduate:**

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

### **Adequate personal development has been achieved when a graduate:**

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

### **A satisfactory sense of social and civic responsibilities has been acquired when a graduate:**

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

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

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



# Research, Scholarship and Creative Activities

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

The University encourages and supports research, scholarship and creative activity programs in all disciplines. To support these activities, the University and its faculty actively pursue external funds through competitive grant and contract proposals and through cooperative agreements with other institutions of higher education, state and federal agencies. In addition to department based research efforts, South Dakota

State University pursues scholarly activity through the Agricultural Experiment Station, Center for Biocomplexity Studies, the 2010 Research Centers funded by the State Legislature, E. A. Martin Program in Human Nutrition, the South Dakota National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR), and the Geographic Information Science Center of Excellence.

Primarily as a result of its doctoral education and research programs, South Dakota State University is classified as a Doctoral/Research University-Intensive in the Carnegie Classification system and as a national university by most rating organizations.

For information, contact Kevin Kephart, Vice President for Research and Dean of Graduate School, South Dakota State University, Box 2201, Brookings, South Dakota 57007-1998, phone: (605) 688-4181, e-mail: kevin.kephart@sdstate.edu.



Wenona Hall, built in 1907 as the first women's dormitory on campus, featured a dining room in the basement.



ADMISSION POLICIES AND PROCEDURES ..... 9

*Application Procedures* ..... 10

*Undergraduate Admission Requirements* ..... 10

*Residency Requirements* ..... 14

# Application Procedures

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

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

- **Admission Application**
- **\$20 Application Fee**  
If you have previously attended SDSU or another South Dakota public university as a degree-seeking student, you are not required to pay the application fee to SDSU.
- **Official High School Transcript**
- **Official Report of ACT Scores**

In addition, all transfer applicants must provide:

- **Official College Transcript(s)**  
You must request official transcripts from **all** the schools you previously attended. All transcripts should be sent from the issuing institution directly to the SDSU Admissions Office. If you are currently enrolled at another institution, you may send partial transcripts and be considered for provisional admission until the final transcript arrives.

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

Questions regarding admission can be sent to:

South Dakota State University  
Admissions Office  
Box 2201  
Brookings, SD 57007  
605-688-4121 • 1-800-952-3541 (Toll Free)  
e-mail: [sdsu.admissions@sdstate.edu](mailto:sdsu.admissions@sdstate.edu)  
[www3.sdstate.edu](http://www3.sdstate.edu)

## Undergraduate Admission Requirements

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

### Freshman Admission

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

- A.** Graduate in the top 60% of their high school graduating class,  
**OR**  
Achieve an ACT composite score of 18 (SAT-I score of 870) or above,  
**OR**  
Earn a cumulative GPA of at least a 2.6 on a 4.0 scale.  
**AND**
- B.** Complete the following required courses with a cumulative grade point average of a "C" or higher (2.0 on a 4.0 scale):
- 4 years of English**  
*or* ACT English sub-test score of 18 or above  
*or* AP English score of 3 or above
  - 3 years of Advanced Mathematics**<sup>1</sup>  
*or* ACT Math sub-test score of 20 or above  
*or* AP Calculus score of 3 or above
  - 3 years of Laboratory Science**<sup>2</sup>  
*or* ACT Science Reasoning sub-test score of 17 or above  
*or* AP Science score of 3 or above
  - 3 years of Social Science**  
*or* ACT Social Studies/Reading sub-test score of 17 or above  
*or* AP Social Studies score of 3 or above
  - 1 year of Fine Arts** for students graduating from South Dakota high schools  
*or* AP Fine Arts score of 3 or above

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

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

- <sup>1</sup> Advanced math includes algebra or any higher level math.
- <sup>2</sup> Laboratory science includes biology, chemistry, physics, or other approved science courses in which there is a weekly lab period scheduled.

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

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

- Rank in the top 60% of your high school graduating class,  
**OR**  
Achieve an ACT composite score of 18 or above,  
**OR**  
Earn a cumulative GPA of at least 2.6 on a 4.0 scale.

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

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

**AND**

Met university minimum progression standards.



## Transfer Students

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

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

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

### Students who Transfer to Baccalaureate Programs

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

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

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

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

### Students who Transfer to Associate Programs

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

## Former Students

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

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

Applicants who did not graduate from high school must:

Obtain an ACT composite score of 18, ACT English sub-test score of 18 or above, Math sub-test score of 20 or above, Social Studies/Reading and Science Reasoning sub-test scores of 17 or above. Students must be at least 18 years of age, or the high school class of which the student was a member must have graduated from high school.

**OR**

Complete the General Equivalency Diploma (GED) with the total cumulative standard test scores for all five tests must total 2250 with no standard score below 410.

## Non-Traditional Students

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

## Special Students

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

## Concurrent High School Students

High school juniors and seniors may 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 and parental 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.

## Regental Policy for Transfer of Credit

1. Academic courses will be transferred as meeting graduation requirements if the courses parallel the scope and depth requirements for the degree or if the courses meet electives required for the degree. Credit will not be given for duplication of courses.
2. United States Regional Accrediting Associations  
North Central Association of Colleges and Schools, Western Association of Schools and Colleges, New England Association of Schools and Colleges, Northwest Association of Schools and Colleges, Middle States Association of Colleges and Schools, Southern Association of Colleges and Schools.
3. Undergraduate transfer academic courses received from United States colleges and universities accredited by United States regional accrediting associations
  - A. All undergraduate transfer courses and all transfer grades (whether the grades are passing or not passing) must be recorded and an equivalency specified by the Regental university, calculated into grade point averages according to the Regental grade scheme, and recorded on the student’s academic transcript.
  - B. Remedial courses (as identified on the sending institution’s transcript) received in transfer are recorded, transcribed, and assigned an equivalency at the receiving university but do not calculate into grade point averages.
  - C. Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system. (Refer to BOR 2:10, Use of Grade Point Averages).
  - D. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed. In subsequent evaluations, grades previously recorded cannot be changed.

- E. The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
  - F. Orientation, Life Experience, General Educational Development Tests, and high school level courses are not recorded in Colleague as transfer credit nor are they granted equivalent credit.
    - 1) High school courses for which students received college credit will not be entered as transfer credit, or given equivalent credit, unless validated by an Advanced Placement or CLEP score that meets Board of Regents guidelines for acceptance of credit or the college credit is granted by a university with which the Board has a dual credit agreement. This requirement is effective for high school courses taken after Spring term 2002.
4. Undergraduate transfer technical courses received from United States colleges and universities accredited by United States regional accrediting associations
    - A. University discretion is permitted in acceptance of courses. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
    - B. When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the technical institute is not recorded or calculated into the grade point averages.
    - C. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
    - D. The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
  5. Graduate transfer courses received from United States colleges and universities accredited by a United States regional accrediting association
    - A. Graduate transfer courses and transfer grades, are recorded and evaluated by the Regental university, calculated into grade point averages according to the Regental grade scheme, and recorded on the student's academic transcript ONLY if these transfer courses are equivalent to a specific graduate course at the university evaluating the credit.
    - B. Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system.
    - C. In subsequent evaluation, all equivalencies may be re-evaluated, inactivated, or changed. Additional equivalencies may be added and evaluated. In subsequent evaluations, grades previously recorded cannot be changed.
    - D. The university-specific plan of study requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
  6. Transfer Courses Received from Accredited Postsecondary Technical Institutes
    - A. South Dakota Technical Institutes
      - 1) Transfer of courses from South Dakota postsecondary technical institutes is governed by BOR policies 2:25, 2:26, 2:27 and 2:28.
      - 2) Transfer grades not existing in the Regental grading scheme will be equated to the Regental grading system.
    - B. Other Technical Institutes
      - 1) University discretion is permitted in acceptance of courses. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
      - 2) When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the technical institute is not recorded or calculated into the grade point averages.
      - 3) In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
      - 4) The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
  7. Undergraduate and graduate credits received from United States colleges or universities which are not accredited by a United States regional accrediting association, and undergraduate and graduate credits received from United States colleges or universities which are not accredited by a United States regional accrediting association but are accredited by a national specialized accrediting agency recognized by the US Department of Education.
    - A. University discretion is permitted in acceptance of courses. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
    - B. When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the non-accredited institution is not recorded or calculated into the grade point averages.
    - C. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
    - D. The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
  8. Courses submitted in transfer from postsecondary technical institutes that are not accredited by a United States regional accrediting agency will not be accepted.
  9. Undergraduate and Graduate Courses from Postsecondary Institutions outside the United States
    - A. Courses considered for transfer are subject to all BOR policies and any conditions for validation that may be prescribed by the accepting institution.
    - B. When the courses are accepted for transfer, equivalent courses are recorded on the transcript but the grade earned at the sending institution is not recorded or calculated into the grade point averages.
    - C. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.

- D. The university-specific degree requirements determine if the courses transferred are applicable to the student's degree program at that university and if they meet the minimum grade criteria.
10. Credit Received Through Validation Methods
    - A. Credit earned through validation methods other than nationally recognized examinations is limited to a maximum of 32 hours of credit for baccalaureate degrees and 16 hours of credit for associate degrees.
      - 1) Validation of Military credit is limited to an additional 32 hours of credit for baccalaureate degrees and an additional 16 hours of credit for associate degrees.
    - B. Credit for college level courses granted through nationally recognized examinations such as CLEP, AP, DANTES, etc., will be evaluated and accepted for transfer if equivalent to Regental courses and the scores are consistent with Regental policies.
    - C. When validation credits are accepted, equivalent courses are recorded on the transcript but are not calculated into the grade point averages.
    - D. In any subsequent evaluation, equivalencies for system common courses and system general education courses will not be changed. Equivalencies for unique courses may be changed, re-evaluated, or inactivated. Additional equivalencies may be added and evaluated.
    - E. The university-specific degree requirements determine if the validation credits accepted also are applicable to the student's degree program at that university.
  11. When a course has been repeated for credit, all attempts will be entered on the transcript but the last grade earned will be used in the calculation of the grade point averages.
  12. Total transfer credit for work at a junior, community college (2 year), and/or two-year technical college may not exceed one-half of the hours required for completion of the baccalaureate degree at the accepting institution. Students who have completed more than the acceptable semester hours of junior, community or technical college work may apply completed, transferable courses to specific course requirements and thereby may not be required to repeat the courses. The semester hours of credit for those additional courses may not be applied toward the minimum credit hours required for the degree.
  13. System general education requirements successfully completed at the sending South Dakota Regental institution will be accepted towards meeting these requirements at the accepting South Dakota Regental institution. In any subsequent evaluation of any transfer or noncourse work, equivalencies for system common courses and system general education courses will not be changed.
  14. Evaluations of courses will be made by the appropriate institutional officials at the time of admission by comparing descriptions, content, and level of courses completed with those at the accepting institution.
  15. Each institution will develop and maintain a procedure for the appeal of transfer credit decisions.
  16. A Regental internal transfer process occurs when an undergraduate course is used on a converted credit basis to meet graduate plan of study requirements at Regental universities or when graduate credit is used on a converted or actual credit basis to meet undergraduate degree requirements for a Regental accelerated program. Refer to BOR policy 2:8.3.A and 2:8.3.B.

## Transfer between Regental Universities

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

## Articulation Agreements

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

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

## Correspondence Credit

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

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

## Servicemembers Opportunity College (SOC)

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



## Admission with Advanced Standing

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

## Admission of International Students on Nonimmigrant Visas

SDSU is dedicated to providing educational opportunities for students from abroad and has traditionally enrolled students from 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 \$20.00

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

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

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

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

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

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, SAD 210, SDSU, Brookings, SD 57007. Phone: 605-688-4122; e-mail sdsu.intlstud@sdstate.edu or fax 605-688-5951.

## Policy for Transfer of International Undergraduate Credit

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

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

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

## Non-Native Speakers of English

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

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

Further information regarding admission and English proficiency requirements may be obtained from the International Student Affairs Office, SAD 210, SDSU, Brookings, SD 57007, Phone: 605-688-4122. E-mail: sdsu.intlstud@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.



<b>ACADEMIC EVALUATION.....</b>	<b>15</b>
<i>Introduction .....</i>	<i>16</i>
<i>Academic Amnesty.....</i>	<i>16</i>
<i>Assessment Program .....</i>	<i>16</i>
<i>Proficiency Examinations .....</i>	<i>17</i>
<i>Information Technology Literacy.....</i>	<i>17</i>
<i>Credits.....</i>	<i>17</i>
<i>Examination for University Credit .....</i>	<i>17</i>
<i>Dean's List and Honors Designation.....</i>	<i>18</i>
<i>Modern Language Credit .....</i>	<i>19</i>
<i>Grading.....</i>	<i>19</i>

# Introduction

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

## Academic Amnesty

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### Philosophy

Some students attempted college work previously and were not successful in their efforts. They now wish to resume their college careers but are held back by poor academic records. The goal of academic amnesty is to respond to the academic needs of matured individuals as they develop newly identified potential. Through the application of academic amnesty, the student's prior academic record can be excluded from current work under certain conditions.

### Eligibility

The student must:

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

### Conditions/Procedure

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

## Assessment Program

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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. For further information contact the Director of Academic Evaluation and Assessment at 605-688-4217.

# Proficiency Examinations

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The South Dakota Board of Regents has selected the Collegiate Assessment of Academic Proficiency (CAAP) examination to be administered at all Regental universities. The CAAP assesses knowledge, skills, and abilities in four areas: writing, mathematics, reading, and science reasoning. The proficiency examination will be offered each spring and fall. All degree-seeking students are required to take the proficiency examination during the first semester in which they become eligible. Baccalaureate degree-seeking students will sit for the exam on completion of 48 passed credits at the 100 level or above, and associate degree-seeking students will sit for the exam on completion of 32 passed credits at the 100 level or above. Enrolled students who have

already earned a baccalaureate degree are exempt from the requirement. A student who chooses not to take the examination will not be allowed to register for two academic terms (fall, spring, or summer) at any Regental institution.

Students failing to achieve the minimum scores established by the South Dakota Board of Regents in one or more areas will be required to develop a remedial plan in conjunction with their advisers and will be allowed to retest the failed part(s) during the spring and fall testing periods and must do so within one calendar year. For further information contact the Director of Academic Evaluation and Assessment at 605-688-4217.

## Information Technology Literacy

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The ability to locate, evaluate, and select relevant information from a variety of sources is essential for academic success. The Information Literacy Examination, administered at the time of the proficiency examination, is a multiple choice exam designed to measure these abilities. Students are required to pass and will be required to remediate until a passing score is achieved. Successful completion is required for

graduation. This requirement is currently under system review and will result in a different examination, administration guidelines, and passing requirements. For an update on this development, contact the Director of Academic Evaluation and Assessment at 605-688-4217.

## Credits

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

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

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

## Examination for University Credit

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

Credits obtained through validation methods other than nationally recognized examinations are limited to 32 hours of credit for baccalaureate degrees and 16 hours of credit for associate degrees. There is no limit on the number of credits earned through nationally recognized examinations.

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

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

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

### Nationally Recognized Examinations

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

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

### University CLEP Policies

A CLEP examination may not be taken for a lower level course if a student has completed or is currently enrolled in an upper-level course in the same subject. A CLEP examination may not be taken if a student is receiving a failing grade or has received a failing grade in the same subject. A CLEP examination may not replace a failed grade.

### Local Challenge Exams

If a nationally recognized examination 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 at the Academic Evaluation and Assessment Office and completing the prescribed steps:

1. Consult the head of the department in which the course is offered. This person will conduct a preliminary evaluation of your background in the subject area to determine if an examination is warranted.
2. Consult the dean of the college in which you expect to receive a degree to determine whether credits earned by examination in the proposed subject will be accepted toward the degree.
3. Pay the examination fee **before** taking the examination. Specific details are enumerated on the application form which is available at the Academic Evaluation and Assessment Office.

### Policy for Repeating Local Challenge Examinations

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

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

### Challenge By Portfolio

A "portfolio" may be used to document competencies learned through non-transferable courses at Technical Institutes or other institutions if a grade of C or better were earned. A portfolio may also be used to verify skills learned through prior work experiences. A portfolio is a detailed, written document prepared by a student to demonstrate knowledge and skills. A portfolio may contain both prior coursework and employment experiences relevant to the course being challenged. A Challenge by Portfolio application can be obtained through the Academic Evaluation and Assessment office (605-688-4217). Students will need to receive departmental approval and pay a fee prior to portfolio review.

For information about credit through any of these programs contact the Academic Evaluation and Assessment Office (605-688-4217). South Dakota State University cannot guarantee that credit earned via exam at SDSU will transfer to other institutions. Even though SDSU has made an effort to set cut off scores at appropriate levels, each institution develops its own procedures for accepting credit by exam. In some cases, a certain test or score level acceptable at SDSU **may not** qualify a student for credit at another institution.

### 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.

# Dean's List and Honors Designation

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## Dean's List Designation

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

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

- a. Students must have earned a minimum of 12 credit hours in courses numbered 100-699 during the term.
- b. Students must achieve a System Term GPA of at least 3.5.
- c. Students with F, I, U, RI, or RU grades are not eligible regardless of System Term GPA attained.

## Honors Designation at Graduation

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

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

The undergraduate student must have completed a minimum of 64 credit hours at the institution granting the degree. Courses that are part of a formal collaborative agreement among Regental universities are considered to be earned from the institution granting the degree. (Also refer to Board of Regents policy 2:29.)

**Associate Degree.** The institution granting the degree determines the Honors Designation for its associate-level graduates. To earn an Honors Designation at graduation, an associate-level graduate must meet both the following cumulative and institutional grade point averages: With highest honor equal to or greater than 3.9 With high honor equal to or greater than 3.7 and less than 3.9 With honor equal to or greater than 3.5 and less than 3.7 An associate-level graduate must have completed a minimum of 32 credit hours at the institution granting the degree. Courses that are part of a formal collaborative agreement among Regental universities are considered to be earned from the institution granting the degree. (Also refer to BOR Policy 2:29.)

## Academic Recognition for Undergraduate, Part-Time Students

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

To be awarded the Academic Recognition for Part-Time Students designation, students must meet the following guidelines:

- a. Students must have completed at least 12 credit hours prior to the current semester at one or more Regental institutions.
- b. The student must have earned at least 3 and up to 11 credit hours of 100-699 level courses during the term.
- c. Students must achieve a System Term GPA of at least 3.5.
- d. Students with F, I, U, RI, or RU grades are not eligible regardless of System Term GPA attained.

# Modern Language Credit

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

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

Students who plan to study abroad with the intent of transferring the credits earned to SDSU must receive written permission to do so from the Department of Modern Languages and/or the Office of International Affairs **before** undertaking such study. The University does not accept credit from all foreign institutes. Students who take courses abroad **without prior permission** from the Department of Modern Languages and/or the Office of International Programs may not receive SDSU credit for these courses.

Please contact the Department of Modern Languages (SNF 121, 605-688-5101) for additional information.

## Grading

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

A grade report is available for each registered student on WebAdvisor at <https://wa-sdsu.state.sd.us/webadvisor/> or by requesting an unofficial transcript from the Registrar's Office.

### Types of Grades

**Undergraduate Grades** will be assigned to the undergraduate academic level and to all courses and sections with course numbers ranging from 001 to 499. Plus and minus grades are not used.

A	Exceptional	4.00 grade points per semester hour
B	Above Average	3.00 grade points per semester hour
C	Average	2.00 grade points per semester hour
D	Lowest Passing Grade	1.00 grade points per semester hour
F	Failure	0.00 grade points per semester hour
S	Satisfactory	Does not calculate into any GPA
U	Unsatisfactory	Does not calculate into any GPA
RI	Incomplete (Remedial)	Does not calculate into any GPA
RS	Satisfactory (Remedial)	Does not calculate into any GPA
RU	Unsatisfactory (Remedial)	Does not calculate into any GPA
W	Withdrawal	Does not calculate into any GPA, no credit granted
AU	Audit	Does not calculate into any GPA, no credit granted
I	Incomplete	Does not calculate into any GPA
IP	In Progress	Does not calculate into any GPA
EX	Credit by Exam	Does not calculate into any GPA
CR	Credit	Does not calculate into any GPA
TR	Note for NSE/MEDT	Does not calculate into any GPA, no credit granted
LR	Lab grade linked to Recitation Grade	0 credit course
NG	No Grade	0 credit tracking course
NR	Grade not Reported by Instructor	Does not calculate into any GPA
Grade*	Academic Amnesty	Does not calculate in any GPA, no credit given

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

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

- b. The student must be earning a passing grade at the time the Incomplete is necessitated. Anticipated course failure is not a justification for an incomplete.
- c. The student does not have to repeat the course to meet the requirements.
- d. The instructor must agree to grant an incomplete grade.
- e. The instructor and student must agree on a plan to complete the coursework.
- f. The coursework must be completed within one semester; extensions may be granted by the Vice President for Academic Affairs.
- g. If the student completes the course within the specified time, the grades that may be assigned are A, B, C, D, F, S, RS, RU, or U.
- h. If the student does not complete the course within the specified time, the grade assigned will be F (Failure) or U (Unsatisfactory) or RU (Remedial Unsatisfactory) if the student had requested S/U within the time specified in BOR policy 2:6.9.

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

- a. The requirements for the course (for every student enrolled in the course) extend beyond the current term.
- b. The extension beyond the current term must be defined before the class begins.
- c. The instructor must request permission to award IP grades for a course from his/her Department Head and Dean, and then approval must be obtained from the Vice President for Academic Affairs.
- d. A definite date for completion of the course must be established in the course syllabus.

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

A	Exceptional	4.00 grade points per semester hour
B	Good	3.00 grade points per semester hour
C	Average	2.00 grade points per semester hour
D	Unsatisfactory	1.00 grade points per semester hour
F	Failure	0.00 grade points per semester hour
S	Satisfactory	Does not calculate into any GPA
U	Unsatisfactory	Does not calculate into any GPA
W	Withdrawal	Does not calculate into any GPA, no credit granted

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

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

- A student has encountered extenuating circumstances that do not permit him/her to complete the course.
- The student must be earning a passing grade at the time the Incomplete is necessitated. Anticipated course failure is not a justification for an incomplete.
- The student does not have to repeat the course to meet the requirements.
- The instructor must agree to grant an incomplete grade.
- The instructor and student must agree on a plan to complete the coursework.
- The coursework must be completed within one calendar year; extensions may be granted by the Graduate Dean.
- If the student completes the course within the specified time, the grades that may be assigned are A, B, C, D, F, S, or U.
- If the student does not complete the course within the specified time, the Incomplete grade remains on the transcript.

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

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

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

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

Any graduating senior or graduating graduate student who receives an incomplete or in progress grade in the final semester in a course required for graduation, or who has not removed an outstanding incomplete or in progress from a previous semester in a course required for graduation by the date grades are due for the semester, will not be permitted to graduate that semester. He or she will be required to apply for graduation for a

subsequent semester. Emergency situations require the filing of a petition by the student to their Academic Dean for approval prior to the final grading deadline for the final semester.

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

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

Course	Credits	Grade	Grade Points
MIL 101	1	A	4
MATH 115	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.**

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

**You should notify the Registrar's Office, SAD 310, when a course, whether failed or passed, is repeated.**

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

- You may enroll in up to 20 credits.
- These credits must be outside your major and may not serve to satisfy university, college or departmental specific requirements, unless program exceptions exist.
- Colleges may further restrict the Satisfactory/Unsatisfactory credit option.
- A "D" letter grade or better is considered to be a passing grade in a satisfactory/unsatisfactory elective.
- Registration for satisfactory/unsatisfactory electives will be accomplished only after registration day by Audit/Satisfactory/Unsatisfactory Form to the Registrar's Office. The satisfactory/unsatisfactory option should be known only to the academic adviser, instructor, the student and the registrar.
- You may change from satisfactory/unsatisfactory elective to credit or vice versa only during the two week add period.
- The grade (S or U) will be recorded on your permanent record. A grade of S or U will not count in the computation of the semester or the cumulative grade point average. If the course is passed (grade of "D" or better), the credits will be counted towards graduation.

**NOTE:** Some courses are taught only on a Satisfactory/Unsatisfactory basis. Consult the department if you have a question.



**ACADEMIC EXPECTATIONS.....21**

*Academic Performance*.....22  
*Academic Honesty*.....22  
*Attendance*.....23  
*Class Definition*.....23  
*Electives*.....23  
*Rate of Progress*.....23



# Academic Performance

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The normal progress rate toward graduation requires 12-16 semester credits and 24-32 grade points each semester. To be in good scholastic standing you must meet the following Minimum Grade Point Average Standard: Freshman — 2.00; Sophomore — 2.00; Junior — 2.00; Senior — 2.00. To graduate, a student must have a CGPA (Cumulative Grade Point Average) and IGPA (Institutional Grade Point Average) of 2.00 or above. (See Resident Requirements under General Degree Requirements).

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

- **Institutional GPA** - based on credits earned at a specific Regental university. Utilized to determine if degree requirements have been met and to determine Honors Designation at Graduation.
- **System Term GPA** - based on credits earned at any of the six Regental universities within a given academic term (Fall, Spring, Summer). Utilized to determine minimum progression status.
- **Transfer GPA** - based on credits earned and officially transferred from an accredited college or university outside the Regental system. When a letter grade that normally calculates into the grade point average exists for a non-academic course (e.g., credit earned via examination), it will be included in the transfer GPA.
- **Cumulative GPA** - based on all credits earned by the student (transfer credit plus system credit). Utilized to determine minimum progression status and to determine if degree requirements have been met.

## Minimum Progression Standards

Class	Credit Hour Range	GPA Standard
Freshman	0-31.99	2.0
Sophomore	32-63.99	2.0
Junior	64-95.99	2.0
Senior	96+	2.0

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

1. A student with a cumulative grade point average of 2.0 or better is considered to be in **good academic standing**.
2. If a student's cumulative grade point average falls below 2.0 in any academic term (i.e. fall, spring, summer), the student is placed on **academic probation** the following term.
3. While on academic probation, the student must earn a system term grade point average of 2.0 or better.
4. When a student on academic probation achieves a cumulative grade point average of 2.0 or better, the student is **returned to good academic standing**.
5. A student on academic probation who fails to maintain a system term grade point average of 2.0 or better is placed on **academic suspension** for a minimum period of two academic terms.
6. Students on academic suspension will not be allowed to register for any coursework at any Regental university except when an appeal has been approved by the Regental university from which the student is pursuing a degree. An approved appeal granted by one Regental university will be honored by all Regental universities. Also refer to policy 2:3.3.G Probation/Suspension of Students.
7. Only Academic Suspension will be entered on the student's transcript. Academic probation will be noted in the internal academic record only.

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

# Academic Honesty

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South Dakota State University has taken a strong and clear stand regarding academic dishonesty. The consequence of academic dishonesty ranges from disciplinary probation to expulsion. The full policies are found in Chapter 1 of the Student Code (01:10:25:01 - 1:10:25:04) within the Student Policy Manual. A student charged with

academic dishonesty who wishes to appeal that charge may follow the Appeals Procedure outlined in Chapter 2 of the Student Policy Manual (Academic Appeals and Classroom Standards) or contact the Vice President for Academic Affairs Office, SAD 230, 605-688-4173.

# Attendance

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**Policy:** Student attendance in all classes is expected. Teaching and learning is a reciprocal process involving faculty and students. Faculty members have an expectation of meeting classes on a regular basis and students have an obligation to attend classes on a regular basis. Faculty determine the specific attendance policy for courses under their direct supervision and instruction. Attendance procedures must be stated in written form and distributed to students at the beginning of each semester. If attendance is required and will impact grading, this expectation will be included in the syllabus.

## Absence due to personal reasons

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

## Absence due to approved university-sponsored trips

Faculty and administration will honor officially approved absences where individuals are absent in the interest of officially representing the

University. These are considered officially "excused absences." A single trip can not keep students away from classes more than five (5) consecutive class days. Students **must** present the **completed approved** trip absence card to the faculty member **prior** to the trip to have an official "excused absence." Faculty members are not required to honor incomplete cards.

## Students with official "excused absences"

Students with excused absences will be given appropriate make up work and **equivalent** opportunities for obtaining grades as students who were in attendance. Students with official "excused absences" are not to be penalized in course progress or evaluation. However, should excused absences be excessive, the faculty member may recommend withdrawal from the courses or a grade of incomplete.

## Mediation on absence

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

# Class Definition

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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

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

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

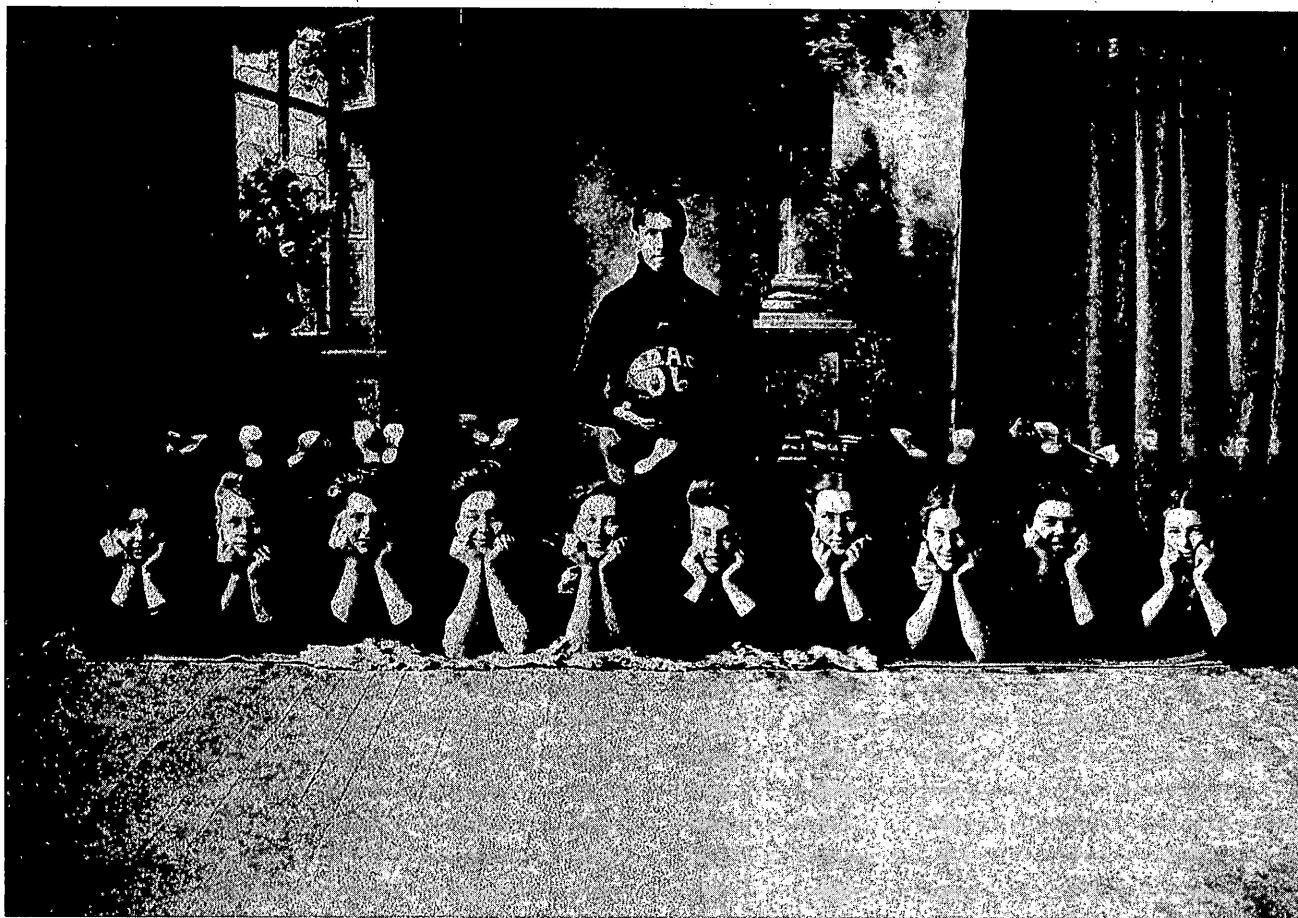
# Rate of Progress

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

The normal rate of progress for a student classified as an undergraduate is 16 credits each semester. **To be a full-time student, all students classified as undergraduates must carry 12 semester credits; all students classified as graduates must carry 9 semester credits.** Undergraduates will not be permitted to register in 19 or more semester credits the first term. Registration in 19 or more semester credits in subsequent terms is permitted only when the previous semester's work shows high achievement.

All overloads of 19 or more credit hours must be approved by the dean 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.



Pictured here in 1906 is one of the early women's Jackrabbit basketball teams.



ACADEMIC CHANGES.....25

*Auditing a Course*.....26

*Drop-Add Procedure*.....26

*Repeated Courses*.....26

*Petitions and Appeals*.....27

*Withdrawal*.....27

# Auditing a Course

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Registration as an auditor in a course may be permitted. No credit is given. The audit fee is the established tuition and fee rate. **Registration for audit may be accomplished only after registration day by presenting an Audit/Satisfactory/Unsatisfactory form to the Registrar's Office, SAD 310.**

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

## Drop-Add Procedure

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

### Grades for dropped courses

Undergraduate and graduate students who drop a course, or withdraw from the System, shall receive a grade of "W" if that action occurs anytime between the day after the census day for that course and the day that corresponds with the completion of 70 percent of the class days for that course. Likewise, a student who withdraws from the system during

that time period also shall receive grades of "W" for all the courses in which he/she is registered. (Exception: a student who completely withdraws from the Regental system from the first day of a class(es) until the census date of the class(es) will also have a pseudo course of WD 101 (Undergraduate) or WD 801 (graduate) with a "W" grade entered on their Transcript.) (Refer to Board of Regents policy 5:7.2)

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

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

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

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

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

After 70% 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

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

This policy applies to both undergraduate and graduate coursework. **You should notify the Registrar's Office, SAD 310, when a course, whether failed or passed, is repeated.**



# Petitions and Appeals

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

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

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

## Withdrawal

Those finding it necessary to withdraw from the University are urged to consult with a faculty adviser to work out the best plan possible. You must then contact the Registrar's Office, SAD 310 to process a withdrawal. **Those who leave the University without processing an official withdrawal will be reported as having failed the semester's work.** Grades transcribed are based on the date of application for withdrawal. A student may withdraw from the University until 70% 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.

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

1. The student has registered for at least one course and the student has initiated withdrawal from all state-support and self-support courses at all Regental universities in which the student was actively enrolled at the time of withdrawal, including courses in progress as well as those that have not yet begun, or;

2. The Regental home university has completed withdrawal procedures for administrative reasons including, without limitation, non-payment of tuition and fees or disciplinary sanctions.
3. Students enrolled in two or more Regental universities pursuant to financial aid consortia will be eligible for refunds as set forth herein only if they withdraw, drop out or are expelled from all classes at all Regental universities for which they have enrolled.

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



In the early 1920s, women students played volleyball outside the new Gymnasium.



Hobo Day, 1916

## ACADEMIC GENERAL INFORMATION.....29

<i>Academic Advising Role Statements</i> .....	30
<i>Affirmative Action/Equal Employment Opportunity Policy/Title IX</i> .....	31
<i>Disability Policy Statement</i> .....	31
<i>E-Mail Policy Statement</i> .....	31
<i>Family Educational Rights and Privacy Act of 1974 (FERPA)</i> .....	32
<i>Graduation Policies and Procedures</i> .....	32
<i>Non-Degree Courses</i> .....	32
<i>Policy on Sexual Harassment and Other Forms of Harassment</i> .....	33
<i>Policy on Institutional Record of Student Complaints</i> .....	34
<i>Student Code of Freedom and Responsibility</i> .....	35
<i>Trip Regulations</i> .....	35
<i>University-Sponsored Student Athletic Trip Regulations</i> .....	35

# Academic Advising Role Statements

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

## **Purpose of Academic Advising:**

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

## **Goals of Academic Advising:**

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

## **Role of the Advisee:**

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

## **Rights of the 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 advisees academic background and educational goals.
5. **Monitor Academic Decision-Making.** Inform advisees about relevant alternatives, limitations, and possible consequences of academic decisions, including information on academic standards, appeals, and charges of academic dishonesty.
6. **Refer to Campus and Community Resources.** Encourage and guide advisees to utilize available campus and community student help and student development resources.
7. **Encourage Timely Progress Toward Degree.** Advocate timely planning and progress toward educational goals with prompt attention to problems.
8. **Advocate Professional Responsibilities.** Help advisees recognize relevant institutional and / or professional responsibilities. Make recommendations to appropriate university officials when advisee behavior compromises professional and/or institutional standards to such an extent that professional disclosure is necessary.
9. **Retention.** Support student through advising to increase probability of degree completion.

# Affirmative Action/Equal Employment Opportunity Policy/Title IX

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

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

It is recognized that the real success of an affirmative action program is measured more by good faith efforts in achieving compliance, and not solely in the accumulation of data, analyses, and reports. Analyses, planning, and programming help bring about desired results, identify problem areas, and permit rational scheduling of corrective action.

Moreover, these activities give new insights into the dynamics of the university community and help sensitize all of us to the goal of equal opportunity.

In specific terms, this commitment to provide equal opportunity for all persons requires:

1. The eradication of the effects of any past discrimination; and,
2. The prevention of any present or future discrimination, including any potential discrimination which may arise as a result of the improper implementation of affirmative action practices.

In the final analysis, "affirmative action" is focusing of the University's creative energies on the task of developing processes that enhance human development and institutional effectiveness.

Equal Opportunity questions and concerns regarding discrimination/harassment prevention information, reporting discrimination, discrimination in education programs or activities, or complaint procedures can be directed to the Equal Opportunity Officer/Title IX Coordinator in Human Resources (SAD 324; telephone 605-688-4128; Fax 605-688-5822).

## Disability Policy Statement

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South Dakota State University (SDSU) reaffirms that it is committed to a policy of non-discrimination on the basis of physical or mental disability/impairment in the offering of all benefits, services, educational and employment opportunities. The Coordinator for Disability Services has been designated the SDSU "Responsible Employee" to coordinate institutional compliance with the non-discrimination requirements of the **Americans with Disabilities Act (ADA) of 1990**.

The Coordinator will also be responsible for the effective integration of ADA procedures, Title IX, Sections 503 and 504 of the Rehabilitation Act of 1973, as amended. The Coordinator also serves as the personal contact for employees, students, and visitors seeking information concerning the provisions of the ADA and their respective duties and rights provided therein.

The phone number for the Office of Disability Services is (605) 688-4504; TTD (605) 688-4394. E-mail: Nancy.Crooks@sdstate.edu

## E-Mail Policy Statement

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E-mail messages sent by the University to the university assigned student e-mail addresses will constitute an official means of communication. It is the student's responsibility and obligation to access official university e-mail messages in a timely manner.

Students can check their e-mail by using their university issued e-mail accounts or by forwarding their e-mail to a system of their choice,

if allowed by their home institution. If choosing the latter option, students will be responsible for keeping their forwarding information current. The University will have no obligation to track down returned mail due to a forwarding address that has expired or is incorrect for whatever reason. The University will only monitor returned e-mail coming from the university assigned e-mail account.



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

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The Family Educational Rights and Privacy Act of 1974 (FERPA) (also known as the Buckley Amendment) is a Federal law designed to protect the privacy of a student's personal education records kept at the University. The law provides that the institution will maintain the

confidentiality of each student's education records and covers matters relating to access to student records and the disclosure of such records. For complete information about these policies, please refer to the SDSU Student Policies Manual and the Records and Registration website.

## Graduation Policies and Procedures

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### A. Graduation Application – Date Due in Dean's Office.

Check the University Calendar in the Catalog or the Fall, Spring, and Summer Course Schedules for dates.

### B. Incomplete grades in courses required for graduation.

Graduating Seniors and Graduating Graduate Students

1. Any graduating senior or graduating graduate student
  - a. who receives an incomplete or IP grade in the final semester in a course required for graduation **will not be permitted to graduate that semester but will be required to apply for graduation for a subsequent semester**, or
  - b. who has not removed an outstanding incomplete from a previous semester, in a course required for graduation, by the date grades are due for the semester **will not be permitted to graduate that semester but will be required to apply for graduation for a subsequent semester**.
2. Emergency situations require the filing of a petition by the student to the Dean for approval prior to the final grading deadline for the final semester.

### C. Incomplete grades in courses not required for graduation.

1. The student's record, up to the date of graduation, for that degree, is considered closed when the Registrar records the verified degree on the student's record (3 weeks after grades are due for the final semester prior to graduation).
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. Graduation List.

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

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

### E. Notification to the student of above policies and procedures.

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

## Non-Degree Courses

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In addition to courses leading to degrees, the University offers special and outreach courses in several areas of interest. Some of these may be given for academic credit or no academic credit; others may be offered for Continuing Education Units. Consult the department head

involved or the Office of Outreach Programs, SMC 121, SDSU, Box 511, Brookings, SD 57007; 605-688-4153.  
E-mail: Debra.Archer@sdstate.edu

# Policy on Sexual Harassment and Other Forms of Harassment

## Introduction

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

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

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

- 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/her ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.
  - B. Conduct toward another person that has the effect of creating an intimidating, hostile, or demeaning environment that adversely interferes with his/her ability to participate in or to realize the intended benefits of an institutional activity, employment, or resource.

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

## Reporting Complaints/Grievance Procedure

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

## Non-Retaliation/Non-Coercion

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

# Policy on Institutional Record of Student Complaints

## North Central Association Policy

To comply with federal regulations, the Higher Learning Commission of NCA expects an affiliated institution to maintain records of formal, written student complaints filed with the offices of the Chief Executive Officer, Chief Academic Officer, or Chief Student Affairs Officer. The records should include information about the disposition of the complaints, including those referred to external agencies for final resolution. These records will be available to the next NCA comprehensive evaluation team for review.

## Purpose of These Guidelines

To comply with NCA policy IV. B.4 Institutional Records of Student Complaints adopted by the NCA, February 1998. The NCA has established this policy to comply with federal regulations for the maintenance of records of formal, written student complaints. SDSU, in turn, needs to be in compliance with the NCA policy.

## Definition of a Complaint

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

## Responsible Institutional Officers or Their Representatives

For the purposes of this policy, these are the President or his/her Administrative Assistant, Vice President for Academic Affairs or Associate Vice President for Academic Affairs, Vice President for Student Affairs or Assistant Dean of Student Affairs. Also key in recording these complaints are the Program Assistant in the Office of Academic Affairs and the Senior Secretary in the Office of Student Affairs.

## Record of Student Complaints

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

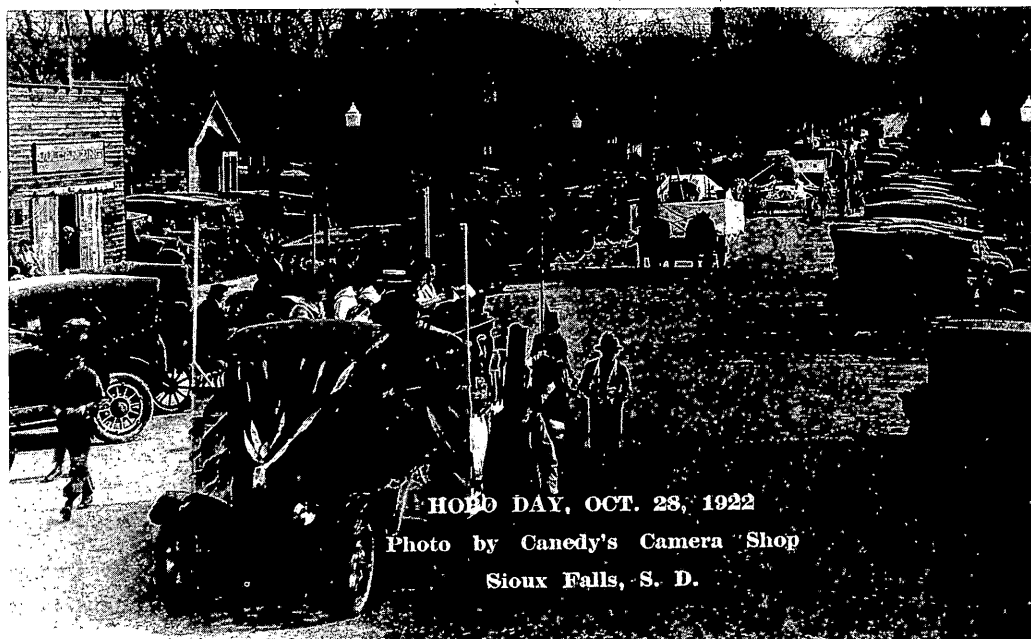
## Dates

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

## Method of Notification to Students

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

Developed by Vice President Carol J. Peterson, Dean Robert Tomlinson, Ms. Linda Schumacher 10/98, Finalized 12/98. Updated 9/01 by Vice President Peterson and Dean Marysz Rames.



HOB0 DAY, OCT. 28, 1922

Photo by Canedy's Camera Shop

Sioux Falls, S. D.

# Student Code of Freedom and Responsibility

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

The Student Code, which appears in the Student Policies Manual, is the basic guideline reflecting university-student relations. The Code

defines your behavior, your expectations and related university conduct and judicial procedures.

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

Copies of the manual are available at the President's Office, each Dean's office, the Student Union, the Residence Halls, and the Student Affairs Office, and on the SDSU web site by clicking on Student Life, Judicial Affairs, and then Student Code.

## Trip Regulations

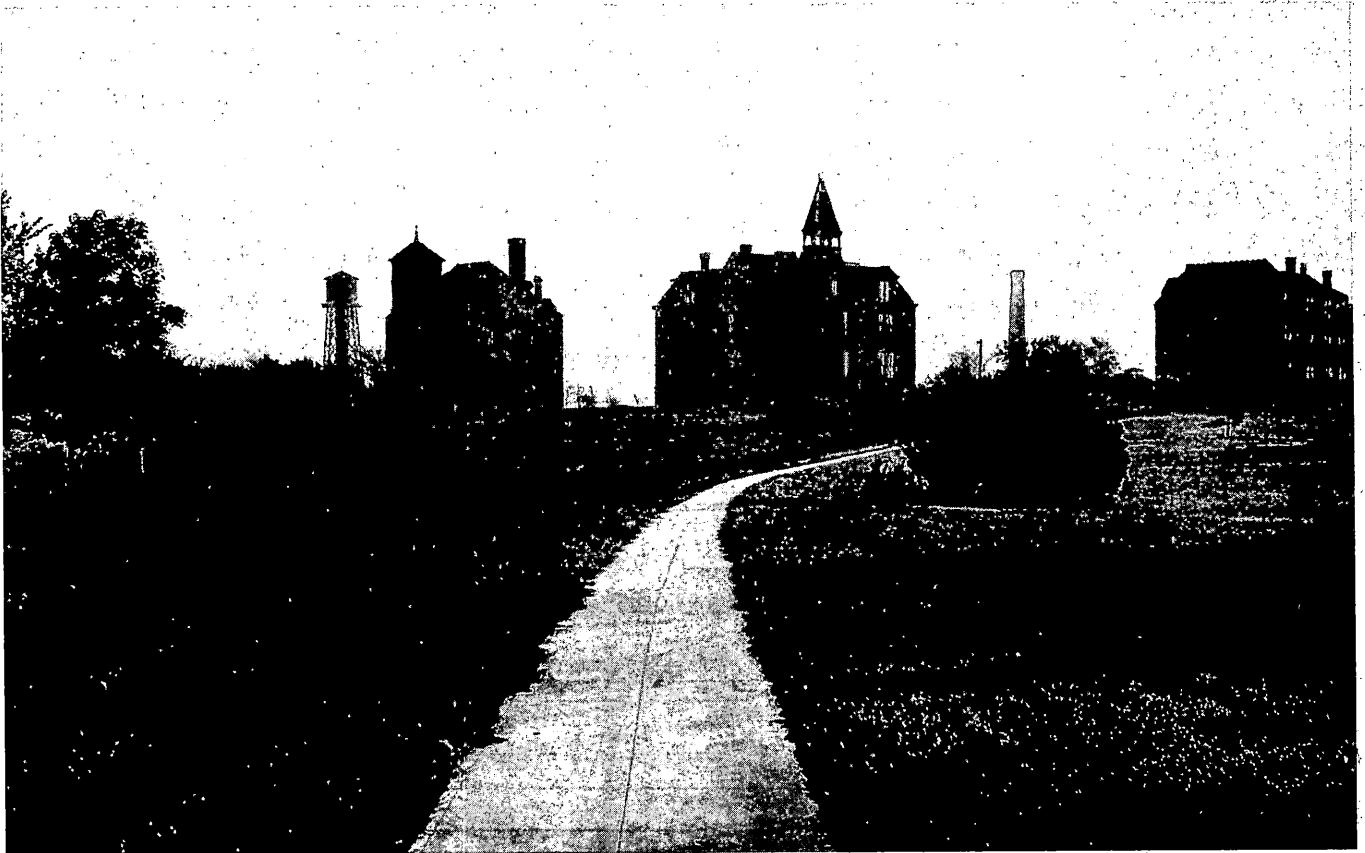
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- A. Students involved in trips related to **university-sponsored activities** as defined in the catalog under Purposes of the University or **university-affiliated activities** as scheduled by the Director of Student Activities or the Director of Residential Life must receive clearance for the trip. Permit forms are available from most departmental offices (ordered from Stores). The Application For Trip Permit form must be signed by the faculty sponsor and approved by the dean of the college or his/her designate, or the Director of Student Activities or his/her designate, and must be approved by the Office of the Vice President for Academic Affairs **prior** to the trip.
- B. Students on university-approved trips (excluding a ski trip, a rodeo club trip, or interscholastic athletics) are covered by a secondary accident-medical insurance policy. State-owned vehicles may be utilized if criteria established in the policy regulating use of state-owned vehicles are met. Drivers of personal vehicles should have liability insurance.
- C. Students are eligible for trips if 1) activities of the student have not been curtailed by action of an authorized university judicial body; 2) no single trip shall keep students away from classes more than 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 department head, dean, or Vice President for Academic Affairs, in that order.
- E. A Trip Absence Card for each student involved in the trip will be issued to the faculty sponsor upon approval of the trip permit. The Trip Absence Cards must be filled in and signed by the faculty sponsor and given to each student. Other faculty members are not required to honor incomplete cards. The student should show the card to his/her instructors in making arrangements to make up any work missed because of a trip, previous to going on the trip. The student should retain the Trip Absence Card until after final grades are received by the student.
- F. For insurance purposes, all intradepartmental trips (i.e., laboratory field trips, clinical experiences, etc.) that do not involve the missing of classes by the participating students shall be cleared through the department office or the college dean's office, and a record kept of the number of students going and the dates of the trips. This record shall be summarized by each college dean and reported to the Vice President for Academic Affairs at the end of each academic term.

## University-Sponsored Student Athletic Trip Regulations

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



Early morning on campus, 1910. From left, Old North, Central (the first building on campus), and South.

<b>GRADUATION REQUIREMENTS.....</b>	<b>37</b>
<i>General Degree Requirements .....</i>	<i>38</i>
<i>General Education .....</i>	<i>38</i>
<i>General Education Requirements for Baccalaureate Degree.....</i>	<i>39</i>
<i>System General Education Requirements (SGRs): 30 Credits.....</i>	<i>40</i>
<i>SDSU Institutional Graduation Requirements (IGRs): 8-9 Credits.....</i>	<i>43</i>
<i>Globalization Requirement.....</i>	<i>46</i>
<i>Advanced Writing Requirement .....</i>	<i>47</i>
<i>General Education Requirements for Associate Degree .....</i>	<i>48</i>
<i>Policies Applicable to System General Education Requirements (SGRs) .....</i>	<i>49</i>
<i>Transfer Students.....</i>	<i>50</i>
<i>College and Major Field Requirements.....</i>	<i>50</i>



# General Degree Requirements

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The adviser system assists in proper course selection to meet curricular requirements and helps you avoid errors in scheduling. However, **you have the final responsibility for satisfying the degree requirements for the curriculum chosen and for the university general education requirements.**

## The General Degree Requirements

- A. Completion of at least 128 semester credit hours for the baccalaureate degree (see individual professional college requirements) and 64 semester credit hours for the associate degree. Remedial course credits are not counted as meeting degree requirements.
- B. A Cumulative Grade Point Average (CGPA) and Institutional Grade Point Average (IGPA) of 2.00. The CGPA is based on all courses attempted within the Regental system, transfer or at SDSU. The IGPA is based on all coursework taken at SDSU. If a course is repeated, F95 or later, only the last grade received will be included in the calculation of the CGPA and IGPA.
- C. Institutional requirement. An institutional credit is a course offered by SDSU at any of its approved sites using any approved method of delivery. Courses that are a part of a formal collaborative agreement among Regental institutions are considered to be institutional. The minimum number of credit hours that must be earned from the institution granting the degree are 32 credits for the baccalaureate degree and 16 credits for the associate degree. The number of the last credit hours earned preceding completion of the degree that must be earned from the institution granting the degree are 16 of the last 32 credits for the baccalaureate degree and 8 of the last 16 credits for the associate degree. The minimum number of credit hours specified in the major or minor requirements that must be completed from the institution granting the degree is 50 percent. Credits earned by examination are not counted as resident credit unless an exception has been made because of special program features. A student must have 20 upper division level credits, 14 of which need to be at SDSU.
- D. Completion of University general education requirements as described below.
- E. Completion of all college and major field requirements.
- F. Demonstration of satisfactory performance in writing, mathematics, reading, and science reasoning as evidenced by receiving a passing score on all sections of the Collegiate Assessment of Academic Proficiency (CAAP) exam or alternative assessment. This requirement must be met by both associate and baccalaureate degree-seeking students.
- G. Demonstration of proficiency in Information Literacy (IL) by receiving a satisfactory on the system IL examination.
- H. Degree seeking students may complete requirements for a minor at any Regental university that has been approved to grant that minor. This minor will be recorded on the transcript in conjunction with a degree/major at that university or a degree/ major at any other Regental university. A minor will only be recorded on the transcript in conjunction with a degree and major.

# General Education

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Qualities of mind, approaches to knowledge, and personal commitments to be promoted by the SDSU undergraduate general education 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 38-39 credit hour general education requirement at SDSU is composed of 30 credits common to the Regental System (SGRs) and 8-9 credits of Institutional Graduation Requirements (IGRs) unique to SDSU.
- NOTE: Other than for System General Education Goal #7, no given course may satisfy more than one of these requirements, unless the minimum number of credits is exceeded. Credits in excess of the minimum credits needed may be applied in another area.**

# General Education Requirements for Baccalaureate Degree

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

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

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

## **II. Institutional Graduation Requirements: 8-9 credits (see pages 43-45)**

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

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

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

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

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

## **V. Computer Technology Literacy**

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

## **VI. Information Literacy**

Students fulfill this requirement by demonstrating competency through an assessment designated by the University. An exam will be administered at proficiency exam time. The IL goal and student learning outcomes are addressed in ENGL 101, 201, and SPCM 101. These courses provide the basic foundational knowledge and skills. In addition, the opportunity to learn IL concepts and skills is provided through other required coursework in the major.

# I. System General Education Requirements (SGRs) 30 credits

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

## System Goal #1:

### *Written Communication*

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

**Student Learning Outcomes:** As a result of taking courses meeting this goal, students will:

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

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

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

**Credit Hours:** 6

Courses	Credits
ENGL 101 Composition I.....	3
ENGL 201 Composition II.....	3
ENGL 277 Technical Writing in Engineering.....	3

## System Goal #2:

### *Oral Communication*

Students will communicate effectively and responsibly through listening and speaking.

**Student Learning Outcomes:** As a result of taking courses meeting this goal, students will:

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

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

Required: #1, #2, and #3

**Credit Hours:** 3

Courses	Credits
SPCM 101 Fundamentals of Speech.....	3
SPCM 215 Public Speaking.....	3
SPCM 222 Argumentation and Debate.....	3

## System Goal #3:

### *Social Sciences/Diversity*

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

**Student Learning Outcomes:** As a result of taking courses meeting this goal, students will:

1. Identify and explain basic concepts, terminology and theories of the selected social science disciplines from different spatial, temporal, cultural and/or institutional contexts;
2. Apply selected social science concepts and theories to contemporary issues;
3. Identify and explain the social or aesthetic values of different cultures.

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

4. The origin and evolution of human institutions;
5. The allocation of human or natural resources within societies;
6. The impact of diverse philosophical, ethical or religious views.

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

Required: #1, #2 and #3

At least one of the following: #4, #5, or #6

**Credit Hours:** 6 (in 2 disciplines)

Courses	Credits
ANTH 210 Cultural Anthropology.....	3
ANTH 220 Physical Anthropology.....	3
CJUS 201 Introduction to Criminal Justice.....	3
ECON 101 The Global Economy.....	3
ECON 201 Principles of Microeconomics.....	3
ECON 202 Principles of Macroeconomics.....	3
GEOG 101 Introduction to Geography.....	3
GEOG 200 Introduction to Human Geography.....	3
GEOG 210 World Regional Geography.....	3
GEOG 212 Geography of North America.....	3
GEOG 219 Geography of South Dakota.....	3
GLST 201 Global Studies I.....	3
HDFS 141 Individual and the Family.....	3
HDFS 210 Lifespan Development.....	3
HIST 151 US History 1.....	3
HIST 152 US History II.....	3
POLS 100 American Government.....	3
POLS 102 American Political Issues.....	3
POLS 165 Political Ideologies.....	3
POLS 210 State and Local Government.....	3
POLS 253 Current World Problems.....	3
PSYC 101 General Psychology.....	3
PSYC 102 Introduction to Psychology.....	3
REL 237 Religion in American Culture.....	3
SOC 100 Introduction to Sociology.....	3
SOC 150 Social Problems.....	3
SOC 240 The Sociology of Rural America.....	3
SOC 250 Courtship and Marriage.....	3

## System Goal #4:

### Humanities and Arts/Diversity

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

**Student Learning Outcomes:** As a result of taking courses meeting this goal, students will:

1. Demonstrate knowledge of the diversity of values, beliefs, and ideas embodied in the human experience;
2. Identify and explain basic concepts of the selected disciplines within the arts and humanities.

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

3. Identify and explain the contributions of other cultures from the perspective of the selected disciplines within the arts and humanities;
4. Demonstrate creative and aesthetic understanding;
5. Explain and interpret formal and stylistic elements of the literary or fine arts;
6. Demonstrate foundational competency in reading, writing, and speaking a non-English language.

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

Required: #1, #2

At least one of the following: #3, #4, #5, or #6

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



Woodbine Cottage, 1907

## Courses

## Credits

ARAB 101 Introductory Arabic I.....	4
ARAB 102 Introductory Arabic II.....	4
ART 111 Drawing I.....	3
ART 112 Drawing II.....	3
ART 121 Design I.....	3
ART 123 Three Dimensional Design.....	3
ARTH 100 Art Appreciation.....	3
ARTH 211 History of World Art I.....	3
ARTH 212 History of World Art II.....	3
ENGL 210 Introduction to Literature.....	3
ENGL 211 World Literature I.....	3
ENGL 212 World Literature II.....	3
ENGL 221 British Literature I.....	3
ENGL 222 British Literature II.....	3
ENGL 240 Juvenile Literature.....	3
ENGL 241 American Literature I.....	3
ENGL 242 American Literature II.....	3
ENGL 248 Women in Literature.....	3
ENGL 249 Literature of Diverse Cultures.....	3
ENGL 250 Science Fiction.....	3
ENGL 256 Literature of the American West.....	3
ENGL 268 Literature.....	3
FREN 101 Introductory French I.....	4
FREN 102 Introductory French II.....	4
GER 101 Introductory German I.....	4
GER 102 Introductory German II.....	4
HIST 111 World Civilization I.....	3
HIST 112 World Civilization II.....	3
HIST 121 Western Civilization I.....	3
HIST 122 Western Civilization II.....	3
LAKL/AIS 101 Introductory Lakota I.....	4
LAKL/AIS 102 Introductory Lakota II.....	4
MCOM 151 Introduction to Mass Communications.....	2-3
MEPR 160 Introduction to Film.....	3
MFL 101 Intro to Foreign Language and Culture I.....	4
MFL 102 Intro to Foreign Language and Culture II.....	4
MFL 134 Foreign Cultures.....	3
MUS 100 Music Appreciation.....	3
MUS 130 Music Literature and History I.....	2
MUS 131 Music Literature and History II.....	2
MUS 201 History of Country Music.....	3
MUS 203 Blues, Jazz and Rock.....	3
MUS 230 Music Literature and History III.....	2
MUS 231 Music Literature and History IV.....	2
PHIL 100 Introduction to Philosophy.....	3
PHIL 200 Introduction to Logic.....	3
PHIL 215 Intro to Social/Political Philosophy.....	3
PHIL 220 Introduction to Ethics.....	3
REL 213 Introduction to Religion.....	3
REL 224 Old Testament.....	3
REL 225 New Testament.....	3
REL 238 Native American Religions.....	3
REL 250 World Religions.....	3
REL 270 Middle East Survey.....	3
SPAN 101 Introductory Spanish I.....	4
SPAN 102 Introductory Spanish II.....	4
THEA 100 Introduction to Theatre.....	3
THEA 131 Introduction to Acting.....	3

## System Goal #5:

### Mathematics

Students will understand and apply fundamental mathematical processes and reasoning.

**Student Learning Outcomes:** As a result of taking courses meeting this goal, students will:

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

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

Required: #1, #2 and #3

**Credit Hours:** 3

Courses	Credits
MATH 102 College Algebra .....	3
MATH 104 Finite Math .....	4
MATH 115 Precalculus .....	5
MATH 120 Trigonometry .....	3
MATH 121 Survey of Calculus .....	4
MATH 123 Calculus .....	4
MATH 125 Calculus II .....	4
MATH 225 Calculus III .....	4
MATH/STAT 281 Statistics .....	3

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

## System Goal #7:

### Information Literacy

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

**Student Learning Outcomes:** Students will:

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

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

## System Goal #6:

### Natural Sciences

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

**Student Learning Outcomes:** As a result of taking courses meeting this goal, students will:

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

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

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

**Credit Hours:** 6

Courses	Credits
BIOL 101/101L Biology Survey I and Lab .....	3-4
BIOL 103/103L Biology Survey II and Lab.....	3-4
BIOL 151/151L General Biology I and Lab .....	4
BIOL 153/153L General Biology II and Lab.....	4
BIOL 200 Biological Diversity .....	3
BIOL/BOT 201/201L General Botany and Lab .....	3-4
CHEM 106/106L Chemistry Survey and Lab.....	4
CHEM 108/108L Organic and Biochemistry and Lab .....	5
CHEM 112/112L General Chemistry I and Lab .....	4
CHEM 114/114L General Chemistry II and Lab.....	4
CHEM 120/120L Elementary Organic Chemistry and Lab.....	4
GEOG 131/131L Physical Geography I and Lab .....	4
GEOG 132/132L Physical Geography II and Lab .....	4
PHYS 101/101L Survey of Physics and Lab.....	3-4
PHYS 111/111L Introduction to Physics I and Lab.....	3-4
PHYS 113/113L Introduction to Physics II and Lab.....	3-4
PHYS 185/185L Introduction to Astronomy I and Lab.....	3
PHYS 187/187L Introduction to Astronomy II and Lab .....	3
PHYS 211/211L University Physics I and Lab.....	4
PHYS 213/213L University Physics II and Lab .....	4
PS 213/213L Soils and Lab.....	3
PS 243/244 Geology and Lab .....	3

## II. SDSU's Institutional Graduation Requirements (IGRs) 8-9 credits

(These Requirements are unique to SDSU.)

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### IGR Goal #1:

#### *Land and Natural Resources*

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

#### **Student Learning Outcomes**

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

1. Learn the fundamental importance of land and other natural resources.
2. Understand scientific principles as they pertain to responsible use of land and other natural resources.
3. Develop an ethic for responsible use of land and other natural resources.
4. Gather and critically evaluate data to address basic and applied principles related to land and other natural resources.
5. Develop knowledge or skills related to the sustainable use of land and other natural resources.
6. Obtain knowledge and skills to scientifically analyze the influence of individuals and groups of people on land and other natural resources.

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

Required: #1, #2, #3

At least one of the following: #4, #5, #6

**Credit Hours:** 3

#### **Courses**

#### **Credits**

ABE/AST/CEE/ENVM 225 Principles of Environmental Science and Engineering .....	3
ABE 353/353L Physical Climatology and Meteorology and Lab .....	3
ABS 203 Global Food Systems .....	3
ABS 482 International Experience .....	2-4
AGEC 421 Farming and Food Systems Economics .....	3
AST 333/333L Soil and Water Mechanics and Lab .....	3
AST 463 Agricultural Waste Management .....	3
BIOL 101/101L Biology Survey I and Lab * .....	3
BIOL 311 Principles of Ecology .....	3
BIOL/PHIL 383 Bioethics .....	4
DS 452 Environmental Management of Dairy Systems .....	3
ECON 472 Resource and Environmental Economics .....	3
ENGL 256 Literature of the American West * .....	3
ENVM 275 Introduction to Environmental Science .....	3
HIST 368 History and Culture of the American Indian .....	3
NFS 111 Food, People and the Environment .....	3
PHIL/REL 454/332 Environmental Ethics .....	3
PS 213/213L Soils and Lab * .....	3
PS 243 Geology * .....	3
PS/GEOG 310/310L Soil Geography and Land Use Interpretation and Studio .....	3
PS 362/362L Environmental Soil Management and Lab .....	3
PSYC 244 Environmental Psychology .....	3
RANG 105 Introduction to Range Management .....	3
RANG 215 Introduction to Integrated Range Management .....	3
SOC 240 The Sociology of Rural America * .....	3
WL 110 Environmental Conservation .....	3

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

### IGR Goal #2:

#### *Personal Wellness*

Students will demonstrate a holistic approach to personal wellness.

#### **Student Learning Outcomes**

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

1. Identify areas of self-responsibility and wellness principles.
2. Demonstrate concepts fostering wellness of the mind, body, and spirit.
3. Present a personal wellness plan as a guide for maintaining lifelong wellness.

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

Required: #1, #2, #3

**Credit Hours:** 2-3

#### **Courses**

#### **Credits**

BIOL 105 Human Biology .....	3
GS 143 Mastering Lifetime Learning Skills .....	2
HSC 212 Contemporary Health Problems .....	2
PHA 201 Medications and Wellness .....	2
PSYC 267 Psychology of Personal Adjustment .....	3
WEL 100/100L Wellness for Life and Lab .....	2



# IGR Goal #3:

## *Social Responsibility / Cultural and Aesthetic Awareness*

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

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

### Student Learning Outcomes

#### Option 1: Social Responsibility

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

1. Demonstrate an appreciation of the different ways in which people express their understanding of the human condition.
2. Understand their responsibilities and choices as related to behavioral, cultural, and/or institutional contexts.
3. Demonstrate their knowledge of the structures and possibilities of the human community.
4. Foster individual responsibility by use of service learning, leadership, or experiential learning activities.

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

Required: #1

At least one of the following: #2, #3, #4

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

### Courses

### Credits

ABS 482 International Experience .....	2-4
ABS/FCS 310 Leadership for Families and the Food System .....	3
AIR 101 Aerospace Studies .....	1
AIR 102 Aerospace Studies .....	1
AIR 201 Aerospace Studies .....	1
AIR 202 Aerospace Studies .....	1
AIS 100 Introduction to American Indian Studies .....	3
AIS-ANTH/INED 421/411 Indians of North America/ South Dakota Indian Studies .....	3
AM/CA 381 Professional Behavior at Work .....	3
ANTH 210 Cultural Anthropology * .....	3
ANTH 220 Physical Anthropology * .....	3
ARAB 101 Introductory Arabic I * .....	4
ARAB 102 Introductory Arabic II * .....	4
CJUS 201 Introduction to Criminal Justice * .....	3
ECON 460 Economic Development .....	3
ENGL 249 Literature of Diverse Cultures * .....	3
ENGL 268 Literature: * .....	3
FREN 101 Introductory French I * .....	4
FREN 102 Introductory French II * .....	4
GEOG 200 Introduction to Human Geography * .....	3
GEOG 210 World Regional Geography * .....	3
GEOG 219 Geography of South Dakota * .....	3
GER 101 Introductory German I * .....	4
GER 102 Introductory German II * .....	4
GERO 201 Introduction to Gerontology .....	3
GLST 201 Global Studies I * .....	3
HIST 121 Western Civilization I * .....	3
HIST 122 Western Civilization II * .....	3
HIST 151 U.S. History I * .....	3
HIST 152 U.S. History II * .....	3
HIST 368 History and Culture of the American Indian .....	3

HLTH/HSC 443 Public Health Science .....	3
LAS 301 Latin American Cultures .....	3
LAS 302 Latin American Societies .....	3
LAKL/AIS 101 Introductory Lakota I * .....	4
LAKL/AIS 102 Introductory Lakota II * .....	4
MFL 101 Introduction to Foreign Language and Culture I * .....	4
MFL 102 Introduction to Foreign Language and Culture II * .....	4
MFL 134 Foreign Cultures * .....	3
MSL 101 Foundations of Leadership .....	1
MSL 102 Basic Leadership .....	1
MSL 201 Individual Leadership Skills .....	2
MSL 202 Leadership and Teamwork .....	2
PHIL 100 Introduction to Philosophy * .....	3
PHIL 215 Introduction to Social/Political Philosophy * .....	3
PHIL 220 Introduction to Ethics * .....	3
PHIL 313 Great Philosophers .....	2-3
PHIL 331 Philosophy of Science .....	3
PHIL/REL 470/370 Philosophy of Religion .....	3
POLS 100 American Government * .....	3
POLS 102 American Political Issues * .....	3
POLS 165 Political Ideologies * .....	3
POLS 210 State and Local Government * .....	3
POLS 253 Current World Problems * .....	3
PSYC 101 General Psychology * .....	3
PSYC 102 Introduction to Psychology * .....	4
PSYC 324 Psychology of Aging .....	3
PSYC 327 Child Psychology .....	3
PSYC/WMST 367 Psychological Gender Issues .....	3
PSYC 406 Cognitive Psychology .....	3
PSYC 441 Social Psychology .....	3
PSYC 451 Psychology of Abnormal Behavior .....	3
PSYC 461 Theories of Personality .....	3
REL 213 Introduction to Religion * .....	3
REL 224 Old Testament * .....	3
REL 225 New Testament * .....	3
REL 237 Religion in American Culture * .....	3
REL 238 Native American Religions * .....	3
REL 250 World Religions * .....	3
REL 270 Middle East Survey * .....	3
REL 401 History of Western Religious Thought I .....	3
REL 402 History of Western Religious Thought II .....	3
SOC 150 Social Problems * .....	3
SOC 240 The Sociology of Rural America * .....	3
SOC 250 Courtship and Marriage * .....	3
SOC 350 Race and Ethnic Relations .....	3
SOC 440 Urban Sociology .....	3
SPAN 101 Introductory Spanish I * .....	4
SPAN 102 Introductory Spanish II * .....	4
WL 430/430L Human Dimensions in Wildlife and Fisheries and Lab .....	4

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

**Option 2: Cultural and Aesthetic Awareness**

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

1. Demonstrate an appreciation of the different ways in which people express their understanding of the human condition.
2. Understand their responsibilities and choices as related to spatial and temporal contexts.
3. Foster individual creativity.

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

Required: #1

At least one of the following: #2, #3

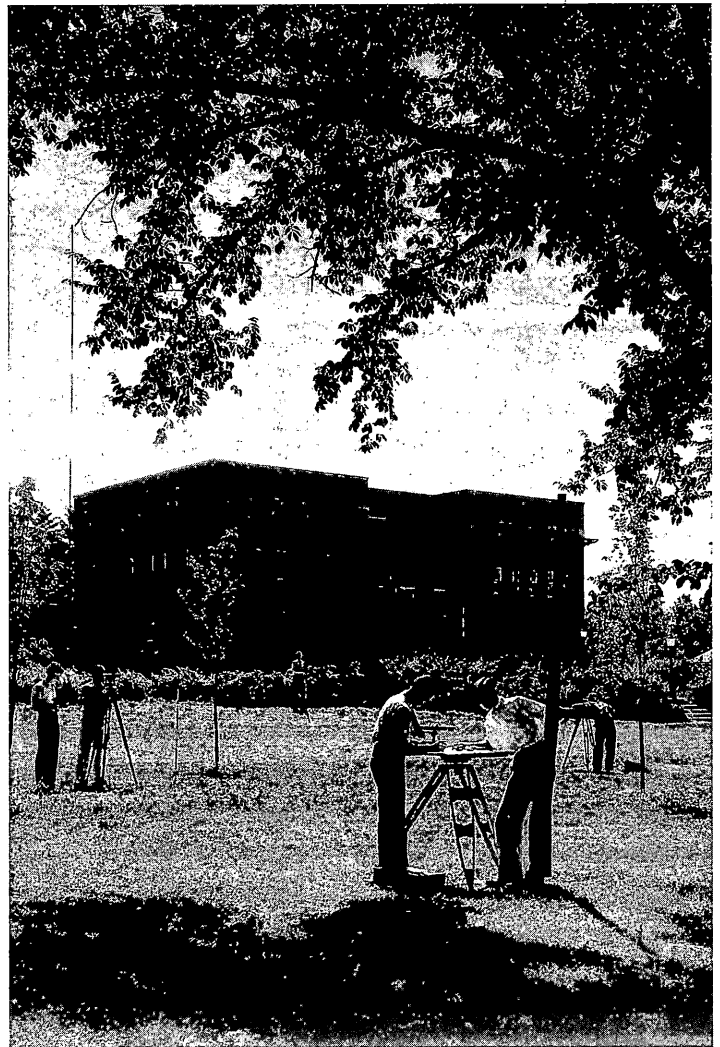
**NOTE:** If a student selects a 1 or 2 credit course, the student will need to combine course credit hours to meet the 3 credit requirement.

Courses	Credits
ANTH 210 Cultural Anthropology *	3
ART 111 Drawing I *	3
ART 112 Drawing II *	3
ART 121 Design I 2D *	3
ART 123 Three-Dimensional Design *	3
ART 211 Drawing III - Figurative	3
ART 231 Painting I	3
ART 241 Sculpture I	3
ART 251 Ceramics I	3
ART 281 Printmaking I	3
ARTH 100 Art Appreciation *	3
ARTH 211 History of World Art I *	3
ARTH 212 History of World Art II *	3
DANC 130 Dance Fundamentals	1
DANC 240 Multicultural Dance Activities	1
ENGL 210 Introduction to Literature *	3
ENGL 211 World Literature I *	3
ENGL 212 World Literature II *	3
ENGL 221 British Literature I *	3
ENGL 222 British Literature II *	3
ENGL 240 Juvenile Literature *	3
ENGL 241 American Literature I *	3
ENGL 242 American Literature II *	3
ENGL 248 Women in Literature *	3
ENGL 249 Literature of Diverse Cultures *	3
ENGL 250 Science Fiction *	3
ENGL 256 Literature of the American West *	3
ENGL 268 Literature: *	3
MUAP 100, 200, 300, 400 Applied Music	
Lessons (for each level of the course)	1
MUEN 100, 200, 300 Music	
Ensembles (for each level of the course)	1
MUS 100 Music Appreciation *	3
MUS 130 Music Literature and History I *	2
MUS 131 Music Literature and History II *	2
MUS 201 History of Country Music *	3
MUS 203 Blues, Jazz and Rock *	3
MUS 230 Music Literature and History III *	2
MUS 231 Music Literature and History IV *	2
PHIL 100 Introduction to Philosophy *	3

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

**Clarification of "Educational Experiences" Alternative**

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



Survey Class on Campus Green, 1930

### III. Globalization Requirement

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

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

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

#### Student Learning Outcomes

Students will:

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

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

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

#### Credit Hours:

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

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

Courses	Credits
ABS 203 Global Food Systems *	3
ABS 482 International Experience * †	2-4
AGEC 479 Agricultural Policy *	3
ARAB 101 Introductory Arabic I *	4
ARAB 102 Introductory Arabic II *	4
ARTH 100 Art Appreciation *	3
ARTH 211 History of World Art I *	3
ARTH 212 History of World Art II *	3
BIOL/PHIL 383 Bioethics *	4
BOT 419/419L Plant Ecology and Lab **	3
CSC 303 Ethical and Security Issues in Computing **	3
ECON 101 Global Economy *	3

ECON 202 Principles of Macroeconomics *	3
ECON 460 Economic Development *	3
ENGL 211 World Literature I *	3
ENGL 212 World Literature II *	3
ENGL 221 British Literature I *	3
ENGL 222 British Literature II *	3
ENVM 275 Introduction to Environmental Science **	3
FREN 101 Introductory French I *	4
FREN 102 Introductory French II *	4
FREN 385 Travel and Study Abroad Francophone †	1-4
GEOG 200 Introduction to Human Geography *	3
GEOG 210 World Regional Geography *	3
GEOG 219 Geography of South Dakota *	3
GER 101 Introductory German I *	4
GER 102 Introductory German II *	4
GLST 201 Global Studies I *	3
GLST 401 Global Studies II **	1
HIST 112 World Civilizations II *	3
HIST 122 Western Civilization II *	3
HIST 413 World Since 1945 *	3
HLTH/HSC 443 Public Health Science *	3
MCOM 416 Mass Media in Society **	3
MCOM 417 History of Journalism **	3
MFL 396/496 Field Experience †	1-4
<b>(NOTE: Every section of MFL 396/496 will meet the globalization goal and student learning outcomes.)</b>	
MFL 101 Introduction to Foreign Language and Culture I *	4
MFL 102 Introduction to Foreign Language and Culture II *	4
POLS 253 Current World Problems *	3
PS/GEOG 310/310L Soil Geography and Land Use Interpretation and Studio *	3
PS 446 Agroecology **	3
PSYC 409 History and Systems of Psychology **	3
PSYC 482 Travel Studies **	1-4
REL 250 World Religions *	3
SE 330 Human Factors and User Interface **	3
SOC 100 Introduction to Sociology *	3
SOC 150 Social Problems *	3
SOC 240 Sociology of Rural America *	3
SOC 350 Race and Ethnic Relations *	3
SOC 440 Urban Sociology *	3
SOC 483 Sociology of Gender Roles **	3
SPAN 101 Introductory Spanish I *	4
SPAN 102 Introductory Spanish II *	4
SPCM 470 Intercultural Communication **	3
WL 110 Environmental Conservation *	3
WL 430/430L Human Dimensions in Wildlife and Fisheries and Lab **	4

\* Indicates courses that also meet the System General Education Requirements (SGR) and/or Institutional Graduation Requirements (IGR).

\*\* Indicates course required for the major.

† Required credits increase from 1-4 credits.

## IV. Advanced Writing Requirement

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

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

### Student Learning Outcomes

Students will:

1. Read extensively and respond critically in the written discourse of a discipline; formulate research questions, refine topics, develop a plan for research and organize what is known about the topic; articulate a position through a thesis statement and advance it using evidence from primary and secondary sources, examples, and counterarguments that are relevant to the audience or issues at hand.
2. Use a style manual and other writing conventions specific to a discipline; avoid plagiarism by adhering to the rules for paraphrasing, summarizing, and the use of quotations, as well as the conventions for incorporating information from Internet-based resources.
3. Evaluate sources critically, both print and electronic, discern the strength of evidence and arguments, determine credibility, and identify potential bias and overall quality.
4. Present the results of research or project, either collaboratively or individually, to the class; department, faculty, community members, or at a student research or professional conference.

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

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

### Credit Hours

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

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

Courses	Credits
ABE 422 Design Project IV .....	2
ABE 490 Seminar: Capstone and Advanced Writing .....	1
ABS 475/475L Integrated Natural Resource Management and Lab .....	3
AGEC 479 Agricultural Policy .....	3
AGED 404 Program Planning in Agricultural Education .....	4
AM 482 Trends Analysis .....	3
ARTH 310 History of U.S. Art and Architecture .....	3
ARTH 320 Modern Art and Architecture Survey .....	3
ARTH 490 Seminar .....	1
AS/RANG 489 Current Issues in Animal and Range Sciences ..	1
AST 463 Agricultural Waste Management .....	3
AT 474 Rehabilitation of Athletic Injuries .....	2
BIOL 490 Seminar: Capstone and Advanced Writing .....	1
CA 340 Work, Time and Energy Decisions .....	3

CEE 465 Civil Engineering Capstone Design II .....	2
CHEM 342/342L Physical Chemistry I and Lab .....	3
CHEM 383 Techniques in Clinical Laboratory Technology II ...	3
CHEM 498 Undergraduate Research/Scholarship .....	3
CM 473 Construction Law and Accounting .....	3
CSC 485 Software Engineering II .....	3
CTE 440 Curriculum Design in Career/Technical Education .....	3
DS 490 Seminar: Capstone and Advanced Writing .....	1
ECE 361/361L Methods and Materials in ECE & Lab .....	5
ECON 433 Public Finance .....	3
EE 465 Senior Design II .....	2
EET/MNET 470/470L Project Management and Lab .....	2
EET/MNET 471/471L Capstone Experience and Lab .....	1
ENGL 379 Technical Communication .....	3
ENGL 410 Mythology and Literature .....	3
ENGL 424 7-12 Language Arts Methods .....	3
ENGL 479 Capstone Course and Writing in the Discipline .....	1
FCSE 411 Philosophy and Methods in FCSE .....	4
FREN 310 French Language Skills .....	3
GEOG 382 Geographic Research Methods .....	3
GER 433 German Civilization I .....	3
GER 434 German Civilization II .....	3
HIST 480 Historical Methods and Historiography .....	3
HSC 490 Seminar: Capstone and Advanced Writing .....	2
ID 322 Interior Design Studio III .....	4
MATH 401 Senior Capstone and Advanced Writing .....	1
MCOM 371/371L Advertising Copy and Layout & Studio .....	3
MCOM 433/433L Advanced TV News Reporting & Studio .....	3
MCOM 438/438L Public Affairs Reporting & Studio .....	3
ME 479/479L Mechanical Systems Design II and Lab .....	2
MICR 490 Seminar .....	1
MNET 494 Internship .....	3
(NOTE: Although the specific sites vary, the specific course requirements do not.)	
MUS 433 Twentieth Century Music Literature .....	2
NFS 490 Seminar: Capstone and Advanced Writing .....	1
NURS 416 Community Health Nursing .....	5
NURS 495 Practicum .....	6
(NOTE: Although the specific sites vary, the specific course requirements do not.)	
PE 490 Seminar: Capstone and Advanced Writing .....	2
PHA 311 Professional Issues and Communications .....	2
PHA 442/442L Pharmacology I & Lab .....	5
PHA 446 Drug Information I .....	1
PHA 447 Drug Information II .....	1
PHYS 316/316L Measurement Theory and Experiment Design & Lab .....	2
POLS 461 Early Political Philosophy .....	3
POLS 462/PHIL 424 Modern Political Philosophy .....	3
PS 383/383L Principles of Crop Improvement and Lab .....	3
PS 390 Seminar: Capstone and Advanced Writing .....	1
PSYC 409 History and Systems of Psychology .....	3
RECR 410 Current Issues in Recreation .....	3
SE 320 Software Requirements and Formal Specifications .....	3
SOC 403 Sociological Theory .....	3
SPAN 433 Spanish Civilization and Culture .....	3
SPAN 435 Latin American Civilization and Culture .....	3
SPCM 305 Communication Research .....	3
SPCM 410 Organizational Communication .....	3
THEA 410 Dramatic Literature .....	3

# General Education Requirements for Associate Degree

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

## System General Education Requirements for Associate Degree Programs

### 1. Associate of Arts Degree

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

### 2. Associate of Science Degree

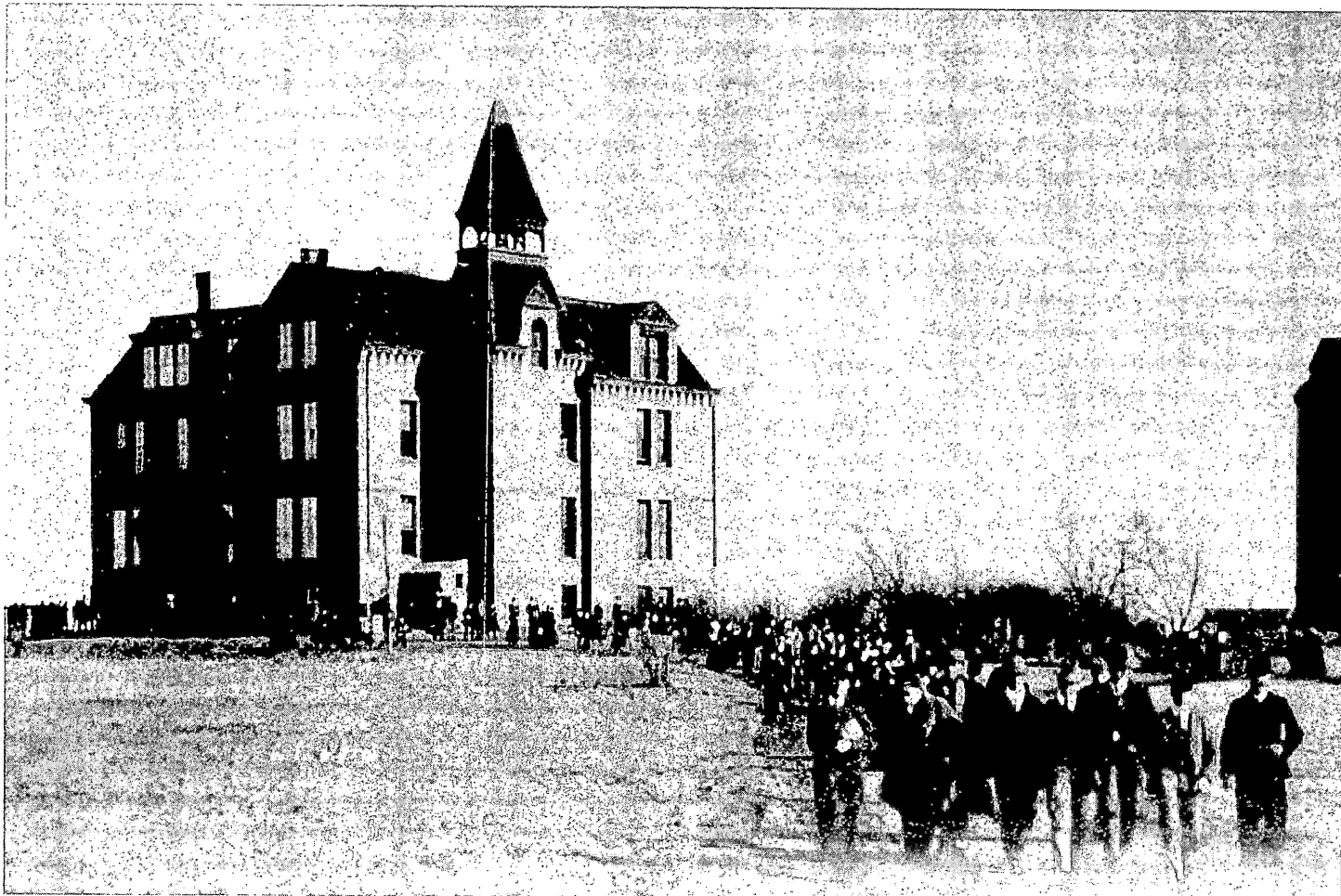
The general education component of all Associate of Science programs shall consist of a minimum of 18 credit hours as specified in Board of Regents policy 2:7(3).

### Required Courses from the System General Education List for Associate of Science degrees:

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

## Institutional Graduation Requirements NOT Required for Associate Degree Programs

The SDSU Institutional Graduation Requirements (IGRs) do not apply to either the Associate of Arts degree or the Associate of Science degree programs.



Central, the first building on campus, in the early 1900s.

# Policies Applicable to System General Education Requirements (SGRs)

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## Guidelines for Baccalaureate and Associate Degrees

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

## Additional Guidelines for Baccalaureate Degrees

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

Course Requirements	Credit Hours
Written Communication (Goal #1)	3
Social Sciences/Diversity (Goal #3)	3
Humanities and Arts/Diversity (Goal #4)	3
Mathematics (Goal #5)	3
Natural Sciences (Goal #6)	3
<b>Total</b>	<b>15</b>

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

3. All System General Education Requirements (30 credits) must be completed within the first 64 hours. A list of program exceptions at SDSU are:

- Agricultural and Biosystems Engineering
- Biology- Preprofessional Health Related Specialization
- Civil Engineering
- Computer Science
- Electrical Engineering
- Engineering Physics – Mechanical Engineering Emphasis and Electrical Engineering Emphasis
- Interior Design
- Mathematics Education

- Mechanical Engineering
- Music
- Music Education
- Nursing

4. Students placed in pre-general education (i.e., remedial) courses must enroll in and successfully complete the courses within the first 30 credit hours. If a student does not successfully complete the pre-general education course(s) within the first 30 credit hours attempted, a registration hold is placed on the student's record. In any subsequent registration during the next 12 credit hours attempted, the student must enroll in and successfully complete the pre-general education course(s). If the pre-general education course(s) is not successfully completed within the first 42 credit hours attempted, the only course(s) in which a student may enroll is the pre-general education course(s); and the student's status is changed from degree seeking to non-degree seeking. Transfer students entering with 42 or more credit hours, who are still in need of pre-general education coursework, are required to enroll in the necessary pre-general education coursework during their first enrolled term in the regental system. Student who are placed into MATH 021 are expected to successfully complete both MATH 021 and MATH 101 before enrolling in MATH 102. However, a student who performs exceptionally well in MATH 021 may petition the Vice President for Academic Affairs to bypass MATH 101 and enroll in MATH 102 as their next mathematics course. These students must sit for the COMPASS Math placement exam and earn scores that meet or exceeds the placement score necessary for enrolling in MATH 102.

## Additional Guidelines for Associate Degrees

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

Course Requirements	Credit Hours
Written Communication (Goal #1)	3
Social Sciences/Diversity (Goal #3)	3
Humanities and Arts/Diversity (Goal #4)	3
Mathematics (Goal #5)	3
Natural Sciences (Goal #6)	3
<b>Total</b>	<b>15</b>



# Transfer Students

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## Fraction of Credits

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

## Personal Wellness Requirement

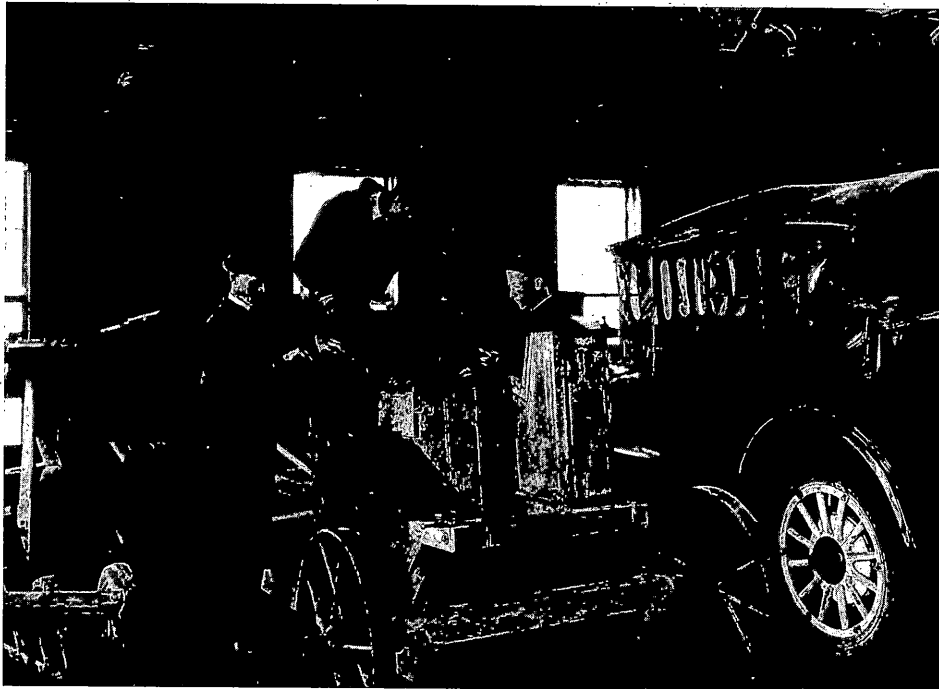
The Personal Wellness requirement (IGR #2) needs to be satisfied by transfer students with documented equivalent courses to BIOL 105, GS 143, HSC 212, PHA 201, PSYC 267, WEL 100/100L, or two (2) credits of PE 100. If equivalencies cannot be established, the transfer student will be expected to meet the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

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

# College and Major Field Requirements

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



Ag students tinkered with a harvester in a farm machinery class during the 1900s.



DEGREES AND ASSOCIATED MAJORS ..... 51

*Degree Definitions* ..... 52  
*Degrees and Associated Majors* ..... 53  
*Majors Sorted by General Degree Type* ..... 54  
*All Authorized Majors, Minors, Certificates and Specializations* ..... 55  
*Organizational Structure of SDSU* ..... 60

# Degree Definitions

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## Associate Degree

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

An Associate of Science (AS) degree is a terminal degree. However, it is transferable when a specific degree articulation agreement exists between a given AS degree and a specific baccalaureate degree. (BOR Policy 2:25:4B.) Up to 16 credit hours at the 300 and 400 level may be required. More than 16 credit hours at the 300 and 400 level may be required if specified by an accrediting agency.

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

## Bachelor's Degree

The bachelor's degree is awarded to a student by a university for satisfactory completion of a prescribed course of study (South Dakota Regental System minimum of 128 semester credits). It is verified by a diploma and transcript signifying a measure of achievement. The bachelor's degree enables a student to acquire a certain amount of general learning and to also become proficient in a particular field of study or a profession. The curricular structure of a bachelor's degree program includes a system general education core curriculum, institutional graduation requirements, support courses, major courses, and electives.

At SDSU the credits required for the bachelor's degree range from 128-138. The degrees offered are:

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

## Master's Degree

In broad terms, the master's degree indicates that the recipient has mastered a program of advanced, specialized study in a particular field. Normally, degree titles indicate one of two major categories. The Master of Arts and Master of Science are academic degrees designed to provide an introduction to scholarship activities and research. These degrees often serve the needs of individuals teaching in public schools or community colleges and/or preparation for further graduate study. The second category leads to professional master's degrees, such as the M.Ed. or MBA. While similar to the M.A. and M.S., these programs tend to emphasize professional practice.

SDSU offers M.Ed., M.A., and M.S. degrees.

## Doctoral Degree

The Doctor of Philosophy program (Ph.D.) is designed to prepare a student to become a scholar, that is, to discover, integrate, and apply knowledge, as well as communicate and disseminate it. A well-prepared doctoral graduate will have developed the ability to understand and evaluate critically the literature of the field and to apply appropriate principles and procedures to the recognition, evaluation, interpretation, and understanding of issues and problems at the frontiers of knowledge. The graduate will also have an appropriate awareness of and commitment to the ethical practices appropriate to the field.

The professional doctoral degree is earned by two or more years of professional study past the baccalaureate degree. This degree prepares an individual for entry into the practice of a recognized profession. Examples of professional doctorates are the M.D., Pharm.D., JD, DVM, and Ed.D. degrees.

SDSU offers the Ph.D. degree in these areas: Agricultural Engineering (joint with Iowa State University); Agronomy; Animal Science; Biological Sciences; Chemistry; Computational Science and Statistics, Geospatial Science and Engineering, Nursing, and Sociology. SDSU offers a professional doctorate in Pharmacy, that is the Pharm.D. degree.

## Major

An academic major or primary area of study within a degree program enables students to make an in-depth inquiry into a discipline or a professional field of study. It is organized around a specific set of goals and objectives that are accomplished through an ordered series of courses, whose connections define an internal structure and whose sequence advances levels of knowledge and understanding. A major introduces students to a discipline or field of study and related area through a foundation of theory and method. A major that focuses on a specific discipline draws its courses predominantly from one department. A major that encompasses a professional field of study or is interdisciplinary usually obtains its courses from more than one department.

The number of credit hours required for a major and its organizational structure will vary, depending on whether it aims at disciplinary or professional preparation. Variations are due to the demands of accrediting agencies, certification requirements, professional competence and expectations. Undergraduate majors require both discipline specific and support courses. In the Regental system majors typically consist of 47-89 semester credit hours with the mean at 68.5 hours. Credits required for the major are supported by the general education core and electives and together meet the total degree requirement.

## Minor

An academic minor within a degree program enables a student to make an inquiry into a discipline or field of study beyond the major or to investigate a particular content theme. It too should be organized around a specific set of objectives that are achieved through a series of courses. Minors are intended to provide limited competency in the subject. Course offerings in a minor may be centered in a specific department or drawn from several departments as in the case of a topical or thematic focus. Some specific requirements are included. Regental undergraduate minors typically consist of 18-24 semester credit hours. Flexibility typically is achieved by offering the student a choice from among a group of courses to complete the credits.

## Specialization

A specialization is a designated plan of study, within an existing degree program. It provides a student an alternative to the primary format of the major or it may be one of several tracks within a broad major. It contains courses within the discipline(s) of the existing program. It is specified in the institutional catalog and is designated on the transcript.

## Emphasis

An emphasis is a concentration within a major and is accomplished by individual student choices within a plan of study. For example, within a major on adult health the student may focus on the older adult. An emphasis is not regarded as a separate program. It may be described in the catalog, but not detailed as a specific plan of study. It is not specified on a transcript.

# Degrees and Associated Majors

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

	page(s)		page(s)
<b>Agriculture and Biological Sciences</b>			
<b>Associate of Science in Agriculture</b>			
General Agriculture .....	100, 186	Park and Recreation Management .....	105-106, 221-223
<b>Bachelor of Science in Agriculture</b>		Political Science .....	120, 227
Agricultural and Resource Economics .....	94, 135	Psychology .....	121, 227-230
Agricultural Business .....	94, 136	Sociology .....	121-122, 233-235
Agricultural Education .....	123, 137		
Agricultural Journalism .....	107, 137-138	<b>Education and Counseling</b>	
Agricultural Systems Technology .....	83, 138-140	<b>Bachelor of Science in Education</b>	
Agronomy .....	119-120, 140-142	Career and Technical Education .....	88-89, 123, 151-152, 156
Animal Science .....	84, 143-144		
Dairy Manufacturing .....	93, 167-168	<b>Engineering</b>	
Dairy Production .....	93, 169	<b>Bachelor of Science in Agricultural and Biosystems Engineering</b>	
General Agriculture .....	100, 186	Agricultural and Biosystems Engineering .....	82-83, 99, 132-134
Horticulture .....	105-106, 197-199	<b>Bachelor of Science in Civil Engineering</b>	
Landscape Architecture .....	105-106, 206	Civil Engineering .....	90-91, 158-159
Park and Recreation Management .....	105-106, 221-223	<b>Bachelor of Science in Computer Science</b>	
Range Science .....	84, 230-232	Computer Science .....	92, 164-165
		<b>Bachelor of Science in Construction Management</b>	
<b>Bachelor of Science in Biological Science</b>		Construction Management .....	96-97, 165-166
Biology .....	87, 152-154	<b>Bachelor of Science in Electrical Engineering</b>	
Environmental Management .....	98, 182-183	Electrical Engineering .....	95, 177-178
Microbiology .....	111, 213-215	<b>Bachelor of Science in Electronics Engineering Technology</b>	
Wildlife and Fisheries Sciences .....	126, 238-239	Electronics Engineering Technology .....	96-97, 178-179
		<b>Bachelor of Science in Engineering</b>	
<b>Arts and Science</b>		Mathematics .....	109, 208-211
<b>Bachelor of Arts in Arts and Science</b>		<b>Bachelor of Science in Engineering Physics</b>	
Art .....	124-125, 146-150	Engineering Physics .....	118-119, 179-180
Communication Studies and Theatre .....	91-92, 160-164	<b>Bachelor of Science in Industrial Management</b>	
Economics .....	94, 175-177	Industrial Management .....	96-97, 201-202
English .....	97-98, 181-182	<b>Bachelor of Science in Manufacturing Engineering Technology</b>	
French Studies .....	113, 185	Manufacturing Engineering Technology .....	96-97, 208
German .....	113, 188-189	<b>Bachelor of Science in Mechanical Engineering</b>	
Global Studies .....	102, 190-191	Mechanical Engineering .....	109-110, 211-212
Graphic Design .....	124-125, 192	<b>Bachelor of Science in Physics</b>	
History .....	105, 196	Physics .....	118-119, 225-227
Journalism and Mass Communication .....	107, 203-205	<b>Bachelor of Science in Safety Management</b>	
Music .....	113-114, 215-216	Safety Management .....	96-97, 232-233
Political Science .....	120, 227	<b>Bachelor of Science in Software Engineering</b>	
Sociology .....	121-122, 233-235	Software Engineering .....	122, 235-236
Spanish .....	113, 236		
<b>Bachelor of Music Education</b>		<b>Family and Consumer Sciences</b>	
Music Education .....	113-114, 216-217	<b>Bachelor of Science in Family and Consumer Sciences</b>	
<b>Bachelor of Science in Arts and Science</b>		Apparel Merchandising .....	84-85, 144
Art .....	124-125, 146-150	Consumer Affairs .....	106, 166-167
Athletic Training .....	86-87, 150-151	Early Childhood Education .....	106, 170-174
Biology .....	87, 152-154	Family and Consumer Sciences Education .....	106, 184-185
Chemistry .....	89-90, 156-158	Hotel and Foodservice Management .....	116, 199-200
Clinical and Laboratory Sciences .....	89-90, 159-160	Human Development and Family Studies .....	106, 200-201
Communication Studies and Theatre .....	91-92, 160-164	Interior Design .....	84-85, 202-203
Economics .....	94, 175-177	Nutrition and Food Science .....	116, 218-220
Geographic Information Sciences .....	100-101, 187		
Geography .....	101, 187-188	<b>General Studies and Outreach Programs</b>	
Global Studies .....	102, 190-191	<b>Associate of Arts</b>	
Graphic Design .....	124-124, 192	General Studies .....	100, 186
Health Physical Education and Recreation .....	103-104, 193-194	<b>Bachelor of Applied Technical Science</b>	
Health Promotion .....	104, 194-195	Applied Technical Science .....	85, 145-146
History .....	105, 196	<b>Bachelor of Science in Liberal Studies</b>	
Journalism and Mass Communication .....	107, 203-205	Liberal Studies .....	108, 207-208
Mathematics .....	109, 208-211		
Microbiology .....	111, 213-215		
Music Merchandising .....	113-114, 217-218		

# Degrees and Associated Majors

## Nursing

### Bachelor of Science in Nursing

Accelerated Nursing .....	114-115, 218
Nursing .....	114-115, 218
RN Upward Mobility.....	114-115, 218

## Pharmacy

### Bachelor of Science in Pharmaceutical Sciences

Pharmaceutical Sciences .....	117, 223-224
-------------------------------	--------------

## Graduate School

### Master of Arts \*

### Master of Education \*

### Master of Science \*

### Doctor of Pharmacy ..... 223-224

### Doctor of Philosophy \*

\* See Graduate School Catalog for majors in these degrees

# Majors Sorted by General Degree Type

	page(s)
<b>Associate of Arts (A.A.)</b>	
General Studies .....	100, 186
<b>Associate of Science in Agriculture (A.S.)</b>	
General Agriculture .....	100, 186
<b>Bachelor of Applied Technical Science (B.A.T.S.)</b>	
Applied Technical Science .....	85, 145-146
<b>Bachelor of Arts (B.A.)</b>	
Art .....	124-125, 146-150
Communication Studies and Theatre .....	91-92, 160-164
Economics .....	94, 175-177
English .....	97-98, 181-182
French Studies.....	113, 185
German .....	113, 188-189
Global Studies .....	102, 190-191
Graphic Design .....	124-125, 192
History .....	105, 196
Journalism and Mass Communication .....	107, 203-205
Music .....	113-114, 216
Political Science .....	120, 227
Sociology .....	121-122, 233-235
Spanish .....	113, 236
<b>Bachelor of Music Education (B.M.E.)</b>	
Music Education.....	113-114, 216-217
<b>Bachelor of Science (B.S.)</b>	
Accelerated Nursing .....	114-115, 218
Agricultural and Biosystems Engineering .....	82-83, 132-134
Agricultural and Resource Economics .....	94, 135
Agricultural Business.....	94, 136
Agricultural Education.....	123, 137
Agricultural Journalism .....	107, 137-138
Agricultural Systems Technology.....	83, 138-140
Agronomy .....	119-120, 140-142
Animal Science.....	84, 143-144
Apparel Merchandising .....	84-85, 144
Art .....	124-125, 146-150
Athletic Training .....	86-87, 150-151
Biology (Ag).....	87, 152-154
Biology (Biol Sci).....	87, 152-154
Chemistry .....	89-90, 156-158
Civil Engineering .....	90-91, 158-159
Clinical and Laboratory Sciences .....	89-90, 159-160
Communication Studies and Theatre .....	91-92, 160-164
Computer Science.....	92, 164-165
Construction Management .....	96-97, 165-166
Consumer Affairs .....	106, 166-167
Dairy Manufacturing .....	93, 167-168
Dairy Production .....	93, 169
Early Childhood Education .....	106, 170-174
Economics.....	94, 175-177

Electrical Engineering .....	95, 177-178
Electronics Engineering Technology.....	96-97, 178-179
Engineering Physics .....	118-119, 179-180
Environmental Management.....	98, 182-183
Family and Consumer Sciences Education .....	106, 184-185
General Agriculture .....	100, 186
Geographic Information Sciences .....	100-101, 187
Geography.....	101, 187-188
Global Studies.....	102, 190-191
Graphic Design .....	124-125, 192
Health Physical Education and Recreation .....	103-104, 193-194
Health Promotion .....	104, 194-195
History .....	105, 196
Horticulture .....	105-106, 197-199
Hotel and Foodservice Management .....	116, 199-200
Human Development and Family Studies .....	106, 200-201
Industrial Management .....	96-97, 201-202
Interior Design.....	84-85, 202-203
Journalism and Mass Communication .....	107, 203-205
Landscape Architecture .....	105-106, 206
Liberal Studies .....	108, 207-208
Manufacturing Engineering Technology .....	96-97, 208
Mathematics (A&S) .....	109, 208-211
Mathematics (ENGR) .....	109, 208-211
Mechanical Engineering .....	109-110, 211-212
Microbiology (Ag) .....	111, 213-215
Microbiology (Biol Sci) .....	111, 213-215
Music Merchandising .....	113-114, 217-218
Nursing .....	114-115, 218
Nutrition and Food Science .....	116, 218-220
Park and Recreation Management .....	105-106, 221-223
Pharmaceutical Sciences.....	117, 223-224
Physics .....	118-119, 225-227
Political Science .....	120, 227
Psychology .....	121, 227-230
Range Science.....	84, 230-232
RN Upward Mobility .....	114-115, 218
Safety Management.....	96-97, 232-233
Sociology .....	121-122, 233-235
Software Engineering .....	122, 235-236
Wildlife and Fisheries Sciences .....	126, 238-239

## Bachelor of Science in Education (B.S.Ed.)

Career and Technical Education .....	88-89, 123, 151-152, 156
--------------------------------------	--------------------------

## Master of Arts (M.A.)\*

## Master of Education (M.Ed.)\*

## Master of Science (M.S.)\*

## Doctor of Pharmacy (Pharm.D.) ..... 223-224

## Doctor of Philosophy (Ph.D.)\*

\* See Graduate School Catalog for majors in these degrees

# All Authorized Majors, Minors, Certificates and Specializations

PROGRAM OF STUDY	ADMINISTERED BY	PAGE
Accounting (minor).....	ABS/Ag, A&S.....	132
Aerospace Studies (minor).....	A&S.....	82, 132
Agricultural and Biosystems Engineering (B.S.).....	ENGR.....	82-83, 99, 132-134
*Food and Biological Materials Engineering		
Agricultural and Resource Economics (B.S.).....	ABS/Ag.....	94, 135
Agricultural Business (B.S., minor).....	ABS/Ag.....	94, 136
Agricultural Education (B.S.).....	ABS/Ag.....	123, 137
Agricultural Engineering (Ph.D.).....	Grad.....	See Graduate Catalog
Agricultural Journalism (B.S.).....	ABS/Ag.....	107, 137-138
Agricultural Marketing (minor).....	ABS/Ag.....	138
Agricultural Systems Technology (B.S., minor).....	ABS/Ag.....	83, 138-140
*Business		
*Environmental Systems		
*Processing		
*Production		
Agronomy (B.S., Ph.D., minor).....	ABS/Ag.....	119-120, 140-142
*Business		
*Pest Management		
*Production		
*Science		
American Indian Studies (minor).....	A&S.....	84, 142
Animal Science (B.S., M.S., Ph.D., minor).....	ABS/Ag.....	84, 143-144
*Business and Production		
*Science		
Apparel Merchandising (B.S., minor).....	FCS.....	84-85, 144
Applied Information Technology (minor).....	A&S.....	85, 145
Applied Technical Science (B.A.T.S.).....	GS.....	85, 145-146
*Applied Agriculture		
*General Supervision		
*General Technology		
*Industrial Sales		
*Industrial Supervision		
Art (E) (B.A., B.S., minor).....	A&S.....	124-125, 146-150
*Art Education		
*Visual Arts (painting/printmaking, ceramics/sculpture, general art)		
Athletic Coaching Certification.....	A&S.....	86
Athletic Training (B.S.).....	A&S.....	86-87, 150-151
Aviation (minor).....	EDUC.....	87, 151-152
Biological Sciences (M.S.).....	Grad.....	See Graduate Catalog
*Biology		
*Dairy Science		
*Food and BioMaterials Processing		
*Horticulture Science		
*Human Nutrition and Food Science		
*Microbiology		
*Pharmaceutical Science		
*Veterinary Microbiology		
*Veterinary Pathology		

## Key to Units Administering Individual Curriculums

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



# All Authorized Majors, Minors, Certificates and Specializations

PROGRAM OF STUDY	ADMINISTERED BY	PAGE
Biological Sciences (Ph.D.) .....	Grad .....	See Graduate Catalog
*Agricultural and Biosystems Engineering		
*Animal and Range Sciences		
*Biology		
*Dairy Science		
*Fisheries Science		
*Human Nutrition and Food Science		
*Microbiology		
*Molecular Biology		
*Pharmaceutical Science		
*Plant Molecular Biology		
*Plant Science		
*Veterinary Microbiology		
*Veterinary Pathobiology		
*Wildlife Sciences		
Biology (E) (B.S., minor) .....	ABS/BS, A&S .....	87, 152-154
*Cellular/Molecular		
*Ecology		
*Organismal Biology		
*PreProfessional		
*Secondary Education		
Biomedical Engineering (minor) .....	ENGR .....	88, 154
Biotechnology (minor) .....	ABS, A&S .....	154
Botany (minor) .....	ABS/BS .....	88, 155
Business Area Studies .....	ABS .....	88, 155
Business (minor) .....	A&S .....	155
Career and Technical Education (B.S.E.D.) .....	EDUC .....	88-89, 123, 156
*Aviation Education		
Chemistry (E) (B.S., M.S., Ph.D., minor) .....	A&S, Grad .....	89-90, 156-158
*Chemistry ACS Certified		
Civil Engineering (B.S.) .....	ENGR .....	90-91, 158-159
Clinical and Laboratory Sciences (B.S.) .....	A&S .....	89-90, 159-160
Communication Studies and Journalism, (M.S.) .....	Grad .....	See Graduate Catalog
Communication Studies and Theatre (E) (B.A., B.S., minor) .....	A&S .....	91-92, 160-164
*Media Production		
*Speech Communication		
*Speech Education		
*Theatre		
Computational Science and Statistics (Ph.D.) .....	Grad .....	See Graduate Catalog
Computer Application (certificate) .....	GS .....	92
Computer Science (E) (B.S., minor) .....	ENGR .....	92, 164-165
Construction Management (B.S.) .....	ENGR .....	96-97, 165-166
Consumer Affairs (B.S., minor) .....	FCS .....	106, 166-167
Counseling and Human Resource Development (M.S.) .....	Grad .....	92, See Graduate Catalog
Criminal Justice (minor) .....	A&S .....	93, 167
Curriculum and Instruction (M.Ed.) .....	Grad .....	94-95, See Graduate Catalog
Dairy Manufacturing (B.S.) .....	ABS/Ag .....	93, 167-168
* Microbiology		

## Key to Units Administering Individual Curriculums

A&S	College of Arts and Science	GS	College of General Studies and Outreach Programs
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ENGR	College of Engineering	Grad	Graduate School
EDUC	College of Education and Counseling	VPAA	Vice President for Academic Affairs
FCS	College of Family and Consumer Sciences	*	Specialization (area within a major)
		(E)	Education curriculum available with these majors

# All Authorized Majors, Minors, Certificates and Specializations

PROGRAM OF STUDY	ADMINISTERED BY	PAGE
Dairy Production (B.S.)	ABS/Ag	93, 169
*Business		
*Science		
Dance (minor)	A&S	93, 169-170
Early Childhood Education (E) (B.S.)	FCS	106, 170-174
*Cooperative Program with BHSU, DSU, NSU, and USD		
*Early Childhood Birth to Age 5		
*Early Childhood Birth to Age 8		
Economics (E) (B.A., B.S., M.S., minor)	A&S	94, 175-177
*Business Economics		
Education (preparation for teaching certification – secondary education)	EDUC	123-124
Educational Administration (M.Ed.)	Grad	94-95, See Graduate Catalog
Electrical Engineering (B.S.)	ENGR	95, 177-178
Electronics Engineering Technology (B.S.)	ENGR	96-97, 178-179
Engineering (M.S.)	Grad	See Graduate Catalog
Engineering Physics (B.S.)	ENGR	118-119, 179-180
English (E) (B.A., M.A., minor)	A&S	97-98, 181-182
*English Education		
Entrepreneurial Studies (minor)	VPAA	98, 182
Entrepreneurship (certificate)	VPAA	98
Environmental Management (B.S.)	ABS/BS	98, 182-183
Equine Studies (minor)	ABS	84, 144, 183
European Studies (minor)	A&S	98-99, 183-184
Family and Consumer Sciences (M.S.)	Grad	See Graduate Catalog
*Merchandising		
Family and Consumer Sciences Education (E) (B.S.)	FCS	106, 184-185
Financial Planning for Families and Farms (certificate)	FCS	See Graduate Catalog
French Studies (E) (B.A., minor)	A&S	113, 185
General Agriculture (A.S, B.S.)	ABS/Ag	100, 186
General Studies (A.A.)	GS	100, 186
General Studies (undecided majors)	GS, NonDegree	74
Geographic Information Sciences (B.S., certificate, minor)	A&S, ENGR, Grad	100-101, 187
Geography (E) (B.S., M.S., minor)	A&S	101, 187-188
Geospatial Science and Engineering (Ph.D.)	Grad	See Graduate Catalog
German (E) (B.A., minor)	A&S	113, 188-189
Gerontology (minor)	FCS & NURS, Grad	101, 189
Global Agriculture (minor)	ABS	189-190
Global Studies (B.A., B.S., minor)	A&S	102, 190-191
Graphic Design (B.A., B.S.)	A&S	124-125, 192
Health Education (minor)	A&S	193
Health, Physical Education and Recreation (E) (B.S., M.S.)	A&S	103-104, 193-194
*Teaching		
Health Promotion (B.S.)	A&S	104, 194-195
Health Science (minor)	NURS	104, 195-196
History (E) (B.A., B.S., minor)	A&S	105, 196
*Teaching		
Honors College	VPAA	76, 196-197
Horticulture (B.S.)	ABS/Ag	105-106, 197-199
*Business		
*Production		
*Science		

## Key to Units Administering Individual Curriculums

A&S	College of Arts and Science	GS	College of General Studies and Outreach Programs
ABS/Ag	College of Agriculture and Biological Sciences, Agriculture Curriculum	NURS	College of Nursing
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EDUC	College of Education and Counseling	VPAA	Vice President for Academic Affairs
FCS	College of Family and Consumer Sciences	*	Specialization (area within a major)
		(E)	Education curriculum available with these majors

# All Authorized Majors, Minors, Certificates and Specializations

PROGRAM OF STUDY	ADMINISTERED BY	PAGE
Hotel and Foodservice Management (B.S., minor)	FCS	116, 199-200
*Foodservice Management		
*Hotel and Hospitality Management		
Human Development and Family Studies (B.S.)	FCS	106, 200-201
Human Development, Child and Family Studies (minor)	FCS	201
Industrial Management (B.S., M.S.)	ENGR, Grad	96-97, 201-202, See Graduate Catalog
Interior Design (B.S., minor)	FCS	84-85, 202-203
Journalism (E) (B.A., B.S., minor)	A&S	107, 203-205
*Advertising		
*Broadcast Journalism		
*NewsEditorial		
Landscape Architecture (B.S.)	ABS/Ag	105-106, 206
Latin American Studies (minor)	A&S	107, 207
Leadership and Management of Nonprofit Organizations (minor)	FCS	108, 207
Liberal Studies (B.S.)	GS	108, 207-208
Manufacturing Engineering Technology (B.S.)	ENGR	96-97, 208
Mathematics (E) (B.S., M.S., minor)	A&S, ENGR	109, 208-211
*Statistics (M.S.)		
*Teaching		
Mechanical Engineering (B.S.)	ENGR	109-110, 211-212
Merchandising (certificate)	GRAD	See Graduate Catalog
Microbiology (E) (B.S., minor)	ABS/BS, A&S	111, 213-215
*Applied and Environmental		
*Infectious Disease		
*Microbiology		
*Molecular Biology		
Military Science (minor)	A&S	112, 215
Modern Language	A&S	112, 215
*Business-Economics		
*Teaching — German, Spanish, French Studies		
Music (B.A., minor)	A&S	113-114, 216
Music Education (B.M.E.)	A&S	113-114, 216-217
Music Merchandising (B.S.)	A&S	113-114, 217-218
Nursing (B.S., M.S., Ph.D.)	NURS	114-115, 218
Nursing, Accelerated (B.S.)		
Nursing, RN Upward Mobility (B.S.)		
Nutrition and Food Science (B.S., minor)	FCS	116, 218-220
*Dietetics		
*Food Science		
*Nutritional Sciences		
Park and Recreation Management (B.S.)	ABS/A&S	105-106, 221-223
*Park Management		
*Public Recreation		
Pest Management (minor)	ABS	119-120, 223
Pharmaceutical Sciences (B.S.)	PHARM	78, 117, 223-224
Pharmacy (Pharm.D.)	PHARM	78, 117, 223-224
Philosophy (minor)	A&S	117-118, 224
Physical Education (minor)	A&S	224-225
Physics (E) (B.S., minor)	ENGR	118-119, 225-227
*Science Teaching		

## Key to Units Administering Individual Curriculums

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

# All Authorized Majors, Minors, Certificates and Specializations

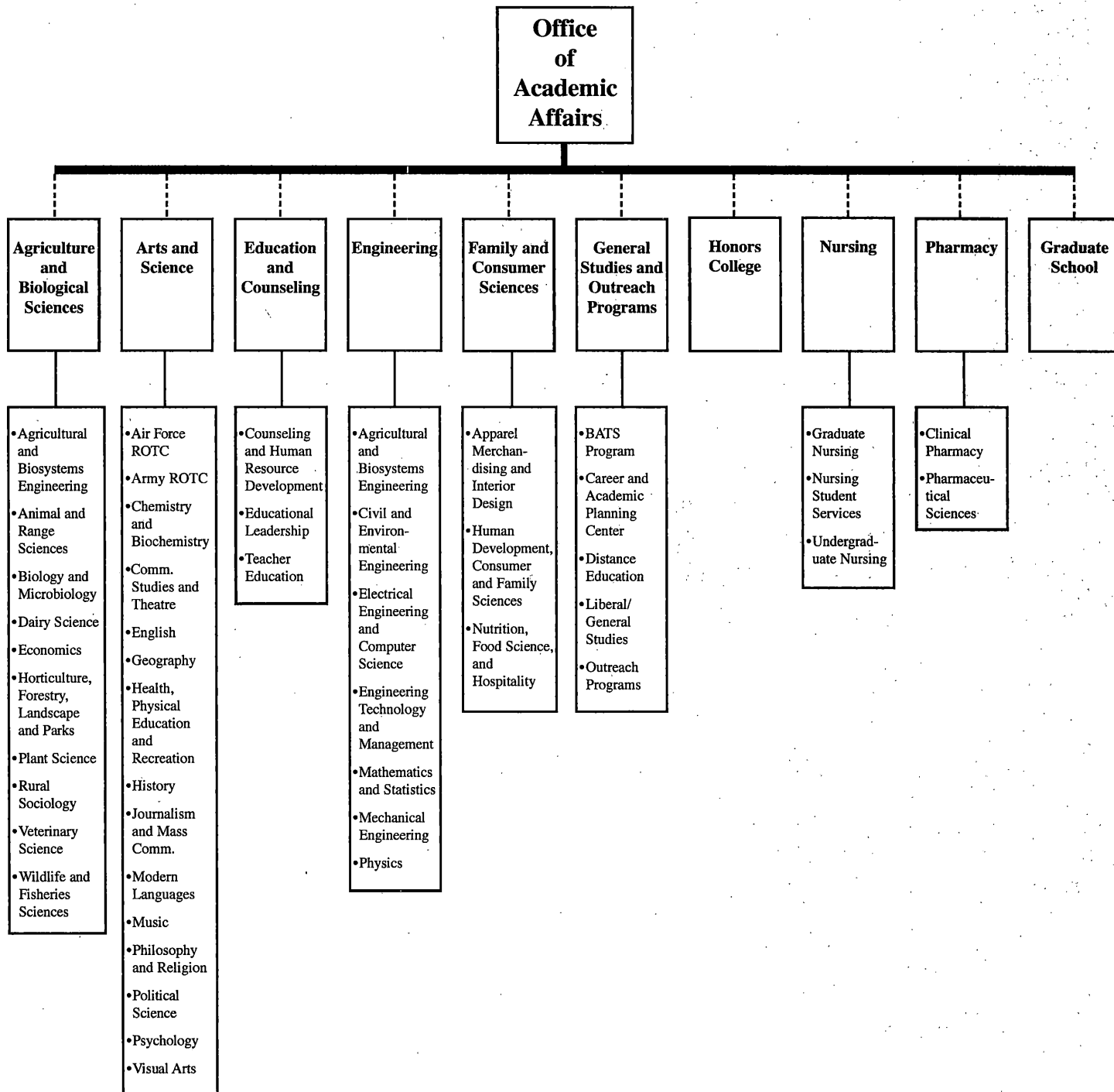
PROGRAM OF STUDY	ADMINISTERED BY	PAGE
Planning (minor) .....	Grad .....	119, 227, See Graduate Catalog
Plant Science (M.S.).....	Grad .....	119-120, See Graduate Catalog
*Agronomy		
*Entomology		
*Plant Pathology		
Political Science (E) (B.A., B.S., minor).....	A&S .....	120, 227
Post Master's for Family Nurse Practitioners (certificate).....	NURS .....	See Graduate Catalog
Post Master's for Nurse Educators (certificate).....	NURS .....	See Graduate Catalog
Psychology (E) (B.S., minor).....	A&S .....	121, 227-230
*Graduate School Preparation		
*Psychological Services		
*Teaching		
Public Recreation (minor) .....	A&S .....	103, 223
Range Science (B.S., minor).....	ABS/Ag .....	84, 230-232
*Range Livestock Production		
*Rangeland Ecology and Habitat Management		
*Rangeland Resource Conservation		
Reading, System (minor) .....	EDUC .....	121, 232
Religion (minor).....	A&S .....	117-118, 232
Rural Sociology (M.S.) .....	Grad .....	See Graduate Catalog
Safety Management (B.S.) .....	ENGR .....	96-97, 232-233
Secondary Education (certificate).....	EDUC .....	67-69, 236-237
Sociology (E) (B.A., B.S., Ph.D., minor) .....	A&S .....	121-122, 233-235
*Human Resources		
*Human Services		
*Social Work		
*Teaching		
Software Engineering (B.S.).....	ENGR .....	122, 235-236
Spanish (E) (B.A., minor) .....	A&S .....	113, 236
Teaching Minors.....	EDUC.....	123-124, 236-237
Biological Science		
General Science		
Language Arts		
Physical Science		
Social Science		
Wildlife and Fisheries Sciences (B.S., M.S.).....	ABS/BS .....	126, 238-239
Women's Studies (minor).....	A&S .....	126, 239
Zoology (E) (minor).....	ABS/BS, A&S .....	126, 239

PRE-PROFESSIONAL AREAS OF STUDY	ADMINISTERED BY	PAGE
Pre-Chiropractic (3-4 years).....	GS .....	90, 158
Pre-Dental (4 years) .....	GS .....	93-94, 170
Pre-Law (4 years).....	GS .....	108
Pre-Medicine (4 years) .....	GS .....	111, 212
Pre-Ministerial (4 years) .....	GS .....	112, 215
Pre-Mortuary (1-2 years).....	GS .....	113, 215
Pre-Occupational Therapy (2-4 years) .....	A&S .....	117
Pre-Optometry (2-4 years) .....	GS .....	117, 220-221
Pre-Physical Therapy (4 years) .....	A&S .....	118
Pre-Physician Assistant (2 years).....	GS .....	118
Pre-Veterinary Medicine (2-3 years).....	ABS .....	124, 237-238

## Key to Units Administering Individual Curriculums

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

# Academic Organizational Structure of South Dakota State University





**COLLEGES.....61**

*Agriculture and Biological Sciences.....62*  
*Arts and Science.....65*  
*Education and Counseling.....67*  
*Engineering.....70*  
*Family and Consumer Sciences.....72*  
*General Studies and Outreach Programs.....74*  
*Graduate School.....75*  
*Honors College.....76*  
*Nursing.....77*  
*Pharmacy.....78*

# Agriculture and Biological Sciences

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## Introduction

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Undergraduate academic programs in the College of Agriculture and Biological Sciences lead to a Bachelor of Science Degree in Agriculture or Biological Science with a variety of majors and minors. An Associate of Science Degree in Agriculture is also available. Graduate degrees are offered in several disciplines.

Students in agriculture enter into a wide array of technical, professional, and business careers, many of which deal with producing, processing, and marketing agricultural products. Biological sciences students also enter into a variety of career areas, such as wildlife biology, medical lab technologist, criminal investigation technologist, food safety, and environmental management. Many graduates in agriculture and biological sciences are recruited by public agencies for employment in such services as forestry, parks, fish and wildlife, public health,

conservation of natural resources, research laboratories, and many others. Many graduates pursue advanced degrees in graduate schools or professional schools such as medicine, dentistry, optometry, veterinary medicine, or law.

In addition to academic programs, the College has extensive involvement in research and outreach/extension. Research for the benefit of South Dakota and the region is done in such areas as agricultural production, biostress, natural resources, biotechnology, and biomass-based energy and products. The results of research often form the basis for classroom instruction, and, extension work. The Cooperative Extension Service provides educational services statewide to promote the beneficial use and development of human, economic, and natural resources.

## Departments/Units

---

Agricultural and Biosystems Engineering

(Ag Systems Technology)

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

Ag-Bio Communications Unit

Agricultural Experiment Station

Animal Disease Research & Diagnostic Lab

Cooperative Extension Service

Youth Development/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 Catalog.

## Accreditations/Reviews

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American Association of Veterinary Laboratory Diagnosticians (AAVLD)

American Society of Agricultural Engineering (ASAE)

Cooperative State Research, Education, and Extension Service (CSREES)



# Programs

One of the hallmarks of the College of Agriculture and Biological Sciences is its diversity with 10 teaching departments, nearly 20 different majors, many specializations, and hundreds of different courses from which to choose. The College offers a Bachelor of Science in Agriculture, Bachelor of Science in Biological Sciences, and an Associate of Science in Agriculture at the undergraduate level.

The purposes, objectives, and requirements of various majors and options are outlined in the discussions under the various departments. If at any time you desire a change in major and/or specialization, you should report to the Director of Academic Programs for your adviser reassignment.

## Agriculture and Biological Sciences Curricula

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

# Agriculture and Biological Sciences Curricula

## Degree Requirements

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

### Bachelor of Science in Agriculture

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

ABS 203, Global Food Systems.....	3
ABS 381, Multicultural Agricultural/Biological Science Experience .....	2-4
ABS 482, International Experience.....	2-4
ABS 475-475L, Integrated Natural Resource Management and Lab .....	3
AGEC 271-271L, Farm and Ranch Management and Lab.....	4
AGEC 354, Agricultural Marketing and Prices.....	3
AS 101-101L, Introduction to Animal Science and Lab.....	3
AS 233-233L, Applied Animal Nutrition and Lab.....	4
AS 241, Meat: Product to Consumption .....	3
AST 202-202L, Construction Technology and Materials and Lab .....	2
AST 213-213L, Agricultural Industry and Outdoor Power and Lab .....	3
AST 262, Environmental Safety and Society.....	2
AST 333-333L, Soil and Water Mechanics and Lab.....	3
AST 342-342L, Applied Electricity and Lab .....	3
DS 130-130L, Introduction to Dairy Science and Lab .....	3
DS 231, Dairy Foods .....	3
HO 111-111L, Introduction to Horticulture and Lab .....	3
LA 201, Introduction to Landscape Design .....	3
MICR 311-311L, Food Microbiology and Lab.....	4
PRM 101, Parks and Society .....	3
PS 103-103L, Crop Production .....	3
PS 213-213L, Soils and Lab.....	3
PS 223-223L, Principles of Plant Pathology and Lab.....	3
PS 307-307L, Insect Pest Management and Labor PS 305-305L, Insect Biology and Lab.....	3
RANG 105-105L, Introduction to Range Management and Lab .....	3
WL 110, Environmental Conservation .....	3

### Bachelor of Science in Biological Sciences

A minimum of 33 credits from the natural sciences is required for the degree. Refer to departments offering the degree for specific course listings.

### Secondary Education Courses

Students planning to teach at the secondary level should start taking professional education courses during their sophomore year. Students must apply for admission to the supervisor of student teaching before being admitted to the education sequence. (See College of Education and Counseling for details.)

### Additional Requirements

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

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

### Activities

Most departments in the College of Agriculture and Biological Sciences have one or more student organizations. Most of these organizations sponsor educational, social, and service activities, and provide students opportunities to develop leadership skills and other important abilities.

Nationally known agricultural fraternities for men (Alpha Gamma Rho and Farmhouse) and women (Ceres) are organized and provide living accommodations near campus. During the first semester of the sophomore year, students with outstanding scholarship, leadership, and character may be initiated into Alpha Zeta, Sigma Alpha, and Beta Beta Beta honor societies. Gamma Sigma Delta, an agricultural honor society for seniors with high academic ability, also has an SDSU chapter.

# Arts and Science

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## 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 fourteen 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  
Geography

Health, Physical Education and Recreation  
History/Political Science  
Journalism and Mass Communication  
Military Science  
Modern Languages

Music  
Philosophy and Religion  
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 Catalog.

# Programs

## Degree Requirements

The Bachelor of Science, Bachelor of Arts, and Bachelor of Music Education degrees are offered by the Arts and Science College. Students enrolled in the College of Arts and Science must complete the System General Education Requirements (SGRs), pages 40-42, the SDSU Institutional Graduation Requirements (IGRs), pages 43-45, and the College of Arts and Science requirements, page 66. Specific requirements for each degree also include:

### Bachelor of Science

Natural Science*	14
With 6 credits from Biological Sciences	
With 8 credits from Physical Sciences	
Social Sciences	12
(SGR Goal 3, p. 40; IGR Goal 3-option 1, p. 44)	
Humanities (SGR Goal 4, p. 41; IGR Goal 3-option 2, p. 45)	8

\* Bachelor of Science students in the Arts and Science College must complete 6 credits from the System General Education (SGR) Natural Science list, page 42 and an additional 8 credits (from the list below) to meet the College of Arts and Science requirements for the Bachelor of Science degree. In order to meet the College B.S. requirements, students must complete a minimum of 8 Physical Science credits and a minimum of 6 Biological Science credits for the required total of 14 credits.

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

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

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

CHEM 106-106L	4
CHEM 108-108L	4
CHEM 112-112L	4
CHEM 114-114L	4
CHEM 120-120L	3-4
GEOG 131-131L	4
GEOG 132-132L	4
PHYS 101-101L	4
PHYS 111-111L	4
PHYS 113-113L	4
PHYS 185	3
PHYS 211-211L	4
PHYS 213-213L	4
PS 213-213L	2-3
PS 243-244	3-4
STAT 281	3

Students may count 5 credits of Math courses (Math prefix, listed on page 42) that are in addition to the System General Education (SGR Goal 5) requirement of 3 credits toward the Physical Science requirement.

### Bachelor of Arts

Modern Language* (completion and competency in one language at the 202 level or a department-approved advanced upper division language course)	3-14
Humanities (SGR Goal 4, p. 41; IGR Goal 3-option 2, p. 45 from discipline other than a modern language)	6
Social Sciences (SGR Goal 3, p. 40; IGR Goal 3-option 1, p. 44)	8

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

### Bachelor of Music Education

HIST 368, History of the American Indians or ANTH 421, Indians of North America	3
SOC 150, Social Problems	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. 33 semester credits must be upper division (300 and above).

### Activities

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

**Music Groups.** The Music Department sponsors a variety of vocal and instrumental groups. Membership may be by audition, arranged with the appropriate director, and is open to all University students regardless of major. *Credit can be awarded for participation.*

**Choral:** Concert Choir, Statesmen (Men's Chorus), University Women's Choir, 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 and Brass small ensembles.

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

# Education and Counseling

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## 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 unit within SDSU that is primarily responsible for the preparation of teachers and other professional education personnel including administrators and counselors in a variety of settings. All professional education and counseling programs are organized, unified, coordinated, monitored, and governed by the unit. The Associate Dean of the College serves as Director of Teacher Education and reports directly to the Joint Dean of Education and the Provost and Vice President for Academic Affairs. The Joint Dean and Associate Dean share decision-making responsibilities and authority for the overall administration and operation of the unit. In this governance, the Associate Dean works closely with three departments and the Teacher Education Faculty which consists of SDSU faculty across campus who teach professional education courses in the various content areas.

### Mission

The mission of the College of Education and Counseling is: **To develop students' ability to construct knowledge, skills, and dispositions fundamental to providing excellent teaching, counseling, and leadership for South Dakota, the region and beyond.**

### The Constructivist Framework

The faculty of the College of Education and Counseling has established Constructivism as a unifying framework, Collaboration as the model, and Professional Excellence as the expectation of our own faculty and our graduates. We hold that:

- Knowledge is constructed. Individuals and groups construct their understandings of the world about them.
- Learning is a collaborative and active process for both constructing knowledge and establishing an effective learning environment.
- Professional excellence in teaching demands learner-centered instruction. We expect that from our faculty and our candidates alike.

## Departments

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Counseling and Human Resource Development  
Educational Leadership  
Teacher Education

## Degrees Offered

---

Bachelor of Science in Education – Career and Technical Education  
Master of Education\*  
Master of Science\*

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

### Unit Goals

1. Prepare students to teach in middle and secondary schools.
2. Provide for the continuing growth of classroom teachers, administrators, and counselors, and other school service personnel through summer school sessions and off-campus courses, and instruction offered online and through other technological means.
3. Provide coursework at the graduate level designed for school administrators, counselors, classroom teachers, specialized school workers, and related occupations.
4. Cooperate and collaborate with the South Dakota Department of Education in public school curriculum revision, in-service education, and educational research.
5. Cooperate and collaborate with professional education, administration, and counseling associations in advancing the quality and welfare of education and counseling in the State of South Dakota and throughout the United States.
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. Also these individuals should have an adequate general education background, usually attained in the first two years of college, along with a major in the subject they expect to teach.

In addition, the College recommends that coursework in subjects outside of the major be pursued. Many teachers are required to teach in more than one area of specialization. With the No Child Left Behind legislation, they will be expected to be adequately prepared in each area in which they wish to teach to qualify as a Highly Qualified Teacher.

Expertise in directing one or several extra-curricular activities may also be beneficial. Students should see their education advisers early in order to plan the necessary coursework.

# Accreditations

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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

## Programs

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The College of Education and Counseling's chief undergraduate purpose is teacher education in the following areas: Agricultural Education, Art, Aviation, Biology, Chemistry, Economics, English, Family and Consumer Sciences Education, Journalism, Modern Language – German and Spanish and French Studies, Geography, Health and Physical Education, History, Mathematics, Music – Instrumental and Vocal, Physics, Political Science, Psychology, Sociology, Speech, and Career and 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 with emphases in School Counseling, Agency Counseling, or Student Personnel Services.

For further information consult the Graduate Catalog.

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

### Career and Technical Education

The Bachelor of Science in **Career and Technical Education** prepares candidates 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, or plan to complete a technical specialty at SDSU are eligible for this program. To attain certification, candidates must meet the certification requirements of the State Department of Education. Individuals completing the Aviation specialty must meet FAA requirements.

Many candidates who enroll in this program currently teach 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 Dakota Digital Network (DDN). For more information please contact the department of Teacher Education.

### Admission to Teacher Education (in 22 subjects areas)

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

#### Admission into Professional Semester I:

In order to register for the two courses of Professional Semester I (PS-I), a candidate must be at least a sophomore at the beginning of the semester in which he/she is taking the PS-I courses.

#### Admission into Professional Semester II:

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

1. achieved a junior status at the University;
2. completed PS-I with grades of "C" or better and be recommended by PS-I faculty;
3. hold an overall GPA of 2.5 or higher;
4. completed PSYC 101, SOC 100 or SOC 150, with a grade of "C" or better;
5. met competency requirements:
  - English: a grade of "C" or above in ENGL 101 or credit by examination (or a national percentile ranking of 50 or above on the ACT Assessment "English Usage")
  - Math: a grade of "C" or above in MATH 102 or 104 or a higher level math course or credit by examination (or a national percentile 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 a higher level Speech course or credit by examination;
6. completed an application for Admission to Teacher Education which includes appropriate biographical and background information; *and*
7. have a current transcript on file in the Education Office.

### Admittance into Professional Semester III:

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

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

\* See major department section for special methods courses.

### Recommendation for Certification

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

1. a bachelor's degree, in an approved content area;
2. satisfactory student teaching recommendations from both the cooperating teacher(s) and university supervisor;
3. the following minimum GPA's:
  - Education courses 2.8
  - Courses in the major 2.6
  - Overall cumulative 2.5or
  - completed all competency plans and/or other activities prescribed by the Admissions and Scholastic Standards Committee;
4. taken the required exit exam(s), including the Praxis Principles of Teaching and Learning earning required cut score;
5. satisfactorily completed exit interview with Performance Portfolio and required projects in PS-III; *and*
6. applied for certification through the Certifying Officer in the College of Education and Counseling.

## Education Curriculum for Teachers of Academic Subjects

### Professional Semester I

(Sophomore or Junior Year)	F	S
EDFN 338, Foundations of American Education.....	2	or 2
EDFN 475, Human Relations .....	3	or 3

### Professional Semester II

(Junior or Senior Year)	F	S
EPSY 302, Educational Psychology.....	3	or 3
SEED 450, 7-12 Teaching Reading in the Content Area .....	2	or 2
SEED 314, Supervised Clinical Experience.....	1	or 1

### Professional Semester III

(Senior Year)	F	S
SEED 400, Curriculum and Instruction in Secondary and Middle Schools.....	4	or 4
SEED 410, Social Foundations, Management and Law .....	2	or 2
SEED 488, 7-12 Student Teaching		
ELED 488, K-8 Student Teaching.....	8	or 8

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

In addition, the following courses must be successfully completed prior to entry into Professional Semester III:

Special Methods (varies by content area).....	3	or 3
SPED 401, Introduction to Educating Secondary Students with Disabilities.....	1	or 1
EDFN 365, Computer Based Technology and Learning .....	2	or 2
EDFN 427, Middle School Philosophy and Application .....	2	or 2

### Teaching Certificates

Teaching certificates in South Dakota are issued by the South Dakota Department of Education. The secondary certificate qualifies the holder to teach particular subjects in secondary and middle school/junior high grades. The K-12 certificate qualifies the holder to teach in kindergarten through high school. The certificate states the subjects or subject groups in which the individual may teach.

### Placement Service

Placement information is available through the Career and Academic Placement (CAP) Center on the SDSU campus.



## Introduction

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Engineering programs have been a vital part of SDSU since 1881, and graduates of the College of Engineering programs have extended the bounds of science and improved our way of life in many ways. The College has a rich history and long tradition of providing outstanding graduates who are well prepared for exciting careers in engineering, science, and technology. The seven academic departments of the College of Engineering offer a broad range of major and minor programs, each with its unique features that ensure the student of both depth and breadth in their field of study.

### Mission

The mission of the College of Engineering is to provide a rigorous, practical education for our students oriented toward problem solving; to conduct world-class research with a regional emphasis; and to provide technical assistance to existing and emerging business, industry, and government.

### Facilities

The facilities of the College of Engineering are excellent and include numerous hands-on instructional laboratories that are equipped with state-of-the-art equipment. The extensive laboratory learning experience reinforces the underlying theory taught in the lecture courses. The College of Engineering also provides computer laboratory facilities and areas for students to study and socialize.

### Scholarships

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

### Academic Advising

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

### Importance of Humanities/Arts and Social Science Electives

The College of Engineering recognizes the importance of the general education component of undergraduate education, and the need for this component to complement the technical content of an education in engineering, mathematics, science and technology. This connection is important for producing well-rounded graduates who will continue to meet the present and future needs of society. SDSU's General Education Requirement proficiencies, outlined in the General Education Requirements section of this catalog are of great professional importance to all graduates in the College of Engineering. By choosing their electives to meet the requirements of the goals of the System General Education Requirements, and the goals of the Institutional General Education Requirements, our students connect their general education component to their technical curriculum and thus strengthen their professional competence.

### Cooperative Education

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

### Student Opportunities

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

# Departments/Units

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Agricultural and Biosystems Engineering  
Civil and Environmental Engineering  
Electrical Engineering and Computer Science (Software Engineering)  
Engineering Technology and Management  
(Electronics Engineering Technology, Construction Management,  
Manufacturing Engineering Technology, Industrial Management,  
Safety Management)  
Mathematics and Statistics  
Mechanical Engineering  
Physics (Engineering Physics)

Water and Environmental Engineering Research Center  
Product Development Center  
Engineering Resource Center

For further information on a specific department/degree, please refer to the sections entitled Department and Program Descriptions; Major and Minor Requirements; and Course Descriptions.

# Degrees Offered

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Bachelor of Science  
Master of Science\*  
Doctor of Philosophy\*

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

# Accreditations

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The programs in Agricultural and Biosystems Engineering, Civil Engineering, Electrical Engineering and Mechanical Engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). The College of Engineering has offered engineering programs accredited by EAC/ABET since they first began accrediting engineering programs in 1936.

The College has been actively engaged in complying with the newest EAC/ABET accreditation criteria known as Engineering Criteria 2000. Each of the EAC/ABET accredited engineering programs has developed Program Educational Objectives that meet the unique needs of its profession and constituents. These Program Educational Objectives are statements that describe the expected accomplishment of graduates

during their first few years after graduation. In order to achieve these Program Educational Objectives, the EAC/ABET programs have also developed Program Outcomes. These are statements that describe what students are expected to know and are able to do by the time of graduation. By achieving these Program Outcomes, students are assured that they are equipped to achieve the Program Educational Objectives. Ongoing assessment is used to ensure that the programs achieve their objectives and outcomes and are continuously improved.

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

# Programs

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The College of Engineering offers the following degrees: Bachelor of Science in Agricultural and Biosystems Engineering, Civil Engineering, Computer Science, Construction Management, Electrical Engineering, Electronics Engineering Technology, Engineering Physics, Industrial Management, Manufacturing Engineering Technology, Mechanical Engineering, Physics, Safety Management, and Software Engineering;

Bachelor of Science with a major in Mathematics; Master of Science in Engineering and Master of Science in Industrial Management; the Doctor of Philosophy in Geospatial Science and Engineering, and Doctor of Philosophy in Computational Science and Statistics.

# Family and Consumer Sciences

Laurie Stenberg Nichols, Dean  
SNF 249, 605-688-6181  
Box 2275A, Brookings, SD 57007-0097  
E-mail: laurie.nichols@sdstate.edu  
www3.sdstate.edu/Academics/CollegeOfFamilyand  
ConsumerSciences

## Introduction

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The College of Family & Consumer Sciences is people-oriented. We strive to improve the quality of lives for children, youth, adults and families. Careers in FCS deal directly with individuals and their needs. Examples include an early child childhood educator who provides education and guidance to young children, a dietitian who counsels others to establish a healthy diet or provides assistance to others who require a special diet, or an interior designer who designs residential or commercial spaces for others.

Graduates from the College work in diverse careers which span business, education, government and non-profit or community agencies.

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

1. Prepare professionals to enter their chosen discipline within the broader profession of Family and Consumer Sciences.

2. Contribute to the general education of all students at South Dakota State University.
3. Provide outreach 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 specializations in Child and Family Studies, Family Financial Planning, Nutrition and Food Science, or Merchandising.

## Departments

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

## Degrees Offered

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Bachelor of Science  
Master of Science\*

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

## Accreditations

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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

Majors and Specializations in Family and Consumer Sciences		
Department	Major Field	Specializations
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	Birth to 5 Birth to 8 Cooperative Elementary Education Certification – BHSU, DSU, NSU, USD
Nutrition, Food Science and Hospitality	Nutrition and Food Science  Hotel and Foodservice Management	Dietetics Food Science Nutritional Sciences Foodservice Management Hotel and Hospitality Management

## Curriculum

Students enrolled in the College of Family and Consumer Sciences must meet the University General Education Requirements and the College of Family and Consumer Sciences Core requirements to qualify for the Bachelor of Science degree. In addition, each major has specific required courses pertinent to the field.

Minor changes occurring in programs are reflected in program guide sheets issued each year. Entering students must meet the program requirements for graduation listed on the guide sheets, which will reflect the curriculum changes subsequent to the printing of this catalog.

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

- AM 172, Introduction to Apparel Merchandising
- CA 150, Early Experience in Consumer Affairs
- ECE 150, Early Experience
- HDFS 141, Individual and the Family
- HDFS 150, Early Experience
- HDFS 210, Lifespan Development
- HFM 171, Introduction to Hospitality and Tourism
- ID 150, Introduction to Interior Design I
- NFS 110, Perspectives in Nutrition
- NFS 151, Food Technology

## Minors

Minors can be earned in each of the three departments in the College. The minors are Nutrition; Hospitality; Interior Design; Consumer Affairs; Apparel Merchandising; and Human Development, Child and Family Studies. Two interdisciplinary minors in Gerontology (the study of the elderly) and Leadership and Management of Nonprofit Organizations are also offered. 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.

## 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 Catalog obtained from the Dean of the Graduate School, South Dakota State University, Box 2201, Brookings, South Dakota, 57007-1998. Web address: [www3.sdstate.edu/Academics/GraduateSchool/GraduateBulletinPDFFile/](http://www3.sdstate.edu/Academics/GraduateSchool/GraduateBulletinPDFFile/)

# General Studies and Outreach Programs

Gail Dobbs Tidemann, Dean  
Keith Corbett, Assistant to the Dean  
SMC 123, 605-688-4153  
Box 511, Brookings, SD 57007-0298  
E-mail: gail.tidemann@sdstate.edu  
keith.corbett@sdstate.edu

## Introduction

Many students enrolling in the College of General Studies and Outreach Programs have elected to explore their abilities, interests and educational alternatives before declaring a major. Other students are interested in pursuing their own areas of interest through the flexibility offered in the Liberal Studies degree program. Through General Studies, a student will receive assistance that helps them make wise major/career choices. Most undeclared major students who enroll in General Studies

will transfer to one of the degree granting colleges at SDSU before they reach sophomore status. Pre-professional General Studies students usually transfer to degree programs in their sophomore year and maintain their pre-professional status as a secondary designation. The College also provides advising and general support to students enrolled in distance education and to students pursuing a Bachelor's in Applied Technical Science.

## Departments/Units

The College of General Studies and Outreach Programs is organized through the following programmatic delivery structure: Academic Development, Career Development, Employment Development, Distance Education, and Outreach Programs.

## Degrees Offered

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

The College also offers the A.A. in General Studies, B.S. in Liberal Studies, and Bachelor of Applied Technical Science degree (BATS) in General Supervision, Industrial Supervision, Industrial Sales, General Technology, and Applied Agriculture.

## Accreditations

The College of General Studies and Outreach Programs' activities are covered by the institutional accreditation through the Higher Learning Commission of the North Central Association.

## Programs

### Undeclared Majors

General Studies allows students to begin college work without declaring a major through its program for undeclared students or pre-major students.

Students who enroll under this classification are assisted in planning a basic college program and are encouraged to explore various fields of study. Academic advisers help students explore their interests, aptitudes and abilities. The College of General Studies offers a one credit course titled "GS 101 Academic and Career Exploration" which assists with career decision making strategies. New undeclared freshmen at SDSU also enroll in a 1 credit course: GS 100 University Experience, which helps them acclimate to college life and learn about SDSU resources.

A suggested freshman year schedule follows. Students would work with their academic adviser to plan a program to meet their own interests and needs. General Studies pre-major 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
GS 100, University Experience .....	1	
GS 101, Academic and Career Exploration .....	1	or 1
ENGL 101, Composition I .....	3	or 3
MATH 102, College Algebra (or prescribed math course) .....	3	or 3
SPCM 101, Fundamentals of Speech .....	3	or 3
GS 143, Mastering Lifetime Learning Skills .....	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
Interest Area Courses.....	3	or 3

### Pre-Professional

([www3.sdstate.edu/academics/preprofessional programs](http://www3.sdstate.edu/academics/preprofessionalprograms))

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

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

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

Information about pre-professional programs is included in the department and program descriptions and the major and minor requirements section.

## Introduction

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

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

### Graduate Credit for Seniors

A senior within 15 credits of completing the undergraduate curriculum with a grade point average of 2.5 or a junior-senior grade point average of 3.0 may receive credit for graduate courses numbered

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

### Admission to the Graduate School

For information regarding admission to the Graduate School, departments offering graduate instruction, graduate courses available, as well as information on graduate fellowships and assistantships, write the Dean of the Graduate School, South Dakota State University, Box 2201, Brookings, SD 57007-1998, for the latest Graduate Catalog or call the Graduate School Office 605-688-4181 or visit our website: [www3.sdstate.edu/Academics/GraduateSchool](http://www3.sdstate.edu/Academics/GraduateSchool)

## Departments

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

## Degrees Offered

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The Master of Science, Master of Arts, and Master of Education degrees are offered in approximately 30 majors. The Doctor of Philosophy is offered in Agronomy; Animal Science; Biological Sciences (joint with the University of South Dakota); Chemistry;

Computational Science and Statistics; Geospatial Science and Engineering; Nursing; and Sociology. A cooperative Ph.D. program with Iowa State University is available in Agricultural Engineering.

## Programs

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

Graduate School  
South Dakota State University  
Box 2201  
Brookings, SD 57007-1998

Telephone:  
605-688-4181

E-mail:  
[SDSU.GradSchool@sdstate.edu](mailto:SDSU.GradSchool@sdstate.edu)

Internet:  
[www3.sdstate.edu/academics/graduateschool](http://www3.sdstate.edu/academics/graduateschool)

# Honors College

Robert Burns, Dean  
SAD 315, 605-688-4913  
Box 2201, Brookings, SD 57007-1998  
E-mail: robert.burns@sdstate.edu

## Committee

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Distinguished Professor Robert Burns, Dean. Honors College Committee Members: Anne Fennell, Chandradhar Dwivedi, Michael Garnos, Daniel Kemp, Nancy Lyons, Patricia Smyer, Mary Alice Spencer.

## Program

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

### Enrollment Requirements for Honors Courses

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

### Honors College Continuing Enrollment

## Honors Courses

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1. **Departmental Honors Courses.** Departmental Honors courses are departmental general education courses or special sections of departmental courses that have received approval for the Honors course designation.
2. **Honors Orientation (HON 100).** Recommended for first semester Honors students.
3. **Honors 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 electives for the bachelor's degree and may be taken in any sequence.

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

### Graduation with Honors College Distinction

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

Each colloquium may be repeated once as the topic and reading lists change. Honors College students are encouraged to take more than the one required colloquium.

4. **Honors Independent Study.** In the junior year, Honors College students should propose their independent study projects. The Honors College office will supply a set of instructions. The proposed study must be approved by the University Honors College Committee.



# Nursing

**Roberta K. Olson, Dean**  
SNF 255, 605-688-5178 or  
1-888-216-9806, Ext. 2  
Box 2275, Brookings, SD 57007-0098  
E-mail: roberta.olson@sdstate.edu

## Introduction

The mission of the College of Nursing is to improve health and quality of life in the state, region and nation through education of nurses and other health care professionals; provision of expertise to consumers, providers and health systems; and research to improve nursing and health care.

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

## Departments

Graduate Nursing  
Nursing Student Services

Undergraduate Nursing  
West River Nursing

## Degrees Offered

Bachelor of Science  
Master of Science\*  
Doctor of Philosophy\*

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

## Accreditations

South Dakota Board of Nursing (approval)

Commission on Collegiate Nursing Education (CCNE)

## Programs

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

The undergraduate nursing program at SDSU is approved by the South Dakota Board of Nursing. Both the undergraduate and graduate programs are accredited by the Commission on Collegiate Nursing Education. The College is a member agency in the American Association of Colleges of Nursing.

Candidates for graduation in the standard and accelerated curriculum are eligible to write the National Council Licensure Examination-RN (NCLEX-RN) for licensure as registered nurses. Licensure as a registered nurse (RN) is required by law in every state in order to practice professional nursing.

### Bachelor of Science Degree in Nursing

Three types of undergraduate curricula lead to the Bachelor of Science with a major in nursing: one for standard students, one for RNs who are academically prepared at the associate degree or diploma level and now seek a bachelor's degree, and the accelerated option for students with non-nursing academic degrees who wish to obtain a degree in nursing. The program includes university core curriculum, major

support courses in communication and the social, physical, and biological sciences, and nursing major courses. Graduates of the standard and the accelerated programs in nursing are eligible to write the National Council Licensure Examination to become registered nurses. They are prepared to practice in both hospital and non-hospital settings and have the foundation for advanced study in nursing. Graduates of the RN Upward Mobility program are already registered nurses and are prepared to expand their practice in the areas of community health, health promotion and leadership. They also have the foundation for advanced study in nursing.

### Master of Science and Ph.D. Degrees in Nursing

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

Graduate School  
South Dakota State University  
Box 2201  
Brookings, SD 57007-1998  
Telephone: 605-688-4181 • E-mail: SDSU.GradSchool@sdstate.edu  
Internet: www3.sdstate.edu/academics/graduateschool

### 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

**Brian Kaatz, Dean**  
**Joel Houghlum, Assistant Dean**  
SPH 125, 605-688-6197  
Box 2202C, Brookings, SD 57007-0099  
E-mail: college.pharmacy@sdstate.edu  
www3.sdstate.edu/academics/collegeofpharmacy/

## Introduction

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The College of Pharmacy offers a six-year course of study leading to a Doctor of Pharmacy (Pharm.D.) degree. As one of the health professions, pharmacy is vitally concerned with public health and safety. The goal of the College of Pharmacy is to prepare competent Pharm.D. graduates with effective primary care skills which center around the pharmacist's role in ensuring the rational use of medications and related devices to provide optimal therapeutic outcomes for their patients, and to inspire students to be lifelong learners. As the needs of society change, the problems of providing 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

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Pharmaceutical Sciences  
Clinical Pharmacy

## Degrees Offered

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

## Accreditations

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Accreditation Council for Pharmacy Education (ACPE)

## Programs

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### Doctor of Pharmacy (Pharm.D.)

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

#### Preparation for the Major

In high school the student should take an academic curriculum in preparation for entrance to college. A sound basic education in science and mathematics courses is an essential part of preparation for the study of pharmacy. Good written and verbal communication skills are important.

Students planning to transfer from another college or university should consult with the College of Pharmacy early in their academic careers to plan coursework that will transfer to the College of Pharmacy.

### Curriculum (six year)

The curriculum is divided into a 2-year pre-pharmacy and a 4-year professional program phase. The pre-pharmacy courses provide a solid knowledge base and ability to use critical thought processes in the biological and physical sciences.

The four years of the professional program incorporate a solid foundation of pharmaceutical science courses as well as a comprehensive sequence of therapeutics and professional practice courses. Students earn a B.S. in Pharmaceutical Sciences after successful completion of the first two years of the professional program. The application of drug knowledge, basic science, and critical thinking to resolve problems of drug distribution and patient care are emphasized throughout the curriculum. Finally, students have an opportunity to apply knowledge and pharmaceutical care principles to pharmacy practice situations in a series of advanced pharmacy practice experiences in a variety of patient care settings which include patient care areas of hospitals, nursing homes, community pharmacies, hospital pharmacies, Indian Health Service facilities and clinic pharmacies.

### **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 or from the College web site. The deadline for applying for admission for the fall semester is February 1. Limitations in the size of the physical facilities, the number of faculty and the number of advanced pharmacy practice experience sites make it necessary to limit the class size in the professional program.

Selection is competitive and based upon several factors including pre-pharmacy coursework, ACT or PCAT scores, written and oral communication skills, knowledge of the profession, residency status and other factors. Any student who anticipates successful completion of the pre-pharmacy mathematics, science and communication requirements prior to fall semester is eligible to apply.

Notification of 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 with a B.S. in Pharmaceutical Sciences or to progress to the P3 year.
2. A student will be placed on pharmacy probation when the student's pharmacy GPA (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. For pharmacy courses (PHA prefix) repeated at SDSU, only the repeated grade will be used to calculate the pharmacy GPA. For pharmacy courses repeated at another college of pharmacy, a grade of "C" will be used to calculate the pharmacy GPA in place of the grade received for the corresponding course at SDSU (grades of "D" or "F" for pharmacy courses from other pharmacy programs do not satisfy the course requirement.)
4. Students enrolled in the professional program may transfer a maximum of six credits of PHA prefix courses.
5. Students must 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 that include: community pharmacy; hospital pharmacy; clinical pharmacy; independent pharmacy ownership; home health care; pharmaceutical sales; military pharmacy; clinical and laboratory research; pharmacy college teaching; positions in federal, state, and local government; professional association work; and many other specialized areas. Additional training or advanced degrees are usually necessary to teach or to conduct research. Students interested in these areas should discuss their plans with an academic adviser.

### **Professional Organizations**

Membership in the Academy of Student Pharmacists is open to all students in the College, including pre-pharmacy students. Kappa Psi and Kappa Epsilon are pharmacy fraternities for men and women. Rho Chi and Phi Lambda Sigma are scholastic and leadership organizations. The major goals of these organizations are to provide a better appreciation of the scope and aims of the profession and to develop leadership potential.



Students in the 50s arrived on campus, ready to move into their dormitories, with just a few suitcases and even fewer belongings.



DEPARTMENT AND  
PROGRAM DESCRIPTIONS.....81

# Aerospace Studies (AIR)

(Air Force ROTC)

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## Faculty

Lieutenant Colonel Bond, Professor of Aerospace Studies, Head;  
Assistant Professors Captain Clouse, Captain Merino.

## Programs

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

The Aerospace Studies curriculum is divided into two courses of instruction. The General Military Course (GMC) is a one-credit academic course and laboratory taken each semester during the freshman and sophomore years. The Professional Officer Course (POC) is a three-credit academic course and laboratory taken each semester during the junior and senior years. Additional curriculum options are available to accommodate freshman students pursuing undergraduate degrees that normally require five years to complete and to accommodate undergraduate and graduate students who have one, two, or three years remaining to complete their degrees. The laboratory includes a mandatory physical fitness program in which all students must have a physical exam certified by competent medical authority. These physicals are available through SDSU Student Health for a nominal fee. All students pursuing a commission will also attend field training at a designated Air Force base during a summer, normally between their sophomore and junior years.

Upon graduation and completion of the AFROTC curriculum, each student is commissioned a second lieutenant in the United States Air Force. The initial Air Force assignment options for second lieutenants include the following:

1. Enter the Air Force and complete the designated technical training prerequisite to the lieutenant's assigned specialty; e.g., flight training, research and development, management, support functions, etc.
2. Apply for a delay in entering active duty for the purpose of pursuing an advanced degree.
3. Enroll in one of several Air Force-sponsored graduate study programs while serving with full pay as a commissioned officer.

Upon entering the Air Force, newly commissioned second lieutenants incur an active duty commitment of four years. Those competing and selected for navigator and air battle management specialties incur a six year commitment; those selected for pilot training incur a ten year commitment.

## Professional Development and Flight Orientation Programs

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

Air National Guard facilities and with local aviation programs and Civil Air Patrol squadrons.

## Tuition Assistance

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

## Air Force ROTC Scholarships

Air Force ROTC scholarships are available for qualified undergraduate and graduate students in all academic degrees. These scholarships pay full tuition and fees at SDSU, \$600 per year for textbooks, and a monthly stipend of \$250 per month for freshmen rising to \$400 per month for seniors. All non-scholarship students in the Professional Officer Course who are on contract with Air Force ROTC qualify for the monthly stipend of \$350 to \$400.

## Minor in Aerospace Studies

Satisfactory completion of the four-year Air Force ROTC program, 16 credits, constitutes a minor in Aerospace Studies in the College of Arts and Sciences. Students must maintain a 2.0 GPA in AFROTC courses to earn this minor

# Agricultural and Biosystems Engineering (ABE)

Van Kelley

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Agricultural Engineering 107

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## Faculty

Associate Professor Kelley, Head; Professors Anderson, Hellickson, Humburg, Julson, Werner; Professors Emeriti Chu, DeBoer; Associate Professors Muthukumarappan, Nicolai, Pohl, Trooien; Assistant Professors Persyn, Schipull, Todey; Assistant Professors Emeriti Bender, Pahl.

## Programs

Agricultural and Biosystems Engineering is the science of engineering applied to the facilities and processes of agriculture and related industries. Foundation courses are mathematics, physics, chemistry, and biology with engineering emphasis in a wide variety of technical areas: natural resource management, irrigation and drainage, water resources development, machine dynamics and design, precision agriculture, agricultural power, properties and processing of biological materials, environmental control for livestock, indoor air quality, 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.

The mission of the Agricultural and Biosystems Engineering Department is to provide a professional education at the undergraduate and graduate levels for engineers and technologists that serve agricultural, biological and environmental industries and to conduct research and provide technological leadership in engineering design and management for the agricultural community and its affiliated industries.

### **The Program Educational Objectives are:**

1. To produce engineers that become competent in methods of analysis involving use of mathematics, fundamental physical and biological sciences, engineering sciences, and in the computational skills needed for the practice of agricultural and biosystems engineering.
2. To produce engineers that develop design skills, including abilities necessary to think creatively, to formulate problem statements, to communicate effectively, to synthesize information, and to evaluate and implement problem solutions.
3. To produce engineers that become capable of addressing issues of ethics, safety, professionalism, cultural diversity, globalization, environmental impact, and social and economic impact in engineering practice.
4. To produce engineers that will contribute to agricultural profitability through the development, adoption and proper use of improved and safer engineering technologies, production systems and management practices.

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

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

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

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

## **Agricultural and Resource Economics**

(See Economics)

## **Agricultural Business**

(See Economics)

## **Agricultural Journalism**

(See Journalism and Mass Communication)

# **Agricultural Systems Technology (AST)**

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## **Faculty**

Associate Professor Kelley, Head; Professors Anderson, Hellickson, Humburg Julson, Werner; Professors Emeriti Chu, DeBoer; Associate Professors Muthukumarappan, Nicolai, Pohl, Trooien; Assistant Professors Persyn, Schipull, Today; Assistant Professors Emeriti Bender, Pahl.

## **Programs**

Agricultural Systems Technology graduates serve the increasingly complex agricultural industry and production agriculture in a wide variety of ways. These individuals must have a sound fundamental knowledge of agricultural and biological sciences related to the agricultural industry emphasizing the technical, mechanical and energy aspects. This background needs to be combined with a solid understanding of the interactions between agriculture and society.

The Agricultural Systems Technology program at South Dakota State University provides students with the knowledge, managerial, leadership, interpersonal and communication skills to be highly successful. While the Agricultural Systems Technology program prepares you for success in a variety of agribusiness careers, it will also provide practical experience to prepare you to be a better farmer/rancher.

## **Agronomy**

(See Plant Science)

## **Air Force ROTC**

(See Aerospace Studies)



# American Indian Studies Program (AIS)

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American Indian Studies  
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This is an inter-college program of American Indian culture studies. Coursework in various departments of the University provides a broad base for understanding the past, present, and possible futures of American Indian people. The program recognizes the historical and contemporary significance of American Indian experiences. Study of these experiences promotes understanding of the pluralist nature of the United States and responds to the growing need for multicultural sensitivity and awareness.

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

## Animal and Range Sciences (AS, RANG)

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Animal Science Complex 103A  
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### Faculty

Professor Thaler, Interim Head; Distinguished Professor Pritchard; Distinguished Professors Emeriti Costello, Wahlstrom; Professors Held, P. Johnson, McFarland, Marshall, Pruitt, Thaler; Professors Emeriti Bailey, Carlson, Dearborn, Gartner, Gee, J. Johnson, Kohler, Kortan, Lewis, Libal, Luther, Morgan, Plumart, Romans, Slyter; Associate Professors Bruns, Clapper, Gates, Maddock, Stein, Walker, Wulf; Associate Professors Emeriti Bonzer, Bush, McCarty; Assistant Professors Daniel, Loe, Mousel, Perry, Rosa, Smart, Wertz-Lutz, Wright; Adjunct Professors Britzman, Larson, Specker.

### 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. A minor in Equine Studies is also available through this department.

#### 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 specializations: (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. Students interested in veterinary medicine should consider a dual major in Pre-Veterinary Medicine and Animal Science/Science specialization.

#### 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 specializations which allows emphasis in a major area of the field: (a) Rangeland Resource Conservation, (b) Range Livestock Production, or (c) Rangeland Ecology and Habitat Management.

#### Equine Studies Minor

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

## Apparel Merchandising and Interior Design (AM, ID)

Jane E. Hegland  
Department of Apparel Merchandising and Interior Design  
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### Faculty

Associate Professor Hegland, Head; Professors Emeriti Kamstra, Semeniuk, Stoflet; Assistant Professor Emerita Swedlund; Associate Professors Isham, Lyons, Nussbaumer, Strickler; Associate Professor Emeriti Yost; Assistant Professor Rowland.

### Programs

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

Most courses are offered once a year while a few are offered alternate years. Work experience is recommended before the Professional Practicum. To enroll in the Professional Practicum (AM 495 and ID 495) a student must have 90 semester credits and a 2.2 GPA. Consult your adviser for assistance and current information.

#### Apparel Merchandising (AM)

The Apparel Merchandising program at SDSU is a broad based, non-specialized program that gives students problem-solving experiences in all the major related areas. It provides educational opportunities and skill development to enable graduates to successfully obtain entry-level employment in any part of the nation. It seeks and enables the involvement of local and regional retail professionals in order to enrich the program and maintain currency with regional practices. Issues of national and global importance to apparel merchandising students are included in courses and activities so they will graduate with an awareness of the challenges and opportunities in their professional futures.

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.

A 280-hour practicum is a program requirement.

### **Fashion Institute of Technology**

The Department of Apparel Merchandising and Interior Design 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 Merchandising Management, 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 2.7 GPA (on 4.0 scale) is required for FIT consideration. Planning should begin in the sophomore year. See Dr. Susan Strickler for further information.

### **Minor in Apparel Merchandising**

Eighteen 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 Interior Design program at SDSU is a broad based, non-specialized program that gives students problem-solving experiences in all major areas of design practice, e.g., commercial and residential. It provides educational experiences and skill development to enable graduates to successfully obtain entry-level employment in any part of the nation. It seeks and enables the involvement of local and regional design professionals in order to enrich the program and maintain currency with regional practices. Issues of national and global importance to interior designers are included in courses and activities so that students will graduate with an awareness of the challenges and opportunities in the world of their professional futures.

The mission of the Interior Design program is to promote awareness and knowledge of the contributions of interior design to the health, safety, and well-being of people. A program of instruction will be offered to enable graduates to achieve professional status in the field. The faculty maintain currency in their fields of knowledge, uses of technology and understanding of recent issues to inform their students, regional professionals, and citizens of the state and region.

Trends at the international, national, regional, and local levels are taken into account in the development and planning of curriculum and student experiences. Specifically, projects are assigned that involve sustainable design, multiple-chemical-sensitivity, and a selection of other special-needs client categories. Uses of the computer, software, and on-line resources are consciously incorporated into most course experiences. Project components reflect the increased documentation and technical data expected by clients. Distinctions among client types with regard to conventional, individualized, and forward styling are part of project programming. The general education criteria for cultural diversity assists in addressing the trend for increased cultural sensitivity in design solutions.

A 280-hour practicum is a program requirement. **Students are also required to buy a laptop computer and software prior to the semester they enroll in the computer-aided-design (CAD) course.**

### **Minor in Interior Design**

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

## **Applied Information Technology (AIT)**

**Daniel Landes**

**College of Arts and Science**

**SNF 251**

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The purpose of the Applied Information Technology minor is to provide opportunities to students from all disciplines to supplement their majors with a practical set of courses focused on information technology. The minor provides students with basic knowledge and skills in internet and web technology, and explores application of these skills in courses selected from a wide variety of disciplines. Specifically, students with this minor in Applied Information Technology will gain the technological proficiencies in computing applications, database management systems, web design, presentation software, media design, and use of information retrieval tools to gain access to resources on the electronic networks.

The minor in Applied Information Technology will be available to all South Dakota State University undergraduate students. As such, the objectives of the minor are twofold. First, it exposes students to current technologies that will enhance their effective use of computer hardware and software. Second, it provides students with a strong technical foundation that will enable them to learn and adapt to emerging technologies as they progress through their professional careers.

## **Applied Technical Science (BATS)**

**Keith Corbett**

**College of General Studies and Outreach Programs**

**Medary Commons 121**

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

Applied Agriculture, General Technology, Industrial Sales, Industrial Supervision, and General Supervision. The BATS degree is also available in Sioux Falls at USDSU.

## **Army ROTC (MSL) (See Military Science)**

## Art (ART)

(See Visual Arts)

## Athletic Coaching Certification

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Department of Health, Physical Education and Recreation

Physical Education Center 263

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Some states, including South Dakota, Iowa, and Minnesota, have specific requirements for athletic coaching certification in public schools. Students interested in seeking certification for coaching should consult with the Coaching Certification Coordinator in the Department of HPER to verify the specific requirements for each state. SDSU does require an American Sports Education Program Workshop for those interested in obtaining coaching certification.

## Athletic Training (AT)

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Physical Education Center 265

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### Faculty

Professor Booher, Coordinator; Assistant Professor Olson; Instructors Heinze, Roiger, Zwart; Adjunct Professors Ramsay, Looby, Warren.

### Athletic Training Major

The Athletic Training major is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The professional portion of the Athletic Training curriculum takes two years to complete and implements competencies and proficiencies as defined by the Education Council of the National Athletic Trainers' Association. As a competency based program, instruction occurs through didactic (classroom), clinical education and field experience components. Upon successful completion of the Athletic Training major, a student is eligible to write the National Athletic Trainers' Association Board of Certification (BOC) national certifying examination to become an Athletic Trainer.

South Dakota State University offers three options for students to complete the Athletic Training Education Program (ATEP).

### Regular Option

The Regular Option is designed for students attending SDSU. Students interested in athletic training should complete coursework to meet system and institutional general education requirements, as well as AT 164 Introduction to Athletic Training. They will be assigned an adviser within the ATEP. Application for admission into the athletic training major can begin during or after a student's sophomore year (approximately 32 credit hours). During the application year students must have completed BIOL 221 Human Anatomy and enroll in PE 354 Prevention and Care of Athletic Injuries. Transfer students must complete the same or equivalent requirements.

### Qualified Transfer Student

A Qualified Transfer Student (QTS) is an individual who is not currently attending SDSU, but would like to complete the professional portion of the Athletic Training major at SDSU and has the opportunity to work with a Certified Athletic Trainer at his/her current institution. The QTS will complete an application process for the athletic training major that is comparable to the application process for students currently enrolled at SDSU. The ability to complete a parallel application process would enable the QTS to qualify for an interview and acceptance directly into the fall semester of the professional program. The QTS is a student who has a strong interest in athletic training as his/her chosen profession, can complete the prerequisite coursework for the athletic training education major, and has access to a certified athletic trainer at their current institution to assist his/her with observation hours and taping competency completion. These students preferably have some experience as an "athletic training student" at their current institution.

### Entry Level Graduate Program

This program is appropriate for a student who would like to complete a CAAHEP entry level ATEP. Students pursuing this option must meet certain undergraduate prerequisites or equivalents and complete the application process. See Graduate Catalog for further details and admission requirements.

### Admission into the Athletic Training Major

During the application year, students will complete the following requirements: attendance at monthly meetings, observations of the ATEP at SDSU, outside observations, proficiencies in taping skills, letter of interest, health assessment, three letters of recommendation, formal application, and a two part interview that includes a personal interview and a demonstration of skill in taping. The number of students accepted into the clinical experience each year is based on the availability of clinical experience opportunities and certified staff. Each year, there are more students applying than can be accepted, so the process may be competitive. Therefore, completion of basic requirements does not guarantee entrance into the ATEP. The minimum selection criteria are as follows: student should display an interest and desire to become an athletic trainer; successful completion (C or better) of AT 164 Introduction to Athletic Training, BIOL 221 Anatomy, and PE 354 Prevention and Care of Athletic Injuries; completed application process which culminates with a letter of interest; three letters of reference; personal interview; cumulative GPA of 2.75 or better; completed Health Assessment; and the verification and demonstration of technical standards.

For the qualified transfer student, application for admission into the ATEP may also begin during or after a student's sophomore year (approximately 32 credit hours). Students choosing the QTS option are strongly encouraged to complete an on-site visit with an adviser in the ATEP early in the fall to begin the application process and establish open communication. The QTS should also identify a sponsor who is a certified athletic trainer (ATC). The function of the sponsor is to assist a student in completing his or her observations as well as achieving proficiency in taping skills. The ATC sponsor will also be asked to write a letter of recommendation for the student into the SDSU ATEP. The basic selection criteria are similar to the regular option: acceptance into SDSU; interest and desire of student to become an athletic trainer; sophomore status (more than 32 credits); successful completion (C or better) of courses comparable to AT 164 Introduction to Athletic Training, BIOL 221 Anatomy, and PE 354 Prevention and Care of Athletic Injuries; completed application process, which culminates with a letter of interest; three letters of reference and personal interview; cumulative GPA of 2.75 or better; completed Health Assessment; and verification of technical standards.

Technical standards set the guidelines for the application process and progress in the major by describing the essential skills considered necessary for admitted students to possess in order to complete the responsibilities associated with being an athletic training student and subsequently, a practicing certified athletic trainer. They are requirements set by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Technical standards are assessed at the time of application as well as during progress and at completion of the program. Skills are described in five areas: cognitive ability and skills, psychomotor skills, affective behaviors, interpersonal skills, and knowledge or interest in the profession of Athletic Training. The technical standards also describe policy statements regarding accommodations, standards for English as a second language, and eligibility requirements for the BOC national certifying examination.

A complete description of the application processes and the technical standards can be found on the SDSU website, <http://www3.sdstate.edu/Academics/CollegeOfArtsAndScience/HealthPhysicalEducationandRecreation/Majors/AthleticTraining/Index.cfm>, or by contacting the program chair.

## Aviation Education (AVIA)

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<http://learn.sdstate.edu/Aviation>

### Program

South Dakota State University offers a Bachelor of Science in Education degree in Career Technical Education with specialization in Aviation Education. This four-year degree program requires a student to obtain pilot certification from the private pilot through flight instructor certificates. In addition, courses are available to obtain the certified flight instructor instrument, multi-engine, and multi-engine instructor ratings. Students attend classes on campus for general education and flight theory courses, while flying with one of two flight contractors located at Brookings and Sioux Falls airports to obtain flight certificates and ratings.

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

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

The degree includes courses in safety, human factors, teaching methodologies, curriculum development and other courses recognized by our industry advisory board, and potential employers, as courses which prepare the best future employee. Students are expected to complete the flight instructor certificate by the end of the junior year, and then have the opportunity to instruct incoming students during their senior year, with the intent of graduating with the highest level of flight instruction experience possible.

## Biology (BIOL)

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### Faculty

Professor Cheesbrough, Head; Professors Bleakley, Dieter, Cochrane, Evenson, Gibbons, Granholm, Henebry, Hildreth, Johnston, Kayongo-Male, Larson, Reese, Ruffolo, Sutton, Troelstrup, West, Whalen, Yen; Professors Emeriti Baker, Chen, Hartel, Huggins, McMullen, Morgan, Myers, Peterson, Pengra; Associate Professors Brozel, Erickson, Gibson, Gilmanov, Li, Pedersen, Wake; Associate Professor Emeritus Morrill; Assistant Professors Auger, Kaushik, Hardwidge, Krueger, Wang, Xu, Young; Instructors Ellis, Hill, McCutcheon, Willgohe; Adjunct faculty G. Bush (Identity Genetics), E. Butler (Igne), J. Butler (USFS), Chase (Vet.Sci.), Diggins (Augustana), Fennell (HFLP), Francis (Vet.Sci.), German (WRI), Henning (DS), Henery (USDSU), Johnson (PS), McFarland (ARS), Matzner (Augustana), Nelson (Vet.Sci.), Reidel (NGIRL-USDA), Rietz (Brookings Medical Clinic), Steece (CUC), Specker (FFS), Tood.

### Programs

The Biology and Microbiology Department offers curricula leading to the Bachelor's degree with a major in Biology. The undergraduate Biology major has two different programs from which to choose: the curriculum in College of Agriculture and Biological Sciences; or the curriculum in College of Arts and Science. The two programs are identical except for the individual college's requirements. Students majoring in Biology will select among five areas of specialization depending upon their particular interest and needs: (1) Ecology, (2) Organismal Biology, (3) Molecular and Cellular, (4) Pre-professional, and (5) Secondary Education. A minimum GPA of 2.0 must be maintained in the major and chemistry courses.

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

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

The **Molecular/Cellular specialization** trains students for professions that utilize genetics, cell biology and biotechnology.

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

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

# Biomedical Engineering

Lewis Brown

College of Engineering

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<http://www3.sdstate.edu/Academics/CollegeOfEngineering/BiomedicalEngineering/>

Students interested in both engineering and the life sciences, especially medicine, should strongly consider a career in biomedical engineering. Biomedical engineering is defined as the application of the concepts and methods of engineering and the physical sciences to medicine and biology. The biomedical engineering field covers a very broad range of topics from formalized mathematical theory through experimental science and technological development to practical clinical applications. It is a broad multidisciplinary field that offers rewarding careers related to computer science, electrical engineering, engineering physics, mathematics and statistics, mechanical engineering, software engineering and agricultural & biosystems engineering. SDSU has long prepared students for careers in biomedical engineering by tailoring their engineering degrees for this specialty. Engineering students who complete the 18 credit minor will be well prepared for engineering careers in industry or for entering graduate programs for advanced degrees related to biomedical engineering or medicine. The institution has placed graduates in the top M.D. and biomedical engineering graduate schools in the country.

Students desiring the minor in biomedical engineering complete an 18-credit curriculum in addition to their engineering degree, which adds both coursework and practical experience in the field. The minor is intended for engineering majors only and includes courses and experience in three categories: (1) engineering core, (2) life science core, and (3) biomedical engineering core. Before graduation, the student must complete a two-semester capstone design project related to biomedical engineering. Students are also encouraged to seek practical experience by completing an internship in biomedical engineering. The College can provide assistance to students who desire an internship with a biomedical company or research institute.

## Student Outcomes:

Students will:

1. demonstrate an ability to apply knowledge of mathematics, engineering and the life sciences by completing a major capstone design project in the field of biomedical engineering;
2. demonstrate an ability to independently conduct literature research on a current biomedical engineering topic and its application/impact on society and his/her engineering major; and
3. demonstrate an ability to communicate biomedical engineering related technical information in high quality written and oral presentation forms.

# Botany (BOT)

Tom Cheesbrough

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<http://biomicro.sdstate.edu/bio>

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

# Business Area Studies

Richard Shane

Department of Economics

Scobey Hall 138

605-688-4141

e-mail: [june.larken@sdstate.edu](mailto:june.larken@sdstate.edu)

<http://econ.sdstate.edu>

## See Economics

The Economics Department offers an Economics Major-Business Economics Specialization. Also, the Economics Department offers a Business Minor. In addition, courses taken under the Business Area Studies may supplement the Economics Major-Business Economics Specialization and Business Minor. Such courses are taught in the areas of agribusiness, agricultural and resource economics, agricultural systems technology, agronomy, animal science, apparel merchandising, computer science, construction management, consumer affairs, dairy manufacturing, dairy production, economics, entrepreneurship, horticulture, hotel and foodservice management, industrial management, interior design, music management, park management, pharmacy, printing management, range science, and engineering. See the "Major and Minor Requirements" section in this catalog, under Business Area Studies.

# Career and Technical Education (CTE)

Tim Andera

Coordinator of CTE

Department of Teacher Education

Wenona Hall 104

(605) 688-6798

e-mail: [Tim.Andera@sdstate.edu](mailto:Tim.Andera@sdstate.edu)

<http://learn.sdstate.edu/cte/index.html>

## Programs

South Dakota State University offers a Bachelor of Science in Education degree in Career and Technical Education with emphases in

an industry or technical field. The program is designed to allow the student that graduates with a CTE degree the flexibility to pursue a career in either a technical field or educational setting.

The major is comprised of traditional and non-traditional students. The traditional student enters after graduating from high school seeking either teaching or industry interests. The student will need to select an area of specialty from a career field. During the time of working on the CTE degree the student will also be employed in a related career field. Usually, employment occurs during the summer or on a part-time basis in conjunction with taking coursework toward the degree. Some examples of areas of emphasis include, but are not limited to: automotive, agriculture, construction, electrical/electronic, business, and health. A large number of students enrolled in CTE are non-traditional students who are currently teaching in a technical field and are pursuing a bachelor's degree concurrently.

People who have completed a technical specialty at one of the area technical institutes or community colleges outside of South Dakota, have completed or will be completing occupational experience as part of the program, or complete a technical specialty at SDSU are eligible for this program. For the student interested in teaching, certification must be obtained by meeting the requirements of the State Department of Education-Office of Career and Technical Education.

More information can be found in the Major and Minor Requirements in this Catalog under the heading Career and Technical Education (CTE) Major.

The CTE Program also offers a specialization in Career and Technical Education at the Master's Level. Please refer to the SDSU Graduate Program Catalog under the Educational Leadership Program. You may also refer to the CTE website found at:

<http://learn.sdstate.edu/cte/index.html> for more information regarding the undergraduate or graduate programs in CTE.

## Chemistry/Biochemistry (CHEM)

James A. Rice

Department of Chemistry and Biochemistry

Shepard Hall 121

605-688-5151

e-mail: [james.rice@sdstate.edu](mailto:james.rice@sdstate.edu)

<http://www3.sdstate.edu/Academics/ArtsandScience/ChemistryandBiochemistry>

Including the areas of

**Clinical and Laboratory Sciences (MedT) also known as Medical Technology**

### Faculty

Professor Rice, Head; Professors Sellers, Utecht; Professors Emeriti Emerick, Gehrke, Hecht, Hilderbrand, Palmer, Rue, Spinar, Wadsworth; Associate Professors Halaweish, Shore; Assistant Professors Cartrette, Cervantes-Laurean, Cole-Dai, Logue, Mayo, Miller, Raynie; Instructor Pravecek.

### Programs

The Department of Chemistry and Biochemistry 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 a more extensive chemistry background without majoring in chemistry. Third, you can major in chemistry by choosing one of the following curricula.

### Chemistry

The American Chemical Society (ACS) 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 413, 7-12 Science Methods, is a requirement to be certified to teach high school chemistry. A grade of "C" or better in all courses proposed for the major is required.

### Emphases

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

### Minor in Chemistry

A minor in chemistry is offered for students wanting extensive chemistry coursework without majoring in chemistry. A grade of "C" or better in all courses proposed for the minor is required. At least 50% of chemistry courses applied toward a minor must be completed at SDSU.

### 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 and Laboratory Sciences (MedT) also known as Medical Technology

Deborah Pravecek, Coordinator

*Medical Directors of Affiliated Schools of Medical Technology:* **Askae Qalbani**, M.D., Mercy Medical Center, Sioux City, IA; **Susan Eliason**, M.D., Rapid City Regional Hospital, Rapid City, SD; **David W. Ohrt**, M.D., Sioux Valley Hospital, Sioux Falls, SD; **Gene N. Herbek**, M.D., St. Luke's Medical Center, Sioux City, IA; **Dorryl I. Buck**, M.D., St. Luke's Hospital, Cedar Rapids, IA; **Vijaya Dhanwada**, M.D., Mercy Medical Center, Des Moines, IA.

*Program Directors/Education Coordinators of Affiliated Schools of Medical Technology:* **Renee Rydell**, MT (ASCP), Sioux Valley Hospital, Sioux Falls, SD; **Pam Briese**, MT (ASCP), St. Luke's Medical Center, Sioux City, IA; **Pam Keiffer**, MT (ASCP), Rapid City Regional Hospital, Rapid City, SD; **Mary Smith**, MT(ASCP), Mercy Medical Center, Sioux City, IA.; **Sr. Rose V. Brown**, MT (ASCP) Penrose-St. Francis Health Services, Colorado Springs, CO; **Nadine Sojka**, MT (ASCP), St. Luke's Hospital, Cedar Rapids, IA; **Kyla Deibler**, MT (ASCP), Mercy Medical Center, Des Moines, IA; **Karen Myers**, MT (ASCP) Health One Alliance, Denver, CO.

The University offers the first three years of an educational experience that provides scientific background in the chemistry and the biological sciences required for entrance into the clinical training program. The professional internship program, a 12 month experience 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 required by most hospitals. A GPA of 2.80 or higher is recommended. A grade of "C" or better in all courses proposed for the major is required. 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.

The clinical laboratory scientist is an indispensable member of the modern health team. He/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/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 clinical laboratory scientist also needs to be competent in areas such as personnel and resource management, administration, teaching and research.

## **(Pre-) Chiropractic**

**Kathie Erdman**  
College of General Studies and Outreach Programs  
Medary Commons 122  
605-688-4153  
e-mail: [kathie.erdman@sdstate.edu](mailto:kathie.erdman@sdstate.edu)

### **Area of Study**

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

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

## **Civil and Environmental Engineering (CEE)**

**Arden Sigl, Acting Head**  
Department of Civil and Environmental Engineering  
Crothers Engineering Hall 120  
605-688-5427  
fax: 605-688-6476  
e-mail: [arden.sigl@sdstate.edu](mailto:arden.sigl@sdstate.edu)  
<http://www3.sdstate.edu/Academics/CollegeOfEngineering/CivilandEnvironmentalEngineering/>

### **Faculty**

Professor Sigl, Acting Head; Professors DeBoer, Reid, Selim, Sigl, Ting; Professors Emeriti Dornbush, Hassoun, Rollag; Associate Professors Burckhard, Schmit, Wehbe; Associate Professor Emeritus Tiltrum; Assistant Professors Emmons, Jones; Adjunct Associate Professor, Asante.

## **Programs**

Civil Engineering includes the location, design, construction, and the operation and maintenance of highways, airports, buildings, bridges, dams, water supply and distribution systems, waste water collection systems and treatment plants, irrigation and drainage systems, river and harbor improvements and many other infrastructure facilities essential in modern life.

The Civil and Environmental Engineering Department's mission is to provide a highly respected, rigorous, practical education for our students, oriented toward problem solving through the integration of education, research and lifelong learning. In fulfillment of this mission the Department has established the following program educational objectives. Our objective is to education engineering professionals:

1. capable of applying principles of science and engineering to the solution of current and future problems in the field of civil engineering
  2. motivated toward continued intellectual and professional growth through lifelong learning related to current technological developments and professional practices in civil engineering
  3. motivated to become professional, ethical, global, and pluralistic leaders and contributors to society
  4. to contribute to the development of our local and state economies.
- The program's mission and educational objectives are accomplished by providing undergraduate students with an educational program that will result in graduates who have:
- a. an ability to apply knowledge of mathematics, science, and engineering
  - b. an ability to design and conduct experiments, as well as to analyze and interpret data
  - c. an ability to design a system, component, or process to meet prescribed objectives
  - d. an ability to function on multi-disciplinary teams
  - e. an ability to identify, formulate, and solve engineering problems
  - f. an understanding of professional and ethical responsibility
  - g. an ability to communicate effectively
  - h. the broad education necessary to understand the impact of engineering solutions in a global and societal context
  - i. a recognition of the need for, and an ability to engage in lifelong learning
  - j. a knowledge of contemporary issues
  - k. the skills to apply the tools and techniques of modern engineering practice.

Additionally, the program strives to assist students in developing a commitment to high standards of professional conduct by maintaining a strong, active ASCE Student Chapter Program; encouraging seniors to take the Fundamentals of Engineering (FE) examination; and promoting summer, cooperative education, and internship employment experiences in civil engineering.

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



Electives are provided to broaden the student's knowledge in the social-humanistic area and to provide the opportunity for technical specialization. A minimum number of credits of Humanities/Arts and Social Sciences are required and must be selected to satisfy the System General Education Core and the SDSU Institutional Graduation Requirements under the Graduation Requirements in this catalog. Students should consult with their academic adviser or the department head for guidance on humanities and arts and social science electives. Civil Engineering elective credits are provided in order to provide the students technical specialization and breadth in the sub-discipline or sub-disciplines of their interest. The sub-disciplines within Civil Engineering at SDSU include Environmental, Geotechnical, Structural, Surveying, Transportation, and Water Resources engineering. The program requirements for selecting Civil Engineering electives are available from the adviser or department head. All technical electives must be approved by the adviser or department head.

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 Civil Engineering: a combined average of "C" or better in the Civil Engineering courses and a minimum grade of "C" in all Engineering Mechanics (EM) designated courses. Students will not be permitted to enroll in subsequent Civil Engineering courses for which any of the EM courses are prerequisites until the minimum "C" grade requirement has been met. Students must follow course prerequisite requirements and take the Fundamentals of Engineering examination prior to graduation.

The Department will assist those interested in arranging internships and cooperative education work-study programs with consulting and testing firms, governmental agencies and industry. Credit may be obtained for work experiences by registering for CEE 494 Internship, CEE 496 Field Experience, or CEE 497 Cooperative Education. These credits, upon approval of the Department, may fulfill part of the technical-elective requirements.

The Civil Engineering program at South Dakota State University has been continuously accredited by the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET) since 1936.

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

### **Environmental Science and Engineering Specialization**

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

## **Clinical and Laboratory Sciences** (See Chemistry/Biochemistry)

### **Clinical Pharmacy**

**Dennis D. Hedge**  
Department of Clinical Pharmacy  
Pharmacy 125  
605-688-6197  
e-mail: college.pharmacy@sdstate.edu  
www3.sdstate.edu/academics/collegeofpharmacy

#### **Faculty**

Professor Hedge, Head; Professors Clem, Farver, Fiechtner, Fischer, Heins, Messerschmidt, Mort; Associate Professors Helgeland, Jensen Bender, T. Johnson, Lemon; Assistant Professors Baer, Gurney, Hutton, A. Johnson, Kruse, Kutscher, Lee, Laible, Oehlke, Strain, Whitehill; Instructor Hendricks.

#### **Programs**

The Department provides classroom and experiential 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)**

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

#### **Faculty**

Professor Haleta, Head; Distinguished Professor Emeriti J. Johnson; Professors Ackman, Hebert, Jorgensen; Professors Emeriti Denton, Ferguson, Hoogestraat, Meyer, Widvey; Associate Professors Shelsta, Tolman; Assistant Professors Hefling, Heinle, Lampson, Nesmith, Peterson, 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 specializations; Media Production (MEPR); 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 Peterson, Director of Theatre*

There are several major, experimental and student productions each year. You may be cast in or assist with a production. University credit may be earned. Summer theatre also offers undergraduate credit through Prairie Repertory Theatre.

### Forensics

*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.

### Media Production

*Assistant Professor Heinle*

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

### Speech-Language Clinic

*Professor Lampson, Supervisor*

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

## Computer Science (CSC)

**Dennis Helder, Head**

**Department of Electrical Engineering and Computer Science**

**Harding Hall 201**

**605-688-4526**

**e-mail: [dennis.helder@sdstate.edu](mailto:dennis.helder@sdstate.edu)**

**<http://www3.sdstate.edu/Academics/CollegeOfEngineering/compsci/>**

### Faculty

Professors Salehnia, Shin; Professor Emeritus Bergum; Associate Professor Svec; Assistant Professors Hamer; Instructors Gamradt, Gibbons, Kurtenback, Prohaska.

### Programs

The Program is structured to serve students in three ways:

1. The program provides educational opportunities so that all students on campus can receive educational literacy in computers.
2. The Program offers a Bachelor of Science degree in Computer Science as well as a degree for Secondary Computer Science teachers. A Certificate Program in Computer Applications sponsored by the Department can be obtained through Capital University Center, Pierre.  
Computer Science majors must earn at least a "C" in all computer science courses. Applied electives should be chosen so as to provide the student with a strong background for graduate study or careers in business, industry or teaching at the Secondary level. The choice of such courses should be discussed with the major adviser.
3. For those students who need more support courses, a Computer Science minor is offered. The minor requires three programming courses which permit students to match their Computer Science

education with their major area. A grade of "C" or better is required in all minor coursework and a formal application for a Computer Science minor must be filed with the Computer Science Program two semesters before graduation. Failure to meet the deadline may disqualify you from receiving a minor.

Students interested in the Certificate Program in Computer Applications should visit with the Dean of General Studies and Outreach Programs on the SDSU campus or with the Director of the Certificate Program in Microcomputer Applications at Capital University Center in Pierre.

## Construction Management (CM)

(See Engineering Technology & Management)

## Consumer Affairs (CA)

(See Human Development Consumer and Family Sciences)

## Counseling and Human Resource Development (CHRD)

**Jay Trenhaile**

**Department of Counseling and Human Resource Development**

**Wenona Hall 312**

**605-688-4190**

**e-mail: [jay.trenhaile@sdstate.edu](mailto:jay.trenhaile@sdstate.edu)**

### Faculty

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

### Programs

The Department offers an M.S. in Counseling and Human Resource Development. Four specializations are available to earn the M.S. degree in CHRD. Three of these require a minimum of 48 credit hours and one requires 36 credit hours. All require both written and oral comprehensive examinations. See the Graduate Catalog for descriptions of available options.

### Emphasis

Three specializations in CHRD are clinical, each with a different emphasis, including School Counseling, Community Counseling, and Counseling in a Student Affairs setting. All three of these specializations are CACREP accredited. These specializations share a core set of courses. The fourth specialization is the Administration of Student Affairs Programs track. It prepares students to administer college student personnel programs.

# Criminal Justice (CJUS)

**Donna Hess**  
Department of Rural Sociology  
Scobey Hall 224  
605-688-4132  
e-mail: donna.hess@sdstate.edu

This inter-college program administered by the Department of Rural Sociology is available to students majoring in any field at SDSU. The purposes of this program are 1) to provide qualified personnel for all segments of the Criminal Justice system; and 2) to help improve the competence and professional status of existing Criminal Justice personnel.

To enter the minor in Criminal Justice a student must have a cumulative GPA of at least 2.2 and take a total of 18 credit hours from courses offered in Criminal Justice and selected courses available in Sociology, Psychology and Political Science. Six of these 18 hours consist of two required courses (CJUS 201 and SOC 351). The remaining 12 hours may be selected from the list of CJUS electives. An internship (SOC 494) is strongly recommended as an addition to these hours (See Sociology Internship Coordinator one semester in advance of field placement).

Students desiring more information or interested in 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)

**Vikram V. Mistry**  
Department of Dairy Science  
Dairy-Microbiology 109A  
605-688-4116  
fax: 605-688-6276  
e-mail: vikram.mistry@sdstate.edu

### Faculty

Professor Mistry, Head; Professor Baer, Distinguished Professor Schingoethe; Professor Emeritus Parsons; Associate Professors Garcia, Henning, and Hippen; Assistant Professors Hassan, Kalscheur, Yeung; Instructors Bonnemann, Rennich.

### Programs

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

The dairy research and training facility (DRTF) of the Dairy Science Department houses 300 Holstein and Brown Swiss cattle and is a research center in feeding, breeding, and managing a dairy herd. Equally important, it is the site for basic student training in dairy cattle evaluation and other aspects of dairy farming. Milk produced at the DRTF is delivered to the well-equipped dairy plant where it is processed into fluid milk, ice cream, butter or cheese. These products are sold through the Dairy Sales Bar and used in campus dining facilities. Most students work part-time at the processing plant and/or at the DRTF. Both are opportunities for students to work part-time and gain practical experience while earning money. Students are encouraged to supplement their class instruction with summer internships and extracurricular activities. Leadership opportunities are available through participation in the Dairy Science Club, Dairy Cattle Judging, and Dairy Products Evaluation Teams. The Department has strong research programs in both areas, in part through the MN-SD Dairy Foods Research Center and research opportunities for undergraduate students are also available.

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

## Dance (DANC)

**Melissa Hauschild-Mork**  
Department of Health, Physical Education and Recreation  
Physical Education Center  
605-688-5023  
email: melissa.mork@sdstate.edu

The Department of Health, Physical Education and Recreation offers a minor in Dance. Students interested in pursuing the dance minor are required to take 12 credits of required coursework and choose 6 credits from a selected list of courses.

## (Pre-) Dental

**Scott Pedersen**  
Department of Biology and Microbiology  
Agricultural Hall 329  
605-688-5529  
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### Area of Study

Dental schools are looking for bright, articulate students who have a well rounded education and are able to relate to a range of personalities. Most dental schools require at least three years of college, but 90% of applicants have received their baccalaureate degree before they enter dental school. As such, SDSU encourages all pre-dental students to achieve their BS/BA prior to enrollment in a dental school.

Because the requirements of each dental school vary considerably, it is difficult to provide a complete listing of the necessary coursework that would satisfy every institution. Instead, the SDSU pre-dental program challenges the pre-dental student with a heavy emphasis on science courses (two years of chemistry, one year of physics, and at least three years of biology) in order to prepare the student for the Dental Admission Test (DAT). These courses service a wide variety of sciences and psychology and provide excellent career alternatives for those pre-dentistry students who are not immediately accepted into a dental school.

Admission to dental schools is extremely selective, and students who are serious about being accepted into a dental school should strive to substantially exceed the minimum requirements. Acceptance into dental

school is based primarily on four criteria: 1) absolute minimum of a 3.4 GPA on the 4.0 scale, 2) Dental Admission Test (DAT) scores, 3) recommendation from faculty and employers, and 4) a personal statement included in the application packet.

The Career and Academic Planning (CAP) Center is an excellent place to begin the process of investigating Dentistry as a career and to begin the process of focusing the student on his/her pre-dental curriculum. The CAP Center is also an excellent location to look through the course catalogues of a variety of dental programs in order to secure additional information and admission requirements to a school of his/her choice. A pre-dentistry adviser is also available to help guide the pre-dental student through these processes. Financial aid is available through a wide variety of scholarship programs.

## Dietetics

(See Nutrition, Food Science and Hospitality)

## Early Childhood Education

(See Human Development, Consumer and Family Sciences)

## Economics (ECON) and Business

Richard Shane  
Department of Economics  
Scobey Hall 138  
605-688-4141  
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<http://econ.sdstate.edu>

### Faculty

Professor Shane, Head; Professors Beutler, Cumber, Dobbs, Fausti, Janssen, Kim, Lyons, O'Brien, Pflueger, Sondey, Professors Emeriti Allen, Anderson, Gilbert, Greenbaum, Hsia, Lambertson, Lundeen, Murra, Peterson, Taylor, Thompson; Associate Professors Adamson, Diersen, Franklin, Klein, Qasmi, Santos, Taylor, Van der Sluis, Zimmerman; Associate Professors Emeriti Sogn; Assistant Professors Davis, Du, Gustafson, Langelett; Instructors Ellingson, Rasmussen; Marketing Specialist May; Management Specialists Arzeno, Davis.

### Programs

The Department of Economics teaching objectives are to:

1. present the economic principles necessary for understanding the complexities of the global economy;
2. educate students to apply economic concepts and techniques for decision-making in fields including agricultural business, agricultural and resource economics, economics, and business; and,
3. provide a foundation for graduate work in economics, agricultural and resource 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 Agricultural Business or Agricultural and Resource Economics from the College of Agriculture and Biological Sciences.

The Department also offers a major in Economics leading to a Bachelor of Science or Bachelor of Arts Degree from the College of Arts and Science. The Department also offers a major in Economics with a

Business Specialization, leading to either a Bachelor of Science or a Bachelor of Arts degree from the College of Arts and Science.

Courses in the Department of Economics are offered in the following areas: Accounting (ACCT), Agricultural and Resource Economics (AGEC), Business Administration (BADM), and Economics (ECON). See the Course Descriptions section of this catalog.

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

### Accelerated Master's Program

The Department of Economics offers an accelerated Master's program, which allows qualified students to study towards a Master's degree while completing their undergraduate degree. By combining course requirements for the Bachelor's and Master's degrees, students enrolled in the accelerated Master's program may be able to complete a Master's degree within five years.

Students may apply for admission into the accelerated Master's program as early as the end of their sophomore year, but must have a GPA of at least 3.5 in Economics Department courses to be considered for acceptance in the accelerated program.

Students interested in the accelerated program should contact the Department of Economics graduate coordinator to obtain application requirements. Application and admission to the Graduate School is required.

### Minors

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

### Entry Requirement

Formal application is required for admission into one of the departmental majors. 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 121 (or MATH 123). Students enroll in Pre-Economics in the appropriate college until the above requirements are met.

## Educational Leadership

Kenneth S. Rasmussen, Head  
Department of Educational Leadership  
Wenona Hall 217  
605-688-4368  
e-mail: [ken.rasmussen@sdstate.edu](mailto:ken.rasmussen@sdstate.edu)  
<http://learn.sdstate.edu/edgrad/>

### Faculty

Professors Erion, Romerein-Holmes; Associate Professors Garnos, Peterson, Rasmussen; Assistant Professor Whitlatch.

### Programs

The Department provides a Master's of Education (M.Ed.) in Curriculum and Instruction and in Educational Administration. Requirements for the Master's program in Educational Administration can be completed at either the campus in Brookings or at the West River Graduate Center in Rapid City. The Curriculum and Instruction program is available in Brookings. Many of the courses are also offered through the SDSU Sioux Falls program and online.

## 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/community college instructors.

Within the major, the following specializations are available: Elementary and Secondary Education, Career and Technical Education, Adult and Higher Education are emphases under Elementary and Secondary Education. Content Areas (English, mathematics, social studies, etc.) and English as a Second Language. Much of the Curriculum and Instruction coursework 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 three years of teaching experience for administrator certification.

Within the Educational Administration major, the following specializations are presently available: Elementary Administration; Secondary Administration, Career and Technical Education, and Adult and Higher Education. A portion of the Educational Administration program is available through distance education. Candidates may fulfill the South Dakota Department of Education's K-12 Principalship endorsement by completing additional course work beyond the current Elementary and Secondary specializations.

# Electrical Engineering (EE)

**Dennis Helder, Head**  
**Department of Electrical Engineering and Computer Science**  
**Harding Hall 201**  
**605-688-4526**  
**e-mail: [dennis.helder@sdstate.edu](mailto:dennis.helder@sdstate.edu)**  
**[http://www3.sdstate.edu/Academics/CollegeOfEngineering/  
ElectricalEngineering/](http://www3.sdstate.edu/Academics/CollegeOfEngineering/ElectricalEngineering/)**

## Faculty

Professor Helder, Head; Professors A. Andrawis, M. Andrawis, Brown, Galipeau, Hietpas; Professors Emeriti, Ellerbruch, Knabach, Sander; Associate Professor Ropp; Assistant Professors Fourney, Tan.

## Program

Electrical engineers play key roles in solving technical problems in many areas including biomedical engineering, communications, computers and digital hardware, electronic materials and sensor devices, image processing, and power and control systems.

The mission of the Electrical Engineering program is to provide a rigorous, practical education for our students oriented toward problem solving; to conduct world-class research with a regional emphasis; and to provide technical assistance to existing and emerging businesses, industry, and government.

The Electrical Engineering program educational objectives are to equip individuals who, after graduation and initial work experience,

1. Are able to use mathematics, science and engineering knowledge, along with appropriate engineering tools, to solve problems.
2. Actively contribute to multi-disciplinary teams, communicate effectively, and are able to solve, as engineering problems, contemporary issues arising from society.
3. Utilize approaches and solutions to engineering problems that are always framed in a morally and ethically responsible manner, and

whose approaches and solutions indicate an awareness of the impact of their work on society at local to global scales, and who continue to learn in order to best solve such problems.

The program begins the first year developing a strong foundation in mathematics, science, and communications. Following this are two intensive years of study in circuit theory, electronics, signal and system theory, material science, and digital systems/microprocessors. The capstone of the program is Senior Design I-II, a two-semester sequence taken in the senior year, that places every student on a team that designs, builds, tests, and demonstrates a significant electrical engineering project. The projects are often in collaboration with industry and provide students valuable "real world" team design experience.

## Academic and Graduation Requirements

Realizing that each student is an individual, the degree program is arranged to include 28 credits of elective coursework. This elective flexibility allows a student to pick a technical and non-technical course program that best suits his/her needs and interests.

Students will be admitted into junior level EE courses only after they have completed EE 220, 220L, 221, and 221L 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. In addition to the graduation requirements and academic performance specified in this catalog, to earn the Bachelor of Science degree in Electrical Engineering a student must earn a CGPA of 2.0 or higher for all his/her Electrical Engineering courses combined. All graduating seniors are required to take the Fundamentals of Engineering examination which leads to professional registration.

The non-technical (18), technical (10), and required (108) credits comprise the 136 credit degree.

The 18 required non-technical electives must be from a list of approved courses to meet graduation requirements. To meet the 12 credits of the South Dakota Regental System's General Education requirements, students are required to take a minimum of six approved credits in Social Science/Diversity (SGR Goal 3) and six approved credits in Humanities and Arts/Diversity (SGR Goal 4). To meet the six credits of the Institution's Graduation requirements, students are required to take a minimum of three approved credits in Social Responsibility/Cultural and Aesthetic Awareness (IGR Goal 1) and three approved credits in Land and Natural Resources (IGR Goal 3).

The 10 required technical electives must be from Electrical Engineering courses at the 400 level. These may be selected from specialization areas: Biomedical, Communications, Computers, Electronic Devices, Image Processing, or Power Systems.

Many students benefit from the Department's Cooperative Education program which allows students to receive limited technical elective credit for working in industry while they complete their degree in Electrical Engineering. Many such students gain valuable work experience in industry during the summer months without extending the time required to complete the BS degree. The Department of Electrical Engineering provides assistance to students desiring this practical experience. The Department also provides assistance in resume preparation and job placement.

# Electronics Engineering Technology (EET)

(See Engineering Technology and Management)

# Engineering Mechanics (EM)

(See Mechanical Engineering and Civil & Environmental Engineering)

**Don Froehlich**

Department of Mechanical Engineering  
Crothers Engineering Hall 216  
605-688-5426  
e-mail: don.froehlich@sdstate.edu

**Arden Sigl, Acting Head**

Department of Civil and Environmental Engineering  
Crothers Engineering Hall 120  
605-688-5427  
605-688-6476 (fax)  
e-mail: arden.sigl@sdstate.edu

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 Physics

(See Physics)

# Engineering Technology and Management (ETM)

**Teresa Hall**

Department of Engineering Technology and Management  
Solberg Hall 116  
605-688-6417  
fax: 605-688-5041  
e-mail: teresa.hall@sdstate.edu

## Faculty

Professor Hall, Head; Professor Lu; Professors Emeriti Heusinkveld, Skubic, Sorensen; Associate Professors Garry, Pannell, Wahstrom; Assistant Professors Steinlicht, M. Tolle, Qian; Instructors Mathews, Nusz-Chandler, Sternhagen, H. Svec, Visser.

## Programs

The Department of Engineering Technology and Management offers five Bachelor of Science programs which include Construction Management (CM), Electronics Engineering Technology (EET), Industrial Management (IM), Manufacturing Engineering Technology (MNET), and Safety Management (SM). Each program offers the student a combination of practical, applications-based and technology management courses. Programs in the ETM Department are developed and continuously updated to enhance career opportunities for students enrolled in these programs. The Department also offers and coordinates a Master's program in Industrial Management (MSIM). For more information about MSIM, please see the Graduate Catalog.

Additional program information is available from the Department Head.

## Construction Management (CM)

**Program Coordinator:**

**Pat Pannell, 605-688-4160**

**e-mail: pat.pannell@sdstate.edu**

Construction, the largest industry in the United States, plays a significant role in the nation's economic life, and continues to grow in size and scope. Employment opportunities are excellent in this highly competitive, exciting and diversified business. Properly educated people can expect exceptional job opportunities.

The Construction Management program prepares graduates for employment in the construction industry to effectively manage various construction projects. The program integrates courses and topics from business management, construction engineering, and construction management. This unique combination of various disciplines provides the graduates of this program to perform effectively as construction managers in the construction industry. Graduates from this program find jobs in many construction management related areas including, but not limited to, cost estimators, project managers, and project superintendents. The CM curriculum has been developed using the guidelines provided by the Associated Schools of Construction (ASC) and the Associated General Contractors (AGC). The exit exam for the CM program is the Certified Professional Constructor (CPC) Level 1 exam from the American Institute of Constructors Certification Commission. Students must take this exam prior to graduation. The CM program is accredited by the American Council for Construction Education (ACCE) which is the accreditation agency for construction management programs.

## Electronics Engineering Technology (EET)

**Program Coordinator:**

**Byron Garry, 605-688-6229**

**e-mail: byron.garry@sdstate.edu**

Electronics and computers permeate every part of our lives, and will continue to grow in importance and in complexity. This growth can provide exciting, challenging, and rewarding career opportunities for forward-looking students in Electronics Engineering Technology. Engineering technology is that part of the technological field that requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities. The mission of the EET program at SDSU is to provide the student a solid foundation in electronics, with the flexibility to engage in technical support, design and development, production or technical management; to provide technical assistance to existing and emerging businesses, industry, and government; and to prepare the student for lifelong learning.

EET program graduates use their technical and practical proficiency to implement and extend current technology, and may develop prototype products, optimize designs, manage system operations, or provide technical customer support. Graduates secure jobs in computer network installation and administration, electronics design, production support, customer support, and test engineering. These electronics professionals take a hands-on approach to applying engineering methods and principles. Their broad range of knowledge prepares them to engage in lifelong learning as new technologies emerge and to progress in their professional responsibilities.

To meet industry's need for this type of worker, the EET program blends theoretical concepts with practical lab work, resulting in graduates who are well-grounded in current technology and in electronics principles and applications. Coursework integrates interpersonal and communication skills and relates electronics theory and applications to the real world. In addition, the student will gain a background in production management skills. Students learn fundamental electronics technology applications and theory during the

first two years of their program. During the last half of the program, students focus on one of three emphasis areas: business, computer networking, or industrial electronics. The computer networking emphasis is designed to prepare students to work with the installation of new systems, and the maintenance of existing Local-Area-Networks (LANs), resolving hardware and software issues. An emphasis is placed on the complete system, including management of the system, personnel, and information exchanged.

### **General Engineering (GE)**

The ETM Department coordinates advising for students who are undecided in their choice of a specific engineering, engineering technology, or industry-related management major. Students in the GE major take fundamental courses required in most programs in the College of Engineering while considering their options. Guidance is also provided for those students who are not pursuing engineering or related degree programs but wish to establish a fundamental understanding in a technical area.

### **General Engineering (GE) Service Courses**

The Department offers a number of General Engineering (GE) courses in support of many programs offered through the College of Engineering. These include a number of courses in the areas of engineering graphics, computer aided design, and manufacturing processes.

### **Industrial Management (IM)**

#### **Industrial Management with Specialization in Industrial Sales Program Coordinator:**

**Carrie Steinlicht, 605-688-6583**

**e-mail: carrie.steinlicht@sdstate.edu**

The Industrial Management and Industrial Management specialization in Industrial Sales Bachelor of Science degree programs prepare students to transfer their knowledge of technology, engineering, manufacturing management, and business principles to provide technical managerial support for industrial and related business. Individuals selecting the Industrial Management program will be able to apply production/operations management, logistics, lean manufacturing principles, and engineering technology applications to improve workplace productivity, serve as liaison between engineering and management functions, and/or manage projects. The Industrial Sales specialization has the same core courses as the Industrial Management major but adds marketing, industrial control, and industrial electronics support courses. The individual selecting this specialization would be prepared to work in corporate distribution, industrial supply, and/or aftermarket support for a variety of businesses.

### **Manufacturing Engineering Technology (MNET)**

#### **Program Coordinator:**

**Carrie Steinlicht, 605-688-6583**

**e-mail: carrie.steinlicht@sdstate.edu**

Manufacturing plays an essential role affecting the way we live and use various products, and will do so more in the future. This growth can provide exciting, challenging, and rewarding career opportunities for forward-looking students in Manufacturing Engineering Technology (MNET). Engineering technology is that part of the technological field that requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities. The mission of the MNET program is to provide an excellent nationally recognized engineering technology education that will produce graduates who possess the technical, academic, leadership, management, and social skills required to facilitate the economic viability and vitality of South Dakota and its industries.

The MNET program provides the students with the opportunity to learn basic and advanced manufacturing technologies, industrial automation, and management techniques for improving the way manufacturing companies operate. Integral to this program are courses and concepts in math, science, communications, social studies, and teamwork, enhancing the employability of the graduates of this program. The graduates of this program are prepared to perform effectively at the entry level as manufacturing engineers in areas such as quality, supervision, production planning, product and process design, work design, plant layout, and plant management. The exit exam for the MNET program is the Certified Manufacturing Technologist (CMfgT) exam from the Manufacturing Engineering Certification Institute of the Society of Manufacturing Engineers. Students must take this exam prior to graduation. The Manufacturing Engineering Technology curriculum at South Dakota State University has been developed using guidelines provided by the National Center of Excellence for Advanced Manufacturing Education, the Society for Manufacturing Engineers, and input from regional manufacturing businesses. *Updated program information is available from the Department.*

### **Safety Management (SM)**

The Bachelor of Science in Safety Management is an interdisciplinary program offering courses in applied industrial technology, industrial management, business principles, health and biological sciences, and human behavior. The program prepares students to hold a variety of positions in business, industry, and the public sector associated with workplace safety and health, hazard analysis, and/or safety and environmental quality issues. Demand for individuals experienced in governmental regulations as they apply to the workplace, required documentation and procedures, and compliance continues to grow as businesses realize that the costs associated with worker illness and injuries continue to grow. The Safety Management degree is also recommended as a second undergraduate degree major to complement a variety of business, engineering, and engineering technology programs at the University.

## **English (ENGL)**

**Kathleen Donovan**

**Department of English**

**Scobey Hall 014**

**605-688-5191**

**e-mail: kathleen.donovan@sdstate.edu**

### **Faculty**

Professor Donovan, Head; Distinguished Professors Woodard, Ryder; Professors Brandt, Danker, Evans, Flynn, Keller, Landes, O'Connor, Taylor, Williams; Professors Emeriti Alexander, Brown, Duggan, Kildahl, Witherington, West, Yarbrough; Associate Professor Mary Haug, Zagrodnik; Assistant Professors McEntee, Nagy; Instructors Brown, Ferrell, Michael Haug, Hublou, Thompson.

### **Programs**

Courses in the English Department are divided into two areas: English (ENGL) and Linguistics (LING); see the Course Descriptions section of this catalog. The English Department offers instruction in clear thinking and expression; in the history and use of language; in literature (British, American, World, Native American, Women's, Ethnic, etc.); in literary criticism; and in technical communication. The English major prepares students for teaching careers; for writing and editorial work; for professional schools of law, business, theology, library science, and social work; and for any endeavor in which facility in the use of language is essential.



Students may major 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, 201, and non "Honors" 210); **Option B: English Education major, 36 credits in courses prefixed ENGL and LING** (not counting ENGL 101, 201, 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, ENGL 151, and ENGL 479 (the "capstone" course), as well as modern language courses required for the B.A. Minimum college and university requirements are given in the appropriate sections of this catalog and are incorporated in the curriculum plans listed in the Requirements Section. Advisers assist students to ensure that all department, college, and university requirements are met.

**The English Minor.** The English minor requires 20 credits in English (not counting ENGL 101 and 201), of which 9 hours must be in British literature, and 6 hours in American literature. Minors 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 Catalog.

A minimum grade of "C" must be earned in all English and Linguistics courses to count for the English major or minor.

## Entomology (ENT)

(See Plant Science)

## Entrepreneurial Studies (ENTR)

**Barb Heller**  
Office of Academic Affairs  
Administration 101  
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website: <http://entr.sdstate.edu>

The Entrepreneurial Studies Minor is offered by all public universities in South Dakota. This minor prepares college graduates with the basic entrepreneurial skills needed to establish and operate a small business.

Students majoring in any academic major will have the opportunity to increase their knowledge of the skills needed to start, own, and/or operate a business; become a community leader; transfer technology to a merchandisable product; and assist others in entrepreneurial efforts. In today's competitive job market, a graduate who has the ability to "market" his/her skills effectively will be able to enter the job market with greater confidence and expertise. In addition, the entrepreneurial spirit is alive in South Dakota and in the global community that graduates must now enter in order to find a job or start a business of their own. This minor is designed to give all students the opportunity to earn a better living and to contribute to society via their chosen field (major) by becoming entrepreneurs.

In addition to the minor in Entrepreneurial Studies, the Entrepreneurship Program offers a unique set of one-credit modules that specialize in different areas of entrepreneurship. A student that collects ten of the twelve courses offered will obtain a Certificate in Entrepreneurship. A tentative course schedule can be found on the <http://entr.sdstate.edu> website.

## Environmental Management (ENVM)

**Tom Cheesbrough**  
Department of Biology and Microbiology  
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605-688-6141  
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<http://biomicro.sdstate.edu/bio>

### Faculty

Professor Cheesbrough, Head; Professors Bleakley, Dieter, Cochrane, Evenson, Gibbons, Granholm, Henebry, Hildreth, Johnston, Kayongo-Male, Larson, Reese, Ruffolo, Sutton, Troelstrup, West, Whalen, Yen; Professors Emeriti Baker, Chen, Hartel, Huggins, McMullen, Morgan, Myers, Peterson, Pengra; Associate Professors Brozel, Erickson, Gibson, Gilmanov, Pedersen, Wake; Associate Professor Emeritus Morrill; Assistant Professors Auger, Kaushik, Hardwidge, Krueger, Wang, Xu, Young; Instructors Ellis, Hill, McCutcheon, Willgohs; Adjunct faculty G. Bush (Identity Genetics), E. Butler (Igne), J. Butler (USFS), Chase (Vet.Sci.), Diggins (Augustana), Fennell (HFLP), Francis (Vet.Sci.), German (WRI), Henning (DS), Henery (USDSU), Johnson (PS), McFarland (ARS), Matzner (Augustana), Nelson (Vet.Sci.), Reidel (NGIRL-USDA), Rietz (Brookings Medical Clinic), Steece (CUC), Specker (FFS), Tood.

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

## Equine Studies

(See Animal and Range Sciences)

## European Studies Minor (EURS)

**Gordon Tolle**  
Department of Political Science  
Scobey Hall 304  
605-688-4912  
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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., FREN 101 fulfills part of a language or humanities requirement.) The students must take the interdisciplinary topics courses: EURS 300, Topics in European Culture, and/or EURS 301, Topics in European Society (6 credits).

While it is not a requirement, living and studying in Europe may also be used to earn some credits.

To enroll in this program, contact the coordinator, Dr. Gordon Tolle, Political Science, phone 605-688-4912.

## **Family and Consumer Sciences (FCS)**

**(See Human Development, Consumer and Family Sciences)**

## **Family and Consumer Sciences Education (FCSE)**

**(See Human Development, Consumer and Family Sciences)**

## **Food and Biological Materials Engineering (FBME)**

Van Kelley  
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Agricultural Engineering 107  
605-688-5141  
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<http://abe.sdstate.edu/>

## **Faculty**

Associate Professor Kelley, Head; Professors Anderson, Hellickson, Humburg, Julson, Werner; Professors Emeriti Chu, DeBoer; Associate Professors Muthukumarappan, Nicolai, Pohl, Trooien; Assistant Professors Persyn, Schipull, Todey; Assistant Professors Emeriti Bender, Pahl.

## **Programs**

Food and Biological Materials Engineering is a unique educational specialization in Agricultural and Biosystems Engineering that provides students with an exceptional opportunity to serve the food, fiber, and feed 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 processing technologies that are used in the food, fiber, and feed industry.

Students are given foundation courses in mathematics, physics, chemistry and microbiology. Additional coursework stresses communication skills, engineering mechanics, food science, food safety, and engineering design. This program of study will prepare you for entry-level positions with corn, soybean, and wheat 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.

The Program Educational Objectives of the Food and Biological Materials Engineering specialization are:

1. To produce engineers that become competent in methods of analysis involving use of mathematics, fundamental physical and biological sciences, engineering sciences, and in the computation skills needed for the practice of agricultural and biosystems engineering.
2. To produce engineers that develop design skills, including abilities necessary to think creatively, to formulate problem statements, to communicate effectively, to synthesize information, and to evaluate and implement problem solutions.
3. To produce engineers that become capable of addressing issues of ethics, safety, professionalism, cultural diversity, globalization, environmental impact, and social and economic impact in engineering practice.
4. To produce engineers that will contribute to agricultural profitability through the development, adoption and proper use of improved and safer engineering technologies, production systems and management practices.

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

See Agricultural and Biosystems Engineering for courses and curriculum.

## **Food Science**

**(See Nutrition, Food Science and Hospitality)**

## **Food Technology**

**(See Nutrition, Food Science and Hospitality)**

## French Studies (FREN)

(See Modern Languages)

## General Agriculture

Donald Marshall

College of Agriculture and Biological Sciences

Agricultural Hall 156

605-688-5133

e-mail: [academic.programs@abs.sdstate.edu](mailto:academic.programs@abs.sdstate.edu)

### Programs

The General Agriculture curriculum is designed for the student undecided as to a specific major field of study within the area of agriculture, or may want to combine multiple fields of study within agriculture, or plans to return to the farm or ranch after college. A large number of free electives are available allowing the student to take courses in the different disciplines needed for a diversified career or to manage a production unit. 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.

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

(See Engineering Technology and Management)

## General Studies (Associate of Arts)

Christy Osborne

College of General Studies and Outreach Programs

Medary Commons 121

605-688-4153

e-mail: [christy.osborne@sdstate.edu](mailto:christy.osborne@sdstate.edu)

### Programs

The Associate of Arts degree in General Studies provides a foundational general education at the university level supporting bachelor's degree programs, lifelong learning, leadership, service, and careers requiring general education coursework.

Students completing this Associate of Arts degree will have fulfilled the Board of Regents general education core requirements for a bachelor's degree at any of the Regental universities in South Dakota. Many courses necessary to fulfill the requirements of the AA in General Studies are available by distance education.

## Genetics

Donald Marshall

College of Agriculture and Biological Sciences

Agricultural Hall 156

605-688-5133

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Though there is no separate instructional department, a student wishing to specialize in Genetics can obtain an excellent program by selecting among the courses listed below. Also, a minor in Biotechnology is available (see requirements elsewhere in this Catalog).

ABS 205, Biotechnology in Agriculture and Medicine	2
AS 332-332L, Principles of Animal Breeding and Lab	4
BIOL 202, Genetics and Organismal Biology	3
BIOL 202L, Genetics and Organismal Biology Laboratory	1
BIOL 204, Genetics and Cellular Biology	3
BIOL 204L, Genetics and Cellular Biology Laboratory	1
BIOL 371, Genetics	3
BIOL 373, Evolution	3
BIOL/PS 453-553, Advanced Genetics	3
BIOL/ZOOL 483-483L, Developmental Biology and Lab	4
CHEM 464-464L, Biochemistry I and Lab	4
CHEM 465, Biochemistry II	3
MICR 436, Molecular and Microbial Genetics	4
MICR 438, Molecular Microbial Genetics Lab	2
HO 312-312L, Plant Propagation and Lab	3
HO/PS 383-383L, Principles of Crop Improvement and Lab	3

## Geographic Information Sciences

(See also Geography)

Roger Sandness

Department of Geography

Scobey Hall 232

605-688-4511

e-mail: [roger.sandness@sdstate.edu](mailto:roger.sandness@sdstate.edu)

### Faculty

Professor Sandness, Head; Distinguished Professor C. Gritzner; Professors Berg, J. Gritzner, Hansen, Napton; Assistant Professors Samuelson, Watrel; Adjunct Faculty Bliss, Eidenshink, Fosnight, Fouberg, Giri, Holm, Kurtz, Loveland, Reed, Sturdevant, Wood, Yang, Zhuliang; Professor Emeritus Hogan.

### Program

Geographic Information Sciences (GISc) is the science of geographic and spatial analysis. It is concerned with the basic elements of spatial information including data gathering, description, manipulation, analysis, modeling, interpretation, and presentation. The knowledge gained from GISc is used to help make decisions about spatial phenomena that are distributed on the earth's surface. This major includes the necessary courses to prepare the graduate to use the tools of GISc in business or governmental agencies.

The GISc graduate will be able to apply the tools of GISc to analyze spatial data in the natural and social sciences. This program gives students an opportunity to become professionals in a career area that has been growing and will continue to grow in numbers. GISc is a highly technical field. Graduates will find themselves on the cutting edge of an important area and will be able to find highly rewarding and remunerative jobs.

The Department of Geography provides coursework leading to the Bachelor of Science degrees in Geographic Information Sciences and Geography. The Bachelor of Science in Geographic Information Sciences major requires 41 credit hours and includes GEOG 131, 132, 200, 210, 382, 383, 484, 487, 488, 489, and 3 additional upper division geography credits. MATH 120 and STAT 281 are also required and included in the 41 credit hours.

Minors in Geography and Geographic Information Sciences are also offered by the Department.

A Certificate in Geographic Information Sciences is available to those who hold a bachelor's degree in areas other than geography.

A Ph.D. in Geospatial Science and Engineering is now available. Geography faculty will participate in that doctoral program as teachers and advisers.

## Geographic Information Sciences Center of Excellence

**Matthew C. Hansen**

**Thomas Loveland**

**Co-Directors**

**Wecota Hall 115F**

**605-688-6848**

**e-mail: matthew.hansen@sdstate.edu**

### Program

The study of the land surface and its modification over time is a major component of global change research. Land cover change impacts climate, biogeochemical cycles, ecosystem function, and the state of human welfare. To study large area land cover dynamics, satellite-based earth observations are required. The Geographic Information Science Center of Excellence (GIScCE) is a new collaboration between SDSU and the US Geological Survey EROS Data Center (EDC) with a focus on the science of earth observation and monitoring. EDC is the world's largest repository of remotely sensed data sets and a renowned center of applied earth science studies. The GIScCE is a research partnership of SDSU faculty and EDC scientists which employs the capabilities of geographic information science (GISc), namely remote sensing, geographic information systems, digital mapping, and geostatistics, to document and understand the changing earth. To achieve this, an interdisciplinary center of study is required, one which utilizes engineering principles to efficiently and accurately process earth observation data, geographic principles to create meaningful thematic depictions of land cover and land use change, and applications which focus on the resultant effects of change on the geosphere, biosphere and hydrosphere. Through the combined resources of many disciplines, the GIScCE seeks to investigate important questions regarding the dynamic earth system.

Students will play an integral role in the research performed by the center. A student can earn graduation recognition as a Center Scholar by completing a combination of courses, programs, and professional experiences. Center Scholars must have completed all Regental and University core classes with an undergraduate GPA of 3.0 in major and GISc coursework at time of graduation. Undergraduates must also have a cumulative GPA of 2.75 for all coursework at time of graduation. Graduate students must have a cumulative GPA of 3.2 for GISc and all other coursework at the time of graduation. All Center Scholars will participate in a Center Internship, which will include the development of a scholarly study. Results from this study must then be presented to an appropriate professional meeting or accepted by a peer-reviewed science journal. A final student portfolio will be assembled and submitted for approval to the GIScCE portfolio review committee. Graduates of the

program will be qualified to work as GISc professional scientists in government, education, business and industry throughout the state, nation and world. The Center will also be a major player in the Ph.D. in Geospatial Science and Engineering.

## Geography (GEOG)

**Roger Sandness**

**Department of Geography**

**Scobey Hall 232**

**605-688-4511**

**e-mail: roger.sandness@sdstate.edu**

### Faculty

Professor Sandness, Head; Distinguished Professor C. Gritzner; Professors, Berg, J. Gritzner, Hansen, Napton; Assistant Professors Samuelson, Watrel; Adjunct Faculty Bliss, Eidenshink, Fosnight, Foubert, Giri, Holm, Kurtz, Loveland, Reed, Sturdevant, Wood, Yang, Zhuliang; Professor Emeritus Hogan.

### 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 in Geography and also in Geographic Information Sciences. The Geography major requires 35 credit hours which includes GEOG 131, 132, 200, 210, 382, and 487 with 18 credits of upper division credit. In addition to the standard degree programs, there is an Environmental Planning and Management emphasis available. The Environmental Planning and Management emphasis is designed to prepare students for careers in governmental, industrial, managerial, recreational areas, and commercial corporations. Minors in Geography and Geographic Information Sciences are also offered by the Department.

## German (GER)

(See Modern Languages)

## Gerontology (GERO)

**Renee Oscarson**

**Department of Human Development, Consumer and Family Sciences**

**SNF 403**

**605-688-5954**

**e-mail: renee.oscarson@sdstate.edu**

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

# Global Studies (GLST)

Nels H. Granholm  
Academic Affairs  
Administration 101A  
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[CollegeOfArtsAndScience/GlobalStudies/Index.cfm](http://www3.sdstate.edu/Academics/CollegeOfArtsAndScience/GlobalStudies/Index.cfm)

## Faculty

Professor Granholm, Coordinator

## Mission

The Global Studies major fits with the Land-Grant Mission of South Dakota State University to develop, maintain and encourage student self-development in international and intercultural understanding consistent with the continually increasing cultural, economic and political interdependence of the modern world. In the 21st century, relationships between people and nations will be affected more by interdependence of the world as a whole than by national boundaries.

The Global Studies major will:

1. prepare students through the social sciences, natural sciences, and humanities with knowledge and a broad understanding of global society and the societies of diverse foreign countries and cultures;
2. enable students to apply analytical and philosophical tools for interpretation of and critical thinking about global issues and data;
3. prepare students for employment in many fields including government, non-governmental organizations, business with international marketing, journalism and other fields that require professionals with interdisciplinary education, global literacy, and cross-cultural competencies; and
4. utilize the international resources of SDSU to benefit the citizens of South Dakota and the United States.

## Programs

The Global Studies major integrates content and theory from a number of disciplines leading to an understanding of the interrelated processes of globalization in an increasingly interdependent world. Globalization, which has occurred over centuries, accelerated dramatically in the last half of the 20th century stimulated by rapid transportation and technical developments, leading to instant communication between all parts of the world. International activities are now globally based on new relationships between countries resulting from diminution of national boundaries and increased recognition of the global nature of environmental conditions, economics, politics, health and safety, the spread of terrorism, and the perceived homogenization of culture.

Two required courses, Global Studies I (GLST 201, 3 credits) and Global Studies II (GLST 401, 1 credit) provide a theoretical base to view the world in a holistically. In Global Studies II, global students will integrate information and ideas from courses, analyze experiences, and develop a solid global perspective.

Because background from many disciplines is fundamental, the major utilizes courses from several departments that each contribute to breadth of knowledge and understanding. Elective courses are grouped into three foci - globalization, societies, and culture. Within each group, students select courses to fulfill graduation requirements. The choices are grouped by lower and upper division, with more choice allowed for upper division courses.

## Global Studies Major (B.S. and B.A.)

Students must complete 128 credit hours including the 30 credit System General Education Core (Gen Ed) and the 8 credit SDSU Institutional Graduation Requirements (IGR) leading to the Bachelor of Arts or the Bachelor of Science degree.

Modern language is required for both degrees. Students earning the B.A. degree will complete 21-22 hours concentrated in one modern, foreign language — French, German or Spanish. For the B.S. degree, 14-16 hours of one of these languages are required. Students entering the University with a background in languages are strongly recommended to request a copy of the Modern Language Department placement policy. Students who are prepared to take courses beyond 101 (up to 310 or 311, except Spanish 211, 213) may apply to receive credit for all previous courses up to 202.

The number of free electives varies from 29-37, depending upon the student's choice of B.A. or B.S. degree and options selected to fulfill Gen Ed and IGR requirements. This flexibility provides an excellent opportunity for students to fulfill requirements for a second major or a minor in another discipline.

## Cross-Cultural Experiential Education

For Global Studies majors, first-hand, cross-cultural experience is mandatory. At least three credits must be earned outside the United States. Students can choose the program they prefer from several options provided by the Office of International Affairs, Department of Modern Language, and individual colleges:

1. full time study abroad at a university for one semester;
2. a one-semester, paid or unpaid, internship or volunteer service learning project;
3. an intense modern language immersion program worth at least 3 credit hours; or
4. a study abroad seminar or travel experience that includes pre-and post-travel/study orientation worth 3 hours of credit.

The coordinator of the Global Studies Program advises students regarding the selection of an appropriate plan for this requirement based upon the student's interests, time frames and budget.

Additional information identifying the exact requirements for this major is found in another section of this catalog.

## Global Studies Minor

The minor in Global Studies, which can be completed with any SDSU major, consists of 21 credits (18 core credits and one elective). The minor is outlined in the section on Major and Minor Requirements.

## Related Minors

Three minors with content tied directly to Global Studies complement the Global Studies major:

- European Studies
- Latin American Studies
- Global Agriculture

## International Students

Those undergraduates enrolled at SDSU as international students should discuss with the Coordinator of Global Studies possible variations in requirements for the major and the minor that take into consideration their mastery of foreign language and previous international experiences.

# 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; Professors Booher, Hacker; Professors Emeriti Forsyth, Huether; Associate Professor Vukovich; Assistant Professors Fokken, Olson; Instructors Hauschild-Mork, Heinze, Kirby, Roiger.

## Programs

Four undergraduate majors are offered within the Department. These include Athletic Training, Health Promotion, HPER, and Park and Recreation Management. 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 Catalog for details.

### Athletic Training Major

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 catalog. In addition to these courses, students must complete clinical experiences under the supervision of clinical instructors.

Application for admittance into the athletic training major can begin during a student's sophomore year. Additional minimum requirements for admission include successful completion ("C" or better) of AT 164, BIOL 221 and PE 354, and a minimum cumulative GPA of 2.75. The number of students accepted into the program each year 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.

### Health, Physical Education and Recreation Major

See description under Health, Physical Education and Recreation Major, page 104.

### Health Education (HLTH) Minor

Patty Hacker

Department of Health, Physical Education and Recreation  
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A Health Education minor is an interdisciplinary minor offered to any student at South Dakota State University; it may be of particular interest to those pursuing a teaching degree. The minor can be obtained by completing a required core and set of elective courses offered across several disciplines. One purpose of the Health Education minor is to enable those with a teaching degree to teach health education in schools in South Dakota; it also prepares students to pursue a major in health education in other states. All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of "C" is required in each course taken in the minor.

### Physical Education (PE) Minor

The Physical Education minor is offered to any student at South Dakota State University interested in the area of study of human movement. The coursework provides students with experiences that will raise the level of knowledge and understanding about how people move and learn sport skills, as well as provide a foundation for developing or enhancing movement skill in their own lives and those of others. This minor would be of interest to those pursuing teaching degrees in other content areas, or individuals pursuing a Public Recreation major. All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of "C" is required for all courses taken in the minor.

### Health Promotion Major

See description under Health Promotion.

### Park and Recreation Management (PRM)

Park and Recreation professionals are needed to meet recreation demands resulting from expanding populations, increased leisure time, greater mobility and changing social attitudes. The curriculum in Park and Recreation Management is designed to prepare students for professional positions in parks and outdoor recreation, and recreation programming and administration. A minor in Public Recreation is also offered. Two areas of specialization are available:

- 1) Students interested in parks and outdoor recreation, and employment with federal, state, county and municipal parks and recreation agencies and with private recreation and tourism enterprises, can tailor their program of study using the **Park Management Specialization** curriculum, offered through the Horticulture, Forestry, Landscape and Parks department.
- 2) Students interested in recreation programming and administration, and employment with municipal recreation agencies, YMCA/YWCAs, business, and therapeutic recreation in clinical as well as community settings, should follow the **Public Recreation Specialization** curriculum, offered through the Health, Physical Education and Recreation department (see page 222).

### WEL 100 – Skills for Healthy Living

This course introduces the importance and holistic nature of the six dimensions of personal wellness and fitness. The course will provide the necessary knowledge and skills to make informed decisions which will lead to the development of a healthy lifestyle. Various issues related to the dimensions of wellness will be discussed. Students will have the opportunity to assess their current health status and identify potential risk factors. The laboratory experience applies wellness concepts taught in WEL 100 lecture. Students will gain a level of understanding about one's personal fitness level as well as learn a variety of skills to enhance personal wellness.

### PE 100 – Activity Courses

Up to two credits of activity courses may be taken as electives. The courses are designed to complement the WEL 100 course, promoting the development of lifelong wellness through physical activity. Through participation in these activities students may work on further developing their skills in social responsibility, as well as enhancing their ability to embrace change in positive ways.

### Course Cross Referencing

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

# Health, Physical Education and Recreation Major

**Patty Hacker**  
Department of Health, Physical Education and Recreation  
Physical Education Center 269  
605-688-5218  
email: [patty.hacker@sdstate.edu](mailto:patty.hacker@sdstate.edu)

The HPER major is to provide interested students with opportunities to study human movement, health, recreation and related areas. It is a generalist degree, including 36 credit hours of coursework in the areas of dance, health, physical education and recreation. All HPER majors are encouraged to pursue a minor field of study as well as additional hours in an area of interest to meet the 128 hours required for graduation. If interested, HPER majors may also pursue a specialization in physical education teacher education. A minimum grade of "C" is required in each course in the major.

## Requirements for HPER major – Teaching Specialization

Application for admission into the Physical Education Teacher Education specialization is required, and can begin during the spring semester of the freshman year, providing PE 180, ENGL 101 and SPCM 101 have been completed (with a minimum grade of "C") or are in progress during the time of application. Additional admission requirements are available from the Physical Education Teacher Education (PETE) Coordinator. All HPER teaching specialization students are strongly encouraged to obtain a health education minor (21-23 hours). Information on courses that fulfill the health education minor is in this bulletin. A minimum final grade of "C" is required in each course in the major and specialization area. All teacher education students are required to take the PRAXIS II Physical Education content test, as well as the PRAXIS II Principles of Learning and Teaching test.

## Health Promotion

**September Kirby**  
Department of Health, Physical Education and Recreation  
Physical Education Center 119  
605-688-5387  
e-mail: [september.kirby@sdstate.edu](mailto:september.kirby@sdstate.edu)

### Faculty

Instructor Kirby, Coordinator; Associate Professor Vukovich.

### Program

Students interested in exercise science, adult fitness, cardiac rehabilitation, strength and conditioning, and wellness programming are candidates for this major. Individuals will graduate with a Bachelor of Science degree in Health Promotion. This degree prepares the student to enhance awareness, modify behavior, and create environments that promote positive health practices/behaviors. Admission requirements include: sophomore standing with a 2.75 GPA or higher, completion of PE 180 and WEL 100, and a "C" or better in the following courses: WEL 100, HDFS 210, BIOL 221, and CHEM 108. Students are required to choose classes from a career orientation emphasis area to complete coursework for the major. The Health Promotion major is endorsed by the American College of Sports Medicine.

### Allied Health Specialization

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

Admissions Requirements: Completion of a one or two year regionally or nationally accredited/certified program in an allied health area. A 2.75 or higher GPA, and a "C" or better in all courses taken within the core requirements.

## Health Science (HSC)

**Janet Lord**  
College of Nursing, Undergraduate Nursing Department  
SNF 327  
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A Health Science minor is an interdisciplinary concentration offered to any undergraduate student at South Dakota State University by completing a minimum of 24 semester hours across disciplines with a **required core** of course offerings across several disciplines. The purpose of the Health Science minor is to provide an opportunity for students to learn more about health and health care while pursuing other majors in the University, and to provide a Health Science minor for those individuals who wish to obtain competence in health knowledge, public health and healthful environments. The outcomes for graduates of the Health Science minor are:

1. Apply public health principles, including administration and organizations, to selected disciplines.
2. Implement public health methods and strategies in working with individuals and groups, incorporating principles from the fields of sociology, psychology, and human growth and development.
3. Apply basic human health concepts gained from selected disciplines, biology, physiology, and behavioral, mental health.
4. Advocate for needs of people served by public health systems that demonstrate an understanding of how environment and ecology affect aggregates and communities.

The required core courses are:

- a. Biological Science courses (6 credits). These courses do not need to be sequence courses but must include science courses with the following prefixes: BIOL, MICR, ZOOL.
- b. Required Health Science Core courses (12 credits).
- c. Electives from set of selected courses (6 credits).

See Major and Minor Requirements section.

# History (HIST)

April Brooks, Acting  
Department of History  
Scobey Hall 322  
605-688-4311  
e-mail: april.brooks@sdstate.edu

## Faculty

Professor Brooks, Acting Head; Professors, Berg, Funchion; Professors Emeriti Bell, Crain, Miller, Sweeney; Associate Professor Schmidt; Assistant Professor Bailey, Harris.

## Program

Majors may choose either the Bachelor of Arts or the Bachelor of Science degree. The requirements in either program are 36 credits of HIST prefixed courses, which must include 121, 122 or 111, 112 plus 151, 152, and 480.

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

## Mission Statement

- To provide a variety of course offerings designed to:
  - Encompass diverse cultures, geographic regions, and time spans and encourage appreciation of human diversity as well as shared humanity.
  - Enable students to understand the multiplicity and complexity of historical trends and forces.
  - Prepare students to live in an increasingly global world.
  - Develop students who are internationally competitive in their knowledge and skills.
- To enhance reading, writing, speaking, and communication skills through conventional and computer assisted modes.
- To assist students in learning to use and demonstrate historical knowledge.
- To foster critical and conceptual modes of thought that provide a foundation for:
  - Ethical judgment.
  - Assimilation of change.
  - Creative response to challenges and problems.
  - Socially responsible actions.

The courses offered by the Department of History will prepare majors for careers in various professional occupations, and provide a necessary background for graduate work or other specialized training.

## Core Curriculum

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

## Teaching Specialization

Majors who wish to teach in the secondary schools are required to enroll in the teacher education program; for details, contact the College of Education and Counseling.

# Horticulture, Forestry, Landscape and Parks (HO, LA, PR, PRM)

Peter Schaefer  
Department of Horticulture, Forestry, Landscape and Parks  
Northern Plains Biostress Laboratory 201A  
605-688-5136  
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## Faculty

Professor Schaefer, Head; Professors Ball, Fennell, Graper, Johnson, Maca, Stubbles; Professors Emeriti Collins, Peterson; Associate Professors Morabito, Schleicher; Associate Professors Emeriti Johnson, Martin; Assistant Professor Burrows; Instructor Hilgers, James; Instructor Emeritus Evers; Adjunct Faculty Doolittle (PS), Shunguang (EROS).

## Programs

The Department offers instruction leading to the Bachelor of Science in Agriculture degree with majors in Horticulture, Landscape Architecture, and Park and Recreation Management. Courses are offered in Horticulture (HO), Landscape Architecture (LA), Park Management (PR), and Park and Recreation Management (PRM). See the Course Descriptions section of this catalog.

## Horticulture (HO)

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

- Students interested in crop management and production technologies of greenhouse, nursery, turf, fruit, or vegetable crops can tailor their program of studies using the Production Specialization curriculum.
- Students interested in pursuing careers in managing nurseries, landscape maintenance, turf management, arboriculture, or garden center or greenhouse businesses should follow the Business Specialization curriculum.
- Students interested in graduate study should follow the Science Specialization curriculum.

## Landscape Architecture (LA)

Landscape Architecture is the art of design, planning, and management of outdoor spaces for human use and habitation. Cultural and scientific knowledge are applied to the use and arrangement of natural and manmade elements with concern for resource conservation, stewardship, and the environment. Graduates work in a wide variety of areas in the landscape industry, as designers and planners in public and private practice, and as environmental designers and managers.

## Park and Recreation Management (PRM)

Park and Recreation professionals are needed to meet recreation demands resulting from expanding populations, increased leisure time, greater mobility and changing social attitudes. The curriculum in Park and Recreation Management is designed to prepare students for professional positions in parks and outdoor recreation, and recreation

programming and administration. A minor in Public Recreation is also offered. Two areas of specialization are available:

- 1) Students interested in parks and outdoor recreation, and employment with federal, state, county and municipal parks and recreation agencies and with private recreation and tourism enterprises, can tailor their program of study using the **Park Management Specialization** curriculum; offered through the Horticulture, Forestry, Landscape and Parks department.
- 2) Students interested in recreation programming and administration, and employment with municipal recreation agencies, YMCA/YWCAs, business, and therapeutic recreation in clinical as well as community settings, should follow the **Public Recreation Specialization** curriculum, offered through the Health, Physical Education and Recreation department (see page 222).

## **Hotel and Foodservice Management (HFM)**

(See Nutrition, Food Science and Hospitality)

## **Human Development and Family Studies (HDFS)**

(See Human Development, Consumer and Family Sciences)

## **Human Development, Consumer and Family Sciences (CA, ECE, FCS, FCSE, HDFS)**

Andrew Stremmel  
Department of Human Development, Consumer and Family Sciences  
SNF 369  
605-688-6418  
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### **Faculty**

Professor Stremmel, Head; Professors Enevoldsen, Gilkerson, Helling, Nichols, Wilson; Professors Emeriti Kranzler, Richardson; Associate Professors Penor Ceglian, Cutler, DeBates, Gardner, Oscarson; Assistant Professors Gillman, Yao; Instructors Bowne, Brokmeier, Clarke, Graves, Kampmann, Venhuizen.

### **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, Dakota State University, Northern State University, or University of South Dakota. Minimum college and

university requirements are given in the appropriate sections of this catalog and are incorporated into curriculum plans for each major. Advisers assist students in personalizing their curriculum plans and ensuring all requirements are met.

### **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 (K-Grade 2), Head Start and related programs. Students may also elect to participate in the Cooperative Elementary Program. This area of study requires a major in Early Childhood Education at SDSU and an additional 2-3 semesters of Elementary Education certification coursework at BHSU, DSU, NSU, or USD.

### **Family and Consumer Sciences Education Major**

Graduates meet certification requirements to teach Family and Consumer Sciences. They develop abilities in management, planning, communication and organization, leading to careers in education, teaching, Cooperative Extension, business, government and community services.

### **Human Development and Family Studies Major**

The major focuses on human development, behavior, and relationships throughout the lifespan. Coursework, observation, and practical experience offer students the knowledge, skills, and experiences necessary for careers in individual and family service settings, child focused human services, and/or continued coursework in graduate school.

### **Minors**

Minors are available in Gerontology; Consumer Affairs; Human Development and Family Studies; and Leadership and Management of Nonprofit Organizations.

## **Human Nutrition**

(See Nutrition, Food Science and Hospitality)

## **Industrial Management (IM)**

(See Engineering Technology and Management)

## **Interior Design (ID)**

(See Apparel Merchandising and Interior Design)



# Journalism and Mass Communication (MCOM)

Mary Peterson Arnold  
Department of Journalism and Mass Communication  
Yeager Hall 211  
605-688-4171  
e-mail: mary.arnold@sdstate.edu

## Faculty

Professor Arnold, Head; Professor Getz, Olson; Professors Emeriti Lee, Markland; Associate Professors Giago, Lucchesi, Hinde, Paulson; Associate Professor Emeritus Laird, Perpich; 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 specializations 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 Specialization.** Students who want to be reporters or editors for newspapers, magazines, wire services or who want to work in photojournalism, public relations, or government information agencies usually take this specialization.

**Broadcast Journalism Specialization.** Students who want to work in news in radio and television take this specialization.

**Advertising Specialization.** Students who want to work in marketing communications, advertising sales or production or who want to work in advertising agencies or with advertising departments take this specialization.

**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 basic newswriting, and other journalism courses to total 16 credits.

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

**Facilities.** The Department moved into expanded and renovated facilities in 2000 that cost \$2.4 million. There are four computer laboratories — for newswriting; for news editing and typography; for broadcasting and advertising; and for photojournalism. All have state-of-the-art equipment. Broadcast and advertising courses are in the Joe L. Floyd News Media Laboratory. It is equipped with high-end Macintosh computers and connected to digital video and audio production suites. There are two conference rooms, a reading room, a student lounge, and individual offices for the Department's nine faculty members. The journalism building has been renamed Yeager Hall in recognition of the contributions of Anson and Ada May Yeager. Mr. Yeager was the long-time editor of the *Argus Leader* in Sioux Falls.

## Lakota (LAKL)

(See Modern Languages)

## Landscape Architecture (LA)

(See Horticulture, Forestry, Landscape and Parks)

## Latin American Studies (LAS)

Maria Ramos  
College of Arts and Science  
SNF 121A  
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## 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 curriculum is tailored for those desiring a Latin American background in conjunction with a disciplinary specialization in fields such as history, economics, political science, geography, anthropology, Spanish American literature, sociology, and global studies, or in one of the professional colleges. As a result the student will normally carry a major in a particular discipline such as Food and Nutrition or Agronomy together with the LAS minor. This minor provides preparation for additional vocational opportunities in Agriculture, Family and Consumer Sciences, Nursing, Foreign Service, Peace Corps, international business and numerous positions with government, the United Nations and private corporations involved with or in Latin America. The minor should also facilitate improved communication and understanding between the peoples of these countries and the United States. Courses should be integrated with the student's vocational major. The student should see a faculty adviser and the coordinator of LAS.

## **(Pre-) Law**

**Robert Burns**  
Department of Political Science  
Scobey Hall 308  
605-688-4909  
e-mail: robert.burns@sdstate.edu

### **Area of Study**

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 Studies and Outreach Programs. 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.

## **Leadership and Management of Nonprofit Organizations (LMNO)**

**Cindi Penor Ceglian**  
Department of Human Development, Consumer and Family Sciences  
SNF 409  
605-688-4007  
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### **Programs**

An interdisciplinary minor in Leadership and Management of Nonprofit Organizations is available at the undergraduate level. A total of 18 credits are required from various disciplines. Interested students need to declare their intent to minor to the coordinator.

## **Liberal Studies**

**Gail Dobbs Tidemann**  
College of General Studies and Outreach Programs  
Medary Commons 121  
605-688-4153  
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### **Programs**

The Liberal Studies major is designed for students who have a personal and/or professional goal that cannot be met by an established major on campus. In addition to completing the core requirements and other graduation requirements of the University, the student must complete 40 credits of courses which accomplish the attainment of a uniquely defined goal. These 40 credits should be from two or more disciplines and should include both lower and upper division courses. Students may elect to pursue designated areas of study or complete one or more minors as part of their degree program. Students will select an academic adviser to assist in selecting courses to include in the Plan of Study. The Plan of Study form identifying the personal and/or professional goals, the courses to be taken, and an explanation of how the courses contribute to the goals must be submitted to the Dean of the College of General Studies prior to acceptance as a Liberal Studies student. The Plan of Study must be approved by the Liberal Studies review committee; any subsequent changes to the plan of study must also be reviewed. Students must be in Liberal Studies for at least two semesters prior to graduation and must complete a minimum of 24 credits after declaring Liberal Studies. A cumulative GPA of 2.2 is required for admission into Liberal Studies. Students pursuing the Liberal Studies degree at off-campus sites or through distance education must complete their program goal statement and have proposed Plan of Study courses reviewed prior to each semester by the review committee.

## **Manufacturing Engineering Technology (MNET)**

**(See Engineering Technology and Management)**

# Mathematics and Statistics (MATH, STAT)

Kurt Cogswell

Department of Mathematics and Statistics

Harding Hall 101

605-688-6196

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<http://www3.sdstate.edu/Academics/CollegeOfEngineering/MathematicsandStatistics/>

## Faculty

**Mathematics:** Associate Professor Cogswell, Head; Professors Kemp, Kindermann, Nielsen, Schaal, Schmidt; Professors Emeriti Ayers, Kranzler, Lacher, Monahan, Yocom; Associate Professors Abraham, Flint, Galster, C. Larson; Associate Professors Emeriti Broschat, Clever, Nelson; Assistant Professors Biesecker, Blaire, Massman, Roe, Struck; Assistant Professor Emeritus Trapp; Instructors Ahrendsen, Bahr, Brost, Hunter, B. Larson, Law, Leiferman, Springman, Werner.

**Statistics:** Professors Kim, Kindermann, Lacher, Nielsen, Wicks; Associate Professors Chen, Roe, Struck; Assistant Professors Galster, Harrar, Ke; Instructors Bahr, Brost, Ellingson.

## Mission

The mission of the Department of Mathematics and Statistics, in support of the College of Engineering and SDSU, is to provide excellent mathematical and statistical instruction, to support scholarly activity, and to make available a wide range of mathematical and statistical services to our local, regional, and global communities.

## Programs

### Mathematics Major (B.S.)

The Department offers the Bachelor of Science in Mathematics through both the College of Engineering and the College of Arts and Science. This program provides a rigorous preparation for the technically oriented student, the prospective mathematics teacher at the high school or middle school level, or the student preparing for graduate or professional programs. Graduates of the program find employment in business, industry, government, and education.

Beginning with MATH 123, Calculus I, 39 mathematics credits are required out of the 128 total credits required for graduation. Majors must earn at least a "C" in MATH 123 and all succeeding mathematics courses.

To complete a degree in mathematics, the student must complete the requirements of the Department, the College, and the University. These requirements are incorporated into the curriculum plans found in the section on Major and Minor Requirements, but students should also read the College of Engineering or the College of 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 Specialization

Students interested in teaching mathematics at the high school or middle school level should contact the College of Education and Counseling prior to their junior year to obtain the teacher education requirements. The mathematics requirements for teacher certification are given in the section on Major and Minor Requirements.

## Emphasis Areas

Within the Bachelor of Science in Mathematics program, students may pursue one or more of the following Emphasis Areas: Actuarial Science, Applied Mathematics, Mathematical Biology, Pure Mathematics, or Statistics. These emphasis areas are groups of courses designed to build strength in a specific area in preparation for either a career or graduate school.

## 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.

## Graduate Programs

The department offers a Ph.D. in Computational Science and Statistics, and a Master's Degree in Mathematics. A specialization in Statistics is available within the Master's Degree program. Please see the Graduate Bulletin for more details.

# Mechanical Engineering (ME)

Don Froehlich

Department of Mechanical Engineering

Crothers Engineering Hall 216

605-688-5426

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<http://www3.sdstate.edu/Academics/CollegeOfEngineering/MechanicalEngineering>

## Faculty

Professor Froehlich, Head; Professors Delfanian, Moutsoglou, Remund; Associate Professor Bassett; Assistant Professors Duan, Hu; Instructors Peters, Twedt; Professor Emeriti Ghazi.

## 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.

The mission of the Department of Mechanical Engineering, in support of the mission of the College of Engineering, is to provide a highly respected, rigorous, and practical professional education for Mechanical Engineering students oriented toward applied problem solving; to conduct meaningful research which broadens the base of engineering and scientific knowledge with a regional emphasis, and to provide technology based and related managerial assistance to existing and emerging businesses, industry and government.

The Mechanical Engineering program provides a learning environment that allows graduates to achieve our educational program objectives of having individuals become:

- A. Engineers who have the knowledge and skills of mathematics, science and engineering and are capable of analyzing and solving problems including design and team-based engineering.
- B. Engineers who are technically educated and have an awareness of global and contemporary engineering issues and practices.
- C. Engineers who have a desire for lifelong learning and who are ethical, effective, professional contributors of society.



The Mechanical Engineering program at SDSU is accredited by the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET).

Mechanical Engineers have a remarkable range of career directions from which to choose. Work is in research, development, design, testing, manufacturing, operations and maintenance, marketing and sales, or in management and administration. Mechanical Engineers can work in industry, business, government or in educational institutions. They can also work with other professions such as law and medicine. Mechanical Engineers are employed in almost all industries including automotive, chemical, 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 of 136 credits is made up of courses in: Basic Sciences, Engineering Sciences, Design, Communications, Humanities and Social Sciences. The Basic Sciences of mathematics, physics and chemistry provide the foundation for all engineering and technical courses. The Engineering Sciences are: solid mechanics, fluid mechanics, thermodynamics, heat transfer, 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.

Mechanical Engineering students are not allowed to randomly select humanities/arts and social science elective courses. The Mechanical Engineering Department recognizes the importance of the general education component of undergraduate education, and the need for this component to complement the technical content of an education in engineering, mathematics, science and technology. This connection is important for producing well-rounded graduates who will continue to meet the present and future needs of society. SDSU's General Education Core proficiencies, outlined in the General Education Course section of this catalog, are of great professional importance to all graduates. By choosing electives to meet the requirements of the goals of the System General Education Core (Gen Ed), and the goals of the Institutional Graduation Requirements (SDSU Core), students connect their general education component to their technical curriculum and thus strengthen their professional competence.

A two-semester sequence taken in the senior year, 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. Also, opportunity is given to take technical electives including courses in thermal engineering, machine design, aerospace engineering, industrial engineering and environmental engineering.

Outcomes of the program are that ME graduates have:

- an ability to apply knowledge of mathematics, science, and engineering including multi-variable calculus, differential equations, statistics, and linear algebra
- an ability to design and conduct experiments, as well as to analyze and interpret data
- an ability to design a system, component, or process to meet desired needs

- an ability to function on multi-disciplinary teams
- an ability to identify, formulate, and solve engineering problems
- an understanding of professional and ethical responsibility
- an ability to communicate effectively
- the broad education necessary to understand the impact of engineering solutions in a global and social context
- a recognition of the need for, and an ability to engage in lifelong learning
- a knowledge of contemporary issues
- an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The Department helps 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, 496, or 497. These credits, upon approval, will fulfill part of the technical-elective requirements.

In addition to the Graduation Requirements and Academic Performance Requirements specified in this catalog, the following grade requirements must be met to earn a Bachelor of Science Degree in Mechanical Engineering: a combined average of "C" or better in the Mechanical Engineering courses; a combined average of "C" or better in the mathematics courses; a minimum grade of "C" in each of the following courses: MATH 123, MATH 125, PHYS 211, ME 311, ME 312 and all EM designated courses. Students that fail to earn a C or better in any of these courses, will be required to take them in each subsequent semester until the requirement is met. Students must follow course prerequisite requirements. Graduating seniors must take the Fundamentals of Engineering or similar test as an exit exam.

Each Mechanical Engineering student is assigned an academic adviser who provides valuable assistance with professional career advice, course planning and class scheduling. Students should meet with their adviser at least twice per semester for assistance with their progress and course planning. A student's graduation checklist must be filled in and forwarded to the department head during the second to last semester of a student's program. Students of the Mechanical Engineering program should read and follow the additional University and College of Engineering policies, procedures and requirements along with objectives and expectations as listed in the front sections of the catalog.

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

## **Medical Technology (MEDT)**

**(See Chemistry/Biochemistry)**

## (Pre-) Medicine

Carol M. F. Wake

Department of Biology and Microbiology

Agriculture Hall 304

605-688-5756

e-mail: carol.wake@sdstate.edu

### Advisers

Dr. Don Auger, Dr. Michael Hildreth, Dr. Scott Pedersen, Dr. Carol Wake, Ms. JoAnn Willgohs.

### Area of Study

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 pre-medicine program is coordinated by the College of General Studies and Outreach Programs. The curriculum is designed to be compatible with many different majors at South Dakota State University. It includes the following typical medical school minimum admission requirements: one year each of biology and physics with laboratory; mathematics, 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.

The student's adviser will have knowledge of requirements for all medical schools in the U.S. Pre-medicine students are encouraged to prepare to meet the entrance requirement for several medical schools of their choice.

The pre-med advisers can assist in course selection, choosing a major, preparing for the Medical College Admission Test (MCAT), and in the application process as handled by the American Medical College Application Service (AMCAS).

Refer to the Association of American Medical School website at <http://www.aamc.org> for more specific information on the application process as well as information on specific medical schools or visit the pre-professional section under academics on the SDSU website.

## Microbiology (MICR)

Tom Cheesbrough

Department of Biology and Microbiology

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605-688-6141

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<http://biomicro.sdstate.edu/bio>

### Faculty

Professor Cheesbrough, Head; Professors Bleakley, Dieter, Cochrane, Evenson, Gibbons, Granholm, Henebry, Hildreth, Johnston, Kayongo-Male, Larson, Reese, Ruffolo, Sutton, Troelstrup, West, Whalen, Yen; Professors Emeriti Baker, Chen, Hartel, Hughhins, McMullen, Morgan,

Myers, Peterson, Pengra; Associate Professors Brozel, Erickson, Gibson, Gilmanov, Pedersen, Wake; Associate Professor Emeritus Morrill; Assistant Professors Auger, Kaushik, Hardwidge, Krueger, Wang, Xu, Young; Instructors Ellis, Hill, McCutcheon, Willgohs; Adjunct faculty G. Bush (Identity Genetics), E. Butler (Igne), J. Butler (USFS), Chase (Vet.Sci.), Diggins (Augustana), Fennell (HFLP), Francis (Vet.Sci.), German (WRI), Henning (DS), Henery (USDSU), Johnson (PS), McFarland (ARS), Matzner (Augustana), Nelson (Vet.Sci.), Reidel (NGIRL-USDA); Rietz (Brookings Medical Clinic), Steece (CUC), Specker (FFS), Tood.

### Programs

The Biology and Microbiology Department offers curricula leading to the Bachelor's degree with a major in Microbiology. A Bachelor of Science in Biological Science, major in Microbiology is offered in the College of Agriculture and Biological Sciences. A Bachelor of Science with a major in Microbiology is also available in the College of Arts and Science. The two programs are identical except for the individual college's requirements. Students majoring in Microbiology will select among four areas of specialization depending upon their particular interest and needs: (1) Microbiology, (2) Molecular Biology, (3) Infectious Disease, and (4) Environmental and Applied Microbiology.

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

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

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

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

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

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

# Military Science (MSL)

## (Army ROTC)

Lieutenant Colonel Mike Herman  
Department of Military Science  
DePuy Military Hall 200  
605-688-6151  
e-mail: garnet.wosje@sdstate.edu

## Faculty

LTC Mike Herman Professor of Military Science, Head; Professor Emeritus Adams; Assistant Professors of Military Science: Captain Kutscher, Captain Ness; Master Sergeant Santos; Sergeant First Class Chavez.

## Programs

The Department of Military Science offers instruction and practical experience in leadership and management, the development of selected military skills and problem solving techniques, the role of the Army in modern society, the customs and traditions of the Army, marksmanship, military law, administration and professional ethics. Military Science training prepares qualified students seeking a baccalaureate or master's degree to serve as commissioned officers in the active Army, the Army National Guard or the Army Reserve.

The Department has three on-campus training programs: 1) the four-year program consisting of the basic course for freshmen and sophomores followed by the advanced course for juniors and seniors; 2) a three-year program where the basic course is compressed into the sophomore year followed by the advanced course; and 3) a two-year program. The first entry point is where placement credit is allowed for the basic course to qualified veterans and members of the Army National Guard and the Army Reserve. A second entry point is available to students who desire to be paid for the equivalent of the basic course by attending the ROTC National Leader's Course in the summer prior to their junior year. By enrolling in the basic course or its equivalent substitute, students **do not make any commitment to the U.S. Army unless they are scholarship recipients**. Tuition is not charged for ROTC courses. ROTC textbooks, uniforms and other essential materials are furnished to the Basic Course student at no cost. Fifty percent tuition credit for Advanced Course Non-scholarship cadets is available.

To be eligible for commissioning, cadets must complete a course in Military History and pass water survival training. Contact the Department for requirements.

## Requirements for Advanced Course

All those enrolling in the Advanced Course must:

1. Have completed the Basic Course or its equivalent.
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 that 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 \$300, \$350,

\$450, and \$500 a month subsistence allowances are provided each semester. Four Year Scholarship competition is conducted by the Department of the Army for university bound high school students.

Applications are available from high school guidance counselors, on line at [www.armyrotc.com](http://www.armyrotc.com) or directly from SDSU Army ROTC by contacting the Department of Military Science, Box 2236, University Station, Brookings, SD 57007-1597 or call 605-688-6151, or e-mail [garnet.wosje@sdstate.edu](mailto:garnet.wosje@sdstate.edu).

## Optional Army Schooling Available to Qualified Cadets

1. Airborne training at Fort Benning, Georgia for 3 weeks
2. Air Assault training for 10 days
3. Cadet Troop Leader Training at selected Army posts with an active Army or Reserve component unit for 2 to 3 weeks
4. Northern Warfare training at Fort Greely, Alaska for 3 weeks
5. Nursing Summer Training Program at selected Army hospitals
6. British Exchange Program
7. Professional internships in specific major areas

## Minor in Military Science

A minor in Military Science is available for those who complete 18 credits offered and who enroll and successfully complete MSL Leader Development and Assessment Course. This minor is compatible to fields of major studies.

## (Pre-) Ministerial

Dennis Bielfeldt  
Philosophy and Religion  
Scobey Hall  
605-688-4934  
e-mail: [dennis.bielfeldt@sdstate.edu](mailto:dennis.bielfeldt@sdstate.edu)

## Area of Study

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 Liberal Studies degree or selection of a major in any humanities or social science area, focusing electives around a core of religion and philosophy courses as selected from the more than 30 hours available in these areas.

## Modern Language

## Business-Economics Specialization

Maria Ramos  
Department of Modern Languages  
SNF 121A  
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This specialization is designed for language majors or minors who plan careers in international business. Students who wish to pursue this specialization are encouraged to indicate this fact to their adviser as early as possible. See page 215 for details.

# Modern Languages (MFL)

**Maria Ramos**  
Department of Modern Languages  
SNF 121A  
605-688-5102  
e-mail: maria.ramos@sdstate.edu

## Faculty

Associate Professor Ramos, Head; Professors Emeriti Baker, Bates, Beattie, Cardenas, Iden, Redhead, Richter, Sunde; Associate Professor Baggett; Assistant Professors Bouchard, Owens, Rolz, Spitz; Instructors Benevento, Garst-Santos, Fernandez-Garrido, Snell-Feikema, Tooke, Iverson, Villarreal.

## Programs

The Department of Modern 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 modern languages (101, 102, 201, 202) may do so in any one of five languages: Arabic, French, German, Lakota, or Spanish.

Students entering the University with a background in modern languages are strongly encouraged to request a copy of the Department's placement policy. Students who are prepared to take courses beyond 101 (up to 310 or 311, except SPAN 211, 212) may apply to receive credit for all previous courses up to 202. Even if the student's career goals do not center on a modern language, a strong background in a language may make a second major or a minor feasible.

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

Additional information on the Department's programs is found elsewhere in this Catalog. The Department has placement information as well as specific information on all of its programs available in the main office of the Department of Modern Languages and on the department's web page.

## (Pre-) Mortuary

**Mark Binkley**  
College of General Studies and Outreach Programs  
Medary Commons 124  
605-688-4153  
e-mail: mark.binkley@sdstate.edu

## Area of Study

To meet the requirements as a mortician, funeral directors need specialized training. All states require those who embalm to be licensed. This field may require from one to four years of study with students earning a diploma, Associate of Applied Science (AAS) or Bachelor of Science (BS) degree at one of 50 accredited schools which offer programs in mortuary science. One or possibly two years of study may

be taken at SDSU. Certification includes passing required board exams and an apprenticeship in an approved funeral home. Leaders of the funeral service field are rapidly recognizing the need for education of the total person. Because the funeral director's work is diverse, he/she must draw upon knowledge of the social and economic fields as well as the scientific and artistic areas which the technical needs of the profession require.

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

## Music Education

(See Music)

## Music Merchandising

(See Music)

## Music (MUS)

**David Reynolds**  
Department of Music  
Lincoln Music Hall 204  
605-688-5187  
e-mail: paul.reynolds@sdstate.edu

## Faculty

Professor Reynolds, Head; Professors Crowe, Lis, McKinney, Taylor; Professors Emeriti Canaan, Colson, Hatfield, Johnson, Piersel, Walker, D.; Associate Professors Brawand, Crawley, Spencer, Walker; Assistant Professors Diddle, Grives, Toronto; Instructors Coull, Quam, Tobin.

## Programs

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

### Bachelor of Arts – Music Major (B.A.)

This program is recommended for those whose intellectual temperament is suited to the study of music within a liberal arts framework, irrespective of specific career aspirations.

### Bachelor of Science in 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. in Music Merchandising degree enables students to continue developing their musical skills along with in-depth study in Economics, Communications, Advertising, and Computer Science. The coursework 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 coursework 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, and while the required pedagogies develop proficiencies within the areas of specialization for B.M.E. students, a functional knowledge of instrumental or vocal techniques outside the specialty is also essential.

*For instrumental B.M.E. majors*, this must include one semester each of string, woodwind, brass, and percussion pedagogies. Six semesters will assure the broadest preparation through multiple levels of woodwind and brass pedagogy. In addition, instrumental B.M.E. majors must take one semester of applied voice lessons to ensure functional knowledge of vocal techniques.

*For vocal B.M.E. majors*, the four required semesters of vocal pedagogy are augmented by MUS 293 String, Wind and Percussion Techniques for Vocalists. An additional instrumental pedagogy will assure the broadest preparation. See the *Student Handbook* for options.

8. Recommendations for enrolling in student teaching will be issued by the Music Education Coordinator following an interview with the student and his/her adviser.
9. Recommendations for music merchandising students wishing to enroll for the Internship experience must be issued by the Music Merchandising Coordinator.
10. A senior recital is required of all music majors.
11. Majors and minors must enroll for Recital Attendance (MUS 185) each semester they are enrolled for applied music lessons. Specifics for this and all other music requirements are delineated in the *Student Handbook*. Music majors should refer to it regularly.

## Natural Resource Studies

Donald Marshall

College of Agriculture and Biological Sciences

Agricultural Hall 156

605-688-5133

e-mail: [academic.programs@abs.sdstate.edu](mailto:academic.programs@abs.sdstate.edu)

The earth's ability to support life is possible through efficient utilization of natural resources such as soil, water and air. Likewise, the earth's ability to sustain these resources will depend on specialists who protect and conserve these resources. If you have an interest in natural resource management, the outdoors, and the environment, you may want to consider a career in the natural resources.

South Dakota State University offers many majors related to the broad area of natural resources. A major in any one of these areas provides the science background needed to plan and implement management practices essential to maintain and enhance natural resources.

Programs in the natural resources area include: Agricultural and Biosystems Engineering, Agricultural Systems Technology, Agronomy, Biology, Environmental Management, Landscape Architecture, Park Management, Range Science, and Wildlife and Fisheries Sciences. These programs are based on a combination of sciences, so that students have a broad perspective of natural resource management 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, Dean

College of Nursing

SNF 255

605-688-5178 or 1-888-216-9806

e-mail: [roberta.olson@sdstate.edu](mailto:roberta.olson@sdstate.edu)

## Faculty

Professor Olson, Dean; Distinguished Professor Hegge; Professors Bunkers, Lord, Peterson, Sorenson; Professors Emeriti Blazey, Hofland; Associate Professors Carson, Craig, Dieter, Foland, Hendrickx, Kropenske, Lammers, Mylant, Smyer, Stenvig, Wey; Assistant Professors Becker, Elverson, Fahrenwald, Fjelland, Hobbs, Mann, Shaver, Tschetter, Voss; Assistant Professor Emerita Iken; Instructors J. Bassett, S. Bassett, Birch, Bohn, Boysen, Calhoon, Cissell, Gibbons, Goddard, Hanson, Hesson, Jahn, Kertz, Klawiter, P. Kirby, Lane,



Maurer, Pawelek, Pickard, Pravecsek, Randall, Sieverson, Symes, Wiebe, White, Winterboer; Instructor Emerita Nelson.

### **Pre-Nursing and Nursing Major**

Any student eligible for regular admission to SDSU who plans to enroll in the College of Nursing and Department of Undergraduate Nursing is accepted into pre-nursing and has an adviser from the College of Nursing. During the semester in which students are completing their final pre-nursing required courses, they apply for admission to the nursing major.

The College of Nursing offers three undergraduate program options for students to complete a nursing major.

The **Standard Option** is designed to meet the educational needs of persons who are not registered nurses. The Standard Option is a five-semester program that can be completed in two and a half years.

The **RN Upward Mobility Option** is designed as a degree completion for registered nurses who have completed academic diploma or associate degree nursing programs.

The newest option, the **Accelerated Option**, is for students who have completed a bachelor's or a master's degree in any field and wish to obtain a Bachelor of Science degree in Nursing. The Accelerated Option is an intensive course of study that is delivered in a compressed format over 12 months.

### **Admission to the Nursing Major**

Students in the Standard Option are admitted to the nursing major for both the Fall and Spring semesters on the Brookings campus and for the Spring Semester only on the Rapid City campus. Students in the Accelerated Option are admitted once a year at the beginning of the 12-month cycle at the Sioux Falls campus. Clinical and theory classes are taught in Sioux Falls. Students who want to enter the nursing major are required to submit an application for admission to the major. Prior to applying to the nursing major, however, a student must apply and be accepted for admission to SDSU.

Students may apply to only one program site (campus) at a time. The number of students accepted to enroll in the major may vary depending upon available clinical facilities, qualified faculty and funds. Selection is made from among the best qualified for the study and practice of nursing.

Applications to the major online at College of Nursing website: [www3.sdstate.edu/Academics/CollegeOfNursing/AdmissionInformation](http://www3.sdstate.edu/Academics/CollegeOfNursing/AdmissionInformation). To enter for the Spring Semester, the deadline to apply for admission to the Standard Option is September 25. To enter Fall Semester, the deadline is January 25. Deadlines for application to the Accelerated Option is April 1 and the RN Upward Mobility Option is March 1. Students interested in the RN Upward Mobility Option should contact the RN Upward Mobility office on the Brookings campus for individual advising. RN Upward Mobility students may have no more than 7 credits of support courses remaining at the time of application to enroll in the nursing courses. Speaking with an adviser is extremely important to be able to progress through the program on a timely basis. Failure to submit a completed application by the deadline may automatically disqualify the applicant from being considered for enrollment in nursing major courses for the coming semester.

To be considered for admission to the Standard Option, students must have a 2.7 GPA or higher and a grade of "C" or higher in all completed required nursing major support courses. All required pre-nursing courses must be completed or in progress at time of application. Additionally, students must have completed MATH 102, ENGL 101, GR 143 or WEL 100, SPCM 101, and 6 credits of Humanities. Fulfillment of course requirements does not ensure admission. Students are selected competitively based on the total applicant pool. Specific information on criteria for selection may be obtained from the Department of Nursing

Student Services at the Brookings campus or the Nursing Student Services Coordinator at the Rapid City campus.

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* are outlined in the *Pre-Nursing Student Handbook*, which is available through the Department of Nursing Student Services at the Brookings campus and through the Academic Adviser at the Rapid City campus. The *Pre-Nursing Student Handbook* may also be accessed from the College of Nursing's web page: [www3.sdstate.edu/Academics/CollegeofNursing](http://www3.sdstate.edu/Academics/CollegeofNursing).

Transfer students who have begun but not completed a nursing program at another college or university must submit a letter to the College of Nursing indicating their reason for transfer. They must also apply for admission to SDSU, as well as to the College of Nursing. Three letters of recommendation must also be submitted to the College of Nursing: one from the dean/director of their former program and two from faculty members.

As the nurse is a professional who deals with human lives, it is mandatory that a higher level of English fluency be met in order to ensure the safety of clients and students. The *English as a Second Language* requirement for the College of Nursing is higher than it is for other colleges in the University. The College of Nursing requires all students who meet the definition of students with English as a Second Language to attain a score of 560 on the *Test of English as a Second Language (TOEFL)*, with no section score below a score of 56. They must also attain a score of 3.25 on the *English Language Teaching Association (ELTA) Oral Interview Exam*, with no section score below a 3. These scores are required before the student will be accepted into the major. The student is responsible for all testing fees. Contact Student Affairs, SDSU, Administration Building 312, Box 2201, Brookings, SD 57007. Phone 605-688-4122; e-mail: [sdsu.intlstud@sdstate.edu](mailto:sdsu.intlstud@sdstate.edu) or Fax 605-688-5951.

### **Requirements for Continuation in the Nursing Major**

A GPA of 2.5 or higher is required for continuation in the nursing major.

A grade of "C" or higher is required in all nursing courses.

Students may repeat one failed nursing course with *permission*. Upon failing a second nursing course, the student is dismissed from the program. A student who needs to retake a failed course is re-enrolled in the course on a space available basis.

A student who fails a course due to unsafe practice in a clinical experience will not be eligible for readmission to the nursing major, unless evidence is submitted that the unsafe behaviors have been corrected.

All undergraduate and graduate nursing students are expected to adhere to the principles of the *Code of Ethics for Nurses* (American Nurses Association, 1985). The *Code of Ethics for Nurses* communicates a standard of professional behavior expected throughout the total program and in each individual nursing course. Therefore, in addition to dismissal for academic failure, the faculty and administration of the Departments of Undergraduate Nursing and of Graduate Nursing reserve the right to dismiss any student enrolled in either the undergraduate or graduate program for unethical, dishonest, illegal, or other conduct that is inconsistent with the *Code of Ethics for Nurses*.

# Nutrition, Food Science and Hospitality (NFSH)

Chunyang (C. Y.) Wang

Department of Nutrition, Food Science and Hospitality

SNF 425

605-688-5161

e-mail: cy.wang@sdstate.edu

## Faculty

Professor Wang, Head; Professors Dalaly, Krishnan, Specker; Professors Emeriti Colburn, M. Crews, Deethardt; Associate Professor Chipman, G. Crews, Kattelmann, Sergeev; Associate Professors Emeriti Guild, M. Rose, R. Rose, Shank; Assistant Professor Droke, Frantz; Instructors Baumberger, Behrend, Davies, Hegerfeld, Howard.

## Programs

The Department offers the Bachelor of Science degree with majors in Hotel and Foodservice Management (Foodservice Management specialization and Hotel and Hospitality Management specialization) and Nutrition and Food Science (Dietetics specialization, Food Science specialization, and Nutritional Sciences specialization), and a minor in Nutrition.

### Hotel and Foodservice Management

The Hotel and Foodservice Management program provides a firm foundation in both lodging and foodservice operational management supported by a strong background in business and economics. On-the-job work experience for credit strengthens the academic program. Students with up to two years general education credits will usually find that most of their credits will transfer into this program.

### Hotel and Foodservice Management – Foodservice Management Specialization

Foodservice management provides students with a focused experience in food preparation and service, with emphases on leadership and management. Practical hands on experiences, both in the classroom and in the field, broaden students' knowledge and increase their employability. Students obtain sanitation certification as part of the Foodservice Management specialization. Career opportunities range from quick service and fine dining to purchasing, food brokering, sales and catering. Students are well prepared for leadership and management opportunities in the rapidly expanding food-related hospitality industry.

### Hotel and Foodservice Management – Hotel and Hospitality Specialization

Hotel and hospitality management emphasizes the rapidly expanding hospitality industry ranging from convention sales to conference coordinator, from travel and tourism director to hotel general manager. Students receive a firm foundation in business, economics and accounting in order to be competitive in the highly challenging and rapidly changing corporate world of the hospitality industry. From entrepreneurs who want to own and operate their own business to international opportunities in the expanding hospitality industry, students can pursue a variety of different career options in food, lodging, casino and bar management.

### Nutrition and Food Science – Dietetics Specialization

Dietetics offers a wide variety of jobs in hospitals, health promotion programs, nursing homes, public health agencies, industries, schools, universities, the armed services, and state, national and international organizations. Governmental regulations require the services of dietitians in federally supported programs. The consulting services of a

dietitian are often sought by architects and hospital administrators in planning and equipping food preparation and services facilities.

A dietitian must have a good background in the basic and behavioral sciences to apply the science of nutrition for the promotion of health and the prevention of disease.

A dietitian is essential to the total care of a patient in a healthcare facility, giving nutritional guidance and instruction. Dietitians also work in clinical research units. The role of a dietitian is changing with changes in health care and has become more involved in preventive health care and in community nutrition programs.

Through the program in dietetics, students develop an understanding and competency in food, nutrition, and management of a dietary department. The curriculum is approved by the American Dietetic Association (ADA). Completion of an internship at one of approximately 250 sites in the United States or other ADA approved experience qualifies the student to take the registration exam. The program has been granted approval status by the Commission on Accreditation for Dietetics Education of The American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, 312-899-0040 Ext 5400.

Students interested in earning a degree in the Nutrition and Food Science major (Dietetics Specialization) will be accepted into the Nutrition, Food Science and Hospitality 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, Food Science and Hospitality 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 Specialization

Food Science prepares students for professional positions in the food manufacturing industry or for graduate study in Food Science.

Food Science is the discipline in which the biological and physical sciences and engineering are used to study the nature of foods, the causes of food deterioration, and principles of food preservation. Creative approaches are employed to develop new food products for the rapidly changing consumer who desires good taste and good nutrition at a good price. Food scientists apply science to the selection, preservation, processing, packaging, and distribution of food. Students with a background in the many science areas during the first two years in college may transfer into the program with minimal credit loss.

Numerous high-paying employment opportunities exist for food science graduates who are searching for fulfilling careers in the national and international food industry. The food industry is searching for individuals interested in product development, technical sales, quality control and research. Additional career experiences exist in both government and regulatory agencies.

### Nutrition and Food Science – Nutritional Sciences Specialization

This specialization is designed as a pre-med curriculum. It has a similar curriculum to dietetics. This specialization will prepare you well for pursuing further interests in human nutrition in graduate school, medical school, and other professional schools. Many job opportunities also exist for nutritionists with a B.S. degree. They can be employed by the food industry, government agencies, and research institutions.

## **(Pre-) Occupational Therapy**

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

### **Area of Study**

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 advising 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 or doctoral degree. Students must complete a certain number of required courses before applying to a professional occupational therapy program.

## **(Pre-) Optometry**

**Bruce Bleakley**  
Department of Biology and Microbiology  
Northern Plains Biostress Laboratory 251B  
605-688-5498  
E-mail: bruce.bleakley@sdstate.edu

### **Area of Study**

There are 17 American Optometric Association accredited member schools and colleges of optometry listed by ASCO (Association of Schools and Colleges of Optometry). Students graduating from SDSU with above average grades and competitive Optometry Admissions Test (OAT) scores have been successful in the admissions process. The average GPA for successful applicants is often 3.0 to 3.5 for colleges of optometry. Students usually have completed three years of college work. The majority of students entering professional schools of optometry have completed work for the bachelor's degree. Students are encouraged to complete a bachelor's degree.

The prospective optometric student should begin as early as possible to acquire an education in the fundamental sciences with the proper selection of pre-professional courses. Required courses include physics, mathematics, English, biological science, anatomy, chemistry and psychology. A program incorporating these courses should be selected to meet the requirements of professional schools of optometry and provide a good background for the Optometry Admissions Test. Certain optometry colleges may also require additional specific classes. For additional information and specific requirements of each college of optometry, please refer to the website for ASCO (Association of Schools and Colleges of Optometry), <http://www.opted.org>.

It is strongly recommended that pre-optometry students contact the pre-optometry adviser as soon as possible after declaring an interest in optometry.

## **Park and Recreation Management (PRM)**

(See Horticulture, Forestry, Landscape and Parks, or Health, Physical Education and Recreation)

## **Pest Management**

(See Plant Science)

## **Pharmacy (PHA)**

(See College of Pharmacy)

## **Pharmaceutical Sciences**

**Chandradhar Dwivedi**  
Department of Pharmaceutical Sciences  
Shepard Hall 309  
605-688-6198  
e-mail: chandradhar.dwivedi@sdstate.edu  
[www3.sdstate.edu/academics/collegeofpharmacy](http://www3.sdstate.edu/academics/collegeofpharmacy)

### **Faculty**

Professor Dwivedi, Head; Professors Guan, Hougum, Singh; Assistant Professors Davies, Fahmy, Palakurthi, Perumal, Seefeldt, 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 and the University General Education Core curriculum is confirmed through the awarding of a B.S. in Pharmaceutical Sciences. See the College of Pharmacy section of this catalog for admission requirements for the Pharm.D. professional program.

## **Philosophy and Religion (PHIL, REL)**

**Greg Peterson**  
Department of Philosophy and Religion  
Scobey Hall 318  
605-688-4933  
e-mail: greg.peterson@sdstate.edu

### **Faculty**

Associate Professor Peterson, Head; Professors Bahr, Bielfeldt; Professor Emeritus Nelson; Instructor Enander.

### **Programs**

Philosophy deals with the fundamental questions of life, including the nature of knowledge, the basis of morality and politics, and the rational analysis of religious beliefs. A philosophical perspective emphasizes clear thinking about what's truly important to live well.

The academic study of religion includes learning and understanding the history, beliefs, and practices of the world's many religious traditions. Religion scholars seek to understand how believers understand their own traditions as well as examining historical, psychological, and social factors that shape religious traditions.

Minors are available in both Philosophy and Religion, and may be earned either with a B.A. or a B.S. degree. Students may also pursue a Liberal Studies major with concentrations in philosophy and religion.

Study in philosophy and religion emphasizes critical thinking, the development of sharp reading skills, and mastery of written and verbal communication abilities that are applicable to a wide variety of professions. Courses in religion will be of particular interest for pre-ministerial students planning to go on to seminary, while courses in philosophy, especially logic, are useful for pre-law students. Students are encouraged to consult with faculty for recommendations for their own personal course of study.

## (Pre-) Physical Therapy

**Jim Booher**

**Department of Health, Physical Education and Recreation**

**Physical Education Center 265**

**605-688-5824**

**e-mail: jim.booher@sdstate.edu**

### Area of Study

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

Most schools of physical therapy now offer a master's or doctorate degree program. Students must have a basic science background and complete a certain number of required courses before applying to a professional physical therapy program.

## (Pre-) Physician Assistant

**JoAnn Willgohs**

**Department of Biology and Microbiology**

**Dairy-Microbiology 209A**

**605-688-5496**

**e-mail: jo.willgohs@sdstate.edu**

### Area of Study

SDSU offers pre-requisite courses to students interested in gaining admission to one of the more than 120 accredited physician assistant (PA) programs in the United States. Accredited PA programs have their own distinctive features, prerequisites, and missions designed to prepare students to become effective members of a health care delivery team.

All PA programs are expected to become master's degree programs, thus earning a baccalaureate degree while completing prerequisites for the PA school(s) of your choice is strongly recommended.

Generally speaking, all PA programs require one year each of general biology and general chemistry, one course each in human or animal anatomy and physiology, microbiology, biochemistry, and general psychology. All science courses need to have an accompanying laboratory. In addition, highly recommended courses include developmental and abnormal psychology, organic chemistry, genetics, immunology, and one year of math (including statistics).

A broad, general education including courses in communication, humanities, and social science is strongly recommended. Many PA schools also require a minimum of three months health care experience. An excellent source of information about accredited PA schools is the *Physician Assistant Programs Directory*.

Pre-requisites for most Accredited PA Programs:

Biology 151-153	8 credits
Chemistry 112/112L-114/114L	8 credits
Anatomy (BIOL 221/221L)	3 credits
Physiology (BIOL 325/325L)	4 credits
Microbiology (MICR 231/231L)	4 credits
Biochemistry (CHEM 464/464L)	4 credits
General Psychology	3 credits

Highly recommended courses include Lifespan Development (HDFS 210), Abnormal Psychology (PSYC 451), Organic Chemistry (CHEM 120/120L or 326-329), Genetics (BIOL 371), Immunology (MICR 422), Calculus (MATH 121/121L) and Statistics (STAT 281).

General Psychology, Organic Chemistry, and Biochemistry are additional courses students are encouraged to complete.

## Physics (PHYS)

**Oren Quist**

**Department of Physics**

**Crothers Engineering Hall 314**

**605-688-5428**

**e-mail: oren.quist@sdstate.edu**

**[www.engineering.sdstate.edu/~physics/physics.htm](http://www.engineering.sdstate.edu/~physics/physics.htm)**

### Faculty

Professor Quist, Head; Professors Browning, Rauber; Professors Emeriti Duffey, Graetzer, Leisure, Miller; Assistant Professor Aaron, Bonvallet, Huh, McTaggart; Instructor Vondruska.

### Mission

The mission of the SDSU Physics Department is to provide high quality physics instruction, to seek new knowledge, and to apply that knowledge for the improvement of the lives of humankind.

### Educational Objectives

Graduates of one of the physics programs at SDSU will compare favorably in their theoretical and technical knowledge with students completing similar programs nationally. They will be able to demonstrate proficiency in understanding and applying physics principles, and they will be productively employed.

### Programs

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

The Physics Department offers two curricula, or majors, leading to the Bachelors of Science (B.S.) degree: Physics and Engineering Physics.

## **B.S. Degree in Engineering Physics**

### **Educational Outcomes**

Graduates will have:

- a) an ability to apply knowledge of mathematics, science, and engineering;
- b) an ability to design and conduct experiments, as well as to analyze and interpret data;
- c) an ability to design a system, component, or process to meet desired needs;
- d) an ability to function on multi-disciplinary teams;
- e) an ability to identify, formulate, and solve engineering problems;
- f) an understanding of professional and ethical responsibility;
- g) an ability to communicate effectively;
- h) the broad education necessary to understand the impact of engineering solutions in a global and societal context;
- i) a recognition of the need for, and an ability to engage in life-long learning;
- j) a knowledge of contemporary issues; and
- k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The curriculum in Engineering Physics is built around a strong core of physics courses complemented by engineering courses. Students can earn an Engineering Physics degree with an emphasis in either mechanical or electrical engineering. This major is designed to give students the ability to apply new research developments to pressing problems of society and is most attractive to students interested in industrial employment. Graduates with an Engineering Physics degree typically enter employment as an engineer or continue graduate work in such fields as nuclear engineering, electrical engineering, mechanical engineering or aerospace engineering.

## **B.S. Degree in Physics**

### **Educational Outcomes**

The curriculum in Physics has the flexibility to accommodate a wide range of student interests. Students interested in a professional physics career, graduate school, medical school, secondary physics education, meteorology, or a multitude of related areas choose this major. Flexibility is achieved by building a curriculum around a core of 28 required physics credits. 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.

### **Minor in Physics**

The minor in physics consists of 17 credits as outlined in the section on Major and Minor Requirements.

## **Planning (PLAN)**

**Roger Sandness**

**Department of Geography**

**Scobey Hall 232**

**605-688-4511**

**e-mail: roger.sandness@sdstate.edu**

Planning is an essential part of most private and public activities. It is a process that can be learned and applied to increase effectiveness in decision-making and operations.

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)**

**, Acting Department Head**

**Department of Plant Science**

**Agricultural Hall 219**

**605-688-5123**

**Academic Programs Office**

**248A Northern Plains Biostress Lab**

**605-688-4450**

**e-mail: doug.malo@sdstate.edu**

**http://plantsci.sdstate.edu**

### **Faculty**

Professor, Head; Distinguished Professor Malo; Distinguished Professor Emeriti Wrage; Professors Beck, Berg, Boe, Bleakley, Carlson, Carter, D. Clay, S. Clay, Doolittle, Fuller, Gelderman, Gerwing, Hall, Johnson, Kephart, Kohl, Langham, Lemme, Rickerl, Schumacher, Scott, Smolik, Sutton, Turnipseed, Wicks, Woodard; Professors Emeriti Brage, Buchenau, Carson, Dybing, Evenson, Fine, Gardner, Horton, Kantack, Kenefick, Reeves, Shank, Shubeck, Walstrom, White; Associate Professors Catanguí, Chase, Draper, Ibrahim, Owens; Associate Professors Emeriti Colburn, Pollmann, Stymiest, Williamson; Assistant Professors Glover, Grady, Jeranyama, Moechnig, Nleya, Ren, Stein, Tilton; Assistant Professors Emeritus Bonnemann, Kingsley.

**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, Yen; (Chemistry) D. Evenson; (HFLP) Schaefer; (Biogenetics Inc.) Kahler; (GAEA, Inc.) Butler; (North Central Soil and Water Conservation Research Laboratory, Morris, MN-USDA/ARS) Forcella, Lindstrom; (North Central Agricultural Research Laboratory-USDA/ARS) Anderson, Dashiell, Ellsbury, French, Hesler, Lehman, Lundgren, Osborne, Pikul, Riedell; (P.P.I.) Fixen; (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, industry, and graduate school.

The Department offers instruction leading to the Bachelor of Science Degree with a major in Agronomy. Four areas of specialization are offered in the major: 1) Business, 2) Pest Management, 3) Production, and 4) Science.

The choice of an area of specialization 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 nationally recognized crops, soils, and weeds judging teams.

Graduate study opportunities may lead to Master of Science or Doctor of Philosophy degrees in Agronomy or Biological Sciences.

### **Agronomy Major**

Provides broad training in the plant and soil sciences and in crop production technology. The integrated program is designed to provide students with an understanding and knowledge base in crops, soils, weeds, entomology, plant pathology, and the interaction of production systems. This major is recommended for students interested in either agricultural production, agricultural resource management, or the agribusiness areas of crops, soils, and pest management. 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, Farm Service Agency, Agricultural Research Service, and Natural Resources Conservation Service.

## **Political Science (POLS)**

**Greg Peterson, Interim Head**  
**Department of Political Science**  
**Scobey Hall 318**  
**605-688-4933**  
**e-mail: greg.peterson@sdstate.edu**

### **Faculty**

Distinguished Professor Burns; Professors Lonoswski, Tolle; Professor Emeritus Cheever; Associate Professor Aguiar.

### **Programs**

Political science courses are designed to achieve the following objectives: convey the values and traditions of our democratic governmental institutions and processes and encourage students to assert their talents in preserving and nurturing those values and traditions through participation in the body politic; promote global awareness and understanding; engender critical thinking and a high proficiency in communication skills; serve the other social sciences as a cognate field; provide the student majoring in political science with foundation and advanced courses in the many sub-disciplines of political science which, 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 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. Majors may not apply Political Science credits toward general education requirements. Students who complete MATH 123 or MATH 121 may apply a total of 6 credits from CSC 205, STAT 281, SOC 307, and SOC 308 toward the 36 credit hours required for the political science major. You are encouraged to select at least one upper division course in each of the following fields within the major: American Government and Politics, Public Administration, Public Law, Comparative Government, International Relations, and Political Philosophy. Students must meet the University and College of Arts and Science requirements. Finite Math (MATH 104) may be used to satisfy B.A. and B.S. requirements in Political Science. Refer to the Majors and Minors Requirements section for SGE, IGR, Globalization, and Advanced Writing requirements.

### **Teaching Specialization**

If you are preparing to teach secondary school, take education block prerequisite courses in the sophomore and junior years. You must consult with the Dean of the College of Education and Counseling prior to your junior year. Set aside one semester for the education block and off-campus teaching assignment during your senior year.

### **Pre-law Emphasis**

Law schools require a bachelor's degree for entrance. Although a particular major is not specified, Political Science is a common choice because of its flexibility.

### **Public Administration Emphasis**

Students interested in working in government, non-profit organizations, or advocacy groups at the local, state, or national level should plan to take several courses related to public administration and American politics. Students are encouraged to take the practicum or an internship with a government agency or non-profit organization. Students with this focus might pursue the Leadership and Management of Nonprofit Organizations minor.

### **Criminal Justice Emphasis**

Consult advisers for minor requirements.

### **General Political Science Emphasis**

You may choose to take a very flexible program in Political Science. Such a program might be designed to lead to graduate work in Political Science, or employment in both the public and private sectors. Students with this focus might pursue the Applied Information Technology minor.

### **Research/Graduate School Emphasis**

Students wishing to pursue graduate studies in political science or careers in political opinion research should consider the research oriented alternative courses which may be applied toward the major.

## Psychology (PSYC)

Virginia Norris  
Department of Psychology  
Scobey Hall 336  
605-688-4322  
e-mail: virginia.norris@sdstate.edu

### Faculty

Professor Norris, Head; Professors Emeriti Branum, Hillner; Professor Phelps; Associate Professors Shaffer, Spear, Woldt; Assistant Professor Martin.

### Programs

The Department offers a Bachelor of Science degree with a major in Psychology. Students interested in preparation for a specific area may pursue one of three specializations: the graduate school preparation specialization, the teaching specialization (preparation for secondary school teaching), or the psychological services specialization.

The minimum departmental requirement for a psychology degree is 30 credits prefixed PSYC which include 101 or 102, 373 or 375, 390, and 409 and STAT 281. A minimum grade of "C" is required in all Psychology courses. Minimum college and university requirements are given in the appropriate sections of this catalog and are incorporated in the curriculum plans listed later. Advisers assist students to personalize curriculum plans.

#### Graduate School Preparation Specialization

The graduate school preparation specialization is designed to provide preparation for continued training in psychology at the graduate level. It establishes a strong foundation in principles of psychology, techniques for analyzing behavior, historical findings, and theoretical approaches.

#### Teaching Specialization

The Teaching specialization in psychology prepares students to qualify for certification to teach in secondary schools. Students pursuing this specialization should contact the College of Education and Counseling before their junior year to obtain complete teacher education information and guidance. See Teacher Education.

#### Psychological Services Specialization

The Psychological Services specialization is designed for those persons interested in working as diagnostic and therapeutic aides in human services facilities. The program for this specialization includes familiarization with standard tests and techniques of therapy, as well as a supervised senior internship at a treatment facility.

#### Minor

The minor in Psychology consists of the following courses: PSYC 101 or 102, and 14 or 15 additional credits of 300-400 level courses for a total of 18 credits.

## Range Science (RANG)

(See Animal and Range Sciences)

## (System) Reading Minor

Howard Smith  
College of Education and Counseling  
Wenona Hall 108  
605-688-4720  
e-mail: howard.smith@sdstate.edu

The purpose of this System-Wide Initiative minor is to provide additional study for undergraduate students in the preparation of teaching reading. It supports a continuum of preparation in reading from the undergraduate to graduate level and continuing professional development. Graduate preparation for K-12 practicing teachers can be obtained through the Reading Specialist Degree offered by SDSU graduate courses. The South Dakota Department of Education conducts reading initiatives for practicing K-12 teachers.

## Religion (REL)

(See Philosophy and Religion)

## Reserve Officer Training Corps Program (ROTC)

(See Aerospace Studies, Military Science)

## Restaurant and Institution Management (HFM, NFSH)

(See Nutrition, Food Science and Hospitality)

## Rural Sociology (SOC, ANTH)

Donna Hess  
Department of Rural Sociology  
Scobey Hall 224  
605-688-4132  
e-mail: donna.hess@sdstate.edu

### Faculty

Distinguished Professor Hess, Head; Distinguished Regental Professor Emeritus R. Wagner; Professors Arwood, Kayongo-Male, Mendelsohn, Stover; Professor Emeriti Faltemier, Satterlee; Associate Professors Grant, Joffer, Redlin; Assistant Professors O'Neill, Osowski.

### Programs

The courses offered by the Department have been organized with two objectives in mind: (1) a sequence for those who may wish to earn an undergraduate major or minor in sociology; and (2) basic service courses that will be of interest and practical help to students in any college. (Students interested in Graduate Program — see University Graduate Catalog and department graduate guide.)

The Department offers the B.A. and B.S. degrees in Arts and Science with a major in Sociology. An undergraduate may select from any of the following specializations in the Arts and Science curriculum. Each student is assigned to an adviser based on choice of specialization.



**General Sociology.** Incoming freshmen and transfer student majors usually will be assigned to this option. After taking courses in specialized areas, accomplishing a cumulative grade point average of at least 2.2 and working with General Sociology advisers, students may select any of the following specializations. Those desiring to gain a broad orientation to all areas of Sociology with anticipation of other career interests or graduate school may remain in general sociology.

**Teaching Specialization.** Prepares for entrance into middle school or senior high level teaching. These students in consultation with departmental Teaching Adviser and the College of Education and Counseling plan their program to accomplish other teaching endorsements to maximize employment opportunities. One semester is set aside for a teaching-block and off-campus teaching assignment. (Minimum GPA of 2.2)

**Social Work Specialization.** 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 specialization 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 specialization. (Minimum GPA of 2.2)

**Human Services Specialization.** 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 Specialization in that students are working toward a B.A. or B.S. degree in Sociology; whereas those in the Social Work Specialization are seeking a B.A. or B.S. in Social Work. (Minimum GPA of 2.2)

**Criminal Justice Minor.** Designed for students seeking careers in probation, parole, court services, pre-law, private security, or general law enforcement. Sociology majors in this minor will usually be working toward a B.A. or B.S. in General Sociology with a minor in Criminal Justice. Both are offered by the Department of Sociology. Students will be expected to work closely with their adviser within the Department to fulfill the necessary requirements of the program. (See CJUS for Minor requirements.) (Minimum GPA of 2.2)

**Human Resources Specialization.** Designed for those interested in working with employers and employees in business, industry, or organizations. Students are required to take Business, Economics, and Accounting electives. An internship is strongly encouraged.

#### **Minor**

Includes SOC 100, and 15 additional (SOC or ANTH) credits. Six credits must be numbered 300 or above.

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 281 Introduction to Statistics as a part of their general electives.

## **Safety Management (SM)**

(See Engineering Technology and Management)

## **Sociology (SOC)**

(See Rural Sociology)

## **Software Engineering (SE)**

**Dennis Helder, Head**

**Department of Electrical Engineering and Computer Science  
Harding Hall 201**

**605-688-4526**

**e-mail: [dennis.helder@sdstate.edu](mailto:dennis.helder@sdstate.edu)**

**<http://www3.sdstate.edu/Academics/CollegeOfEngineering/softeng/>**

### **Faculty**

Professors Salehnia, Shin; Associate Professor Overmeyer; Assistant Professors Fourney, Hamer, Lim, Liu.

### **Program**

Software Engineering combines the principles of engineering with the science of computing. The Software Engineering Curriculum is designed to provide students with a broad background of knowledge related to software, its development, architecture, configuration, revision, human interface, and quality assurance. Software Engineering is the application of engineering concepts, methods and tools to the development of software systems.

The mission of the program is to offer a Bachelor of Science degree in Software Engineering providing a rigorous, practical education for our students oriented toward problem solving; to conduct world-class research with a regional emphasis; and to provide technical assistance to existing and emerging businesses, industry, and government.

The Software Engineering program educational objectives are to equip individuals who, after graduation and initial work experience:

1. Are able to use mathematics, science, computing, and engineering knowledge, along with appropriate engineering tools, to solve problems.
2. Actively contribute to multi-disciplinary teams, communicate effectively, and are able to solve, as engineering, computing, and business problems, contemporary issues arising from society.
3. Utilize approaches and solutions to engineering and computing problems that are always framed in a morally and ethically responsible manner, and whose approaches and solutions indicate an awareness of the impact of their work on society at local to global scales, and who continue to learn in order to best solve such problems.

The program begins in the first year by developing abilities in mathematics, science, communications and basic programming skills. Following this are two years of intense study in software engineering topics. A two-semester capstone sequence taken in the senior year, Senior Design I-II, places every student on a design team that designs, builds, tests, and demonstrates a significant design project. The design projects are often solicited from industry and provide students with valuable “real world” team design experience.

## **Soils**

(See Plant Science)

## **Spanish (SPAN)**

(See Modern Languages)

## **Speech (SPCM)**

(See Communication Studies and Theatre)

## **Statistics (STAT)**

(See Mathematics and Statistics)

## **Teacher Education**

Lonell Moeller, Interim Head  
Department of Teacher Education  
Wenona Hall 108  
605-688-4376  
e-mail: Lonell.Moeller@sdstate.edu  
<http://learn.sdstate.edu/teachered/>

### **Faculty**

Professor Moeller, Interim Head; Professors Penrod, Rogers; Associate Professors, Andera, Boulware; Assistant Professors Emo, Phillips, Portillo, Rogness; Instructors Russow, Weber.

### **Programs**

Teacher education at SDSU is a certification program. Students choose a major and seek a B.S. or B.A. degree first in the academic subject or subjects of their choice. Once accepted into the teacher education program, they progress through a sequence of professional courses to acquire knowledge, skills and dispositions necessary for teaching. Students need to inform their major adviser of their interest in teaching and follow guidelines which are outlined for a teaching specialization. Advisers in teacher education also work with admitted students.

Many students complete their majors and professional training simultaneously; others earn their degree before beginning the professional sequence. In either case, those who successfully complete all requirements will be qualified to earn a certificate in: secondary teaching in one (or more) of 16 different subject areas or K-12 teaching in art, world languages, music, or physical education (the general elementary education program is a cooperative program with other Regental Institutions in South Dakota).

Admission to the teacher education sequence of courses requires an overall GPA of 2.5 and a major GPA of 2.6. Additional prerequisites are required and students seeking admission must demonstrate the personal characteristics desirable for an educator. The professional education/certification program requires professional credits which include student teaching.

The undergraduate teacher education program is NCATE accredited. For more information regarding teacher education please see the section on the College of Education and Counseling in this catalog.

### **Career and Technical Education**

The Bachelor of Science in Career and Technical Education prepares students to teach in high school, multi district, or post secondary vocational programs. People who have completed a technical specialty at one of the area's technical schools, have occupational experience, or complete a technical specialty at SDSU are eligible for this program. To

attain certification, students must meet the certification requirement of the State Department of Education or, in the case of Aviation, must complete FAA requirements.

Many students who enroll in this program are currently teaching technical education but do not hold a baccalaureate degree. Classes are offered through a combination of delivery methods including on-campus, off-campus, telecommunications, the internet, and the Dakota Digital Network (DDN).

### **Agricultural Education (AGED)**

The 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 student's total program is designed so that he/she receives supportive instruction in technical agriculture, basic science, and communication skills.

Students must file an application to be admitted to this program.

### **Endorsement Programs**

Coaching endorsements, as well as endorsements in other areas, can be added to a teacher's certificate. For more information contact the secretary of the Teacher Education Department at 605-688-4376.

## **Teacher Education – Certification Only (K-12 Content Area, 7-12 Content Area)**

Lonell Moeller  
College of Education and Counseling  
Wenona Hall 108  
605-688-4376  
e-mail: lonell.moeller@sdstate.edu

This academic certificate program will provide an option for individuals who want to become teachers and who have completed baccalaureate degrees. The Certification Only Program will fill an important need within options for completing teacher certification programs. Universities offer baccalaureate and graduate degrees that prepare individuals for certification, and Department of Education rules provide for alternative certification. A certification only program meets the needs of individuals who have completed baccalaureate degrees and want to pursue academic course work in pedagogy rather than complete an alternative certification process.

The Education Discipline Council recommends the following guidelines that are applicable at all South Dakota Regental institutions:

1. The teacher candidate must have a baccalaureate degree from an accredited institution of higher education.
2. In order to be admitted to the certification only program, the candidate must meet teacher education program admission requirements. In addition, the candidate must complete the PRAXIS II content exam in his/her major as specified by the South Dakota Department of Education (SDDOE) within the national average score range until a cut score has been established by the SDDOE, at which time the candidate must meet or exceed the minimum score required for certification in South Dakota.
3. The student will complete all teacher certification courses as identified by the institution, including the appropriate special methods course but not to include other content major courses, and sit for the PRAXIS II Principles of Learning and Teaching exam.

4. When the candidate meets the minimum required score on the PRAXIS II Principles of Learning and Teaching exam for certification in South Dakota and all other program completion requirements set forth by the institution, the institution will recommend the candidate for teacher certification to SDDOE.
5. Institutions may recommend candidates for certification to the SDDOE in all teaching programs as listed in ARSD 24:16:08 Requirements for Basic Teaching Programs.
6. The SDDOE will maintain accountability for the candidate scores on the PRAXIS II content exam. The universities will maintain accountability for the candidate scores on the PRAXIS II Principles of Learning and Teaching exam.
7. The certification only program is limited to K-12 specific content areas and 7-12 specific content areas.

## Veterinary Science (VET)

**David Zeman**  
**Department of Veterinary Science**  
**Animal Disease Research 105**  
**605-688-5172**  
[www.vetsci.sdstate.edu](http://www.vetsci.sdstate.edu)

### Faculty

Professor Zeman, Head; Professors Chase, Erickson, Francis, Hamilton, Hildreth, Holler, Miskimins, Neiger, Nelson; Associate Professors Christopher-Hennings, Graham, Knudsen, Young; Assistant Professors Kaushik, Leslie-Steen; Instructor Pillatzki; Adjunct Professors Benfield, Harland, Ode, Robl, Rowland, Sathiyaseelan.

### Programs

The Veterinary Science Department provides advising services for students in the pre-veterinary medicine curriculum and offers courses in the biomedical sciences for undergraduate and graduate majors in related sciences. Graduate training is supported by active research programs in natural diseases of food-producing animals and zoonotic diseases.

South Dakota does not have a professional college of veterinary medicine. A pre-veterinary medicine curriculum is offered which allows students to obtain prerequisites for application to Colleges of Veterinary Medicine in other states. Students may meet requirements in three years of pre-veterinary study, but most take four years. Many students complete a major for the Bachelor of Science Degree before entering the professional curriculum of Veterinary Medicine. Many degree options are available to students in the pre-veterinary medicine curriculum, but popular choices include Animal Science, Biology, Microbiology, Dairy Science, Wildlife and Fisheries, or others. Students typically select a B.S. option late in their freshman year or during their sophomore year.

Entrance into the professional curriculum in a College of Veterinary Medicine rests with the individual applicant, and is based upon many factors including their academic record and experiences. The applicant should be aware of the challenges involved in being accepted to a College of Veterinary Medicine. Keen competition should be anticipated.

The Veterinary Science Department is home to the SD Animal Disease Research and Diagnostic Laboratory, the Olson Biochemistry Laboratory (SDAES), and the Center for Infectious Disease Research and Vaccinology.

## Visual Arts (ART, Graphic Design)

**Norman Gambill**  
**Department of Visual Arts**  
**Grove Hall 101**  
**605-688-4103**  
**fax: 605-688-6769**  
**e-mail: [sdsu.artdept@sdstate.edu](mailto:sdsu.artdept@sdstate.edu)**  
**[http://coldfusion.sdstate.edu/users/norman\\_gambill](http://coldfusion.sdstate.edu/users/norman_gambill)**  
 and  
**<http://www3.sdstate.edu/Academics/CollegeOfArtsAndScience/VisualArts/Index.cfm>**

### Faculty

Professor Gambill, Head; Professors French, Steele, Wallace; Professors Emeriti Edie, Spina; Professors Emeritae Morgan, Stuart; Assistant Professors Benzer, Clark.

### Program

The Department of Visual Arts curricula present art and design studio and lecture experiences to all SDSU and USDSU students, regardless of their major. Students pursue careers as artists, art educators, or graphic designers. The Department offers both the B.S. and B.A. degrees with majors in Art or Graphic Design. Within the Art major a student has a choice of Art Education or Visual Arts specializations. There are three areas of emphasis within the Visual Arts specialization: painting/printmaking, ceramics/sculpture, and general art. We offer freshman and sophomore courses in Visual Arts at USDSU in Sioux Falls, and the full range of beginning to senior courses at the Brookings campus of SDSU. In Brookings, the Department operates seven specialized studios as well as two multi-purpose studios, located in Grove Hall and the Industrial Arts Building for drawing, printmaking, painting, graphic design, computer graphics, ceramics, and sculpture.

All Department of Visual Arts students must maintain at least a major GPA of 2.6 on a 4.0 scale for the duration of the program.

### The Art Major (B.S. or B.A.)

#### Specialization in Art Education (B.S. or B.A.)

For the Art Education specialization, the student completes the Department's Visual Arts Core of studio courses (ART 111, 112, 121, 122, 123, 211) and art history courses (ARTH 100, 211, 212, and ARTH Advanced Writing Requirement); the System Requirements (SGRs-30 credit hours) and Institutional Requirements (IGRs-8-9 credit hours); Teacher Education coursework (32 credit hours); and 15 credit hours in art (ceramics and sculpture), including coursework in discipline-based methods. The faculty recommend a double major or emphasis in a Visual Arts program, in order to strengthen the student's artistic or design capacities. The Major presents his/her work to a faculty jury who will assess the development in two reviews: the Progress Review and the Senior Review. The Progress Review involves the submission of a portfolio of studio work completed after 15 credit hours of Visual Arts Studio Core courses. The Senior Review consists of a public exhibition of the student's art or design works.

#### Specialization in Visual Arts (B.S. or B.A.)

The Visual Arts path presents a choice of three emphases in this specialization: (a) Painting/Printmaking Emphasis, (b) Ceramics/Sculpture Emphasis, and (c) General Art Emphasis. Each emphasis includes instruction in specific technical skills, application of theory and conceptual development encouraging personal direction in preparation

for professional practice and/or graduate study. For each emphasis, the student completes the System Requirements (SGRs-30 credit hours), Institutional Requirements (IGRs-8-9 credit hours) and the Department's Visual Arts Core of studio courses (ART 111, 112, 121, 122, 123, and 211) and art history courses (ARTH 100, 211, 212, and ARTH Advanced Writing Requirement). Art Majors present their work to a faculty jury who will assess the development in two reviews: the Progress Review and the Senior Review. The Progress Review involves the submission of a portfolio of studio work completed after 15 credit hours of Visual Arts Studio Core courses. The Senior Review consists of a public exhibition of the student's art or design works. In addition:

- For either the **Ceramics/Sculpture** or **Painting/Printmaking** emphasis, students complete an additional associated 30 credit hours in Art courses. The coursework centers on both areas in the specific emphasis—a minimum of four courses are completed in either discipline, for a total of 18 credit hours. The student fulfills the degree with twelve credit hours of electives with Art (ART), Art History (ARTH), Graphic Design (ARTD), or Art Education (ARTE) prefixes.
- For the **General Art** Emphasis, 24 credit hours of Visual Arts Department courses allow the student to create their own distinctive set of Visual Arts courses. This selection of coursework must include three courses in one visual art discipline, that is, ceramics, painting, sculpture, or printmaking, or three courses in graphic design for a total of nine credit hours. To complete the coursework, the student completes fifteen credit hours of electives with Art (ART), Art History (ARTH), Graphic Design (ARTD), or Art Education (ARTE) prefixes.

#### **The Graphic Design Major (B.S. or B.A.)**

The Department of Visual Arts offers a major in **Graphic Design** that is comprised of design studio, lecture, and practical applications. You can pursue either a **B.S.** or a **B.A.** degree. Graphic Design majors study visual communications theory and practice in digital, print, time-based, on-line, and interactive media. Areas of study may include, but are not limited to, logos, computer graphics, publication and web page design, illustration, advertising, posters, multi-media, and computer animation. The program aims to develop a knowledge base for careers that can relate to professional practice, and students prepare a portfolio for use after graduation to seek positions in business and industry as well as nonprofit organizations.

Students complete the System Requirements (SGRs-30 credit hours), Institutional Requirements (IGRs-8-9 credit hours), and the Department's Visual Arts Core of studio courses (ART 111, 112, 121, 122, 123, and ARTD 202) and art history courses (ARTH 100, 211, 212, and ARTH Advanced Writing Requirement); an associated 21 credit hours of graphic design courses that consist of design theory, visual communications, computer graphics, design media, photography or time-based media; and seven credit hours of Art and Graphic Design electives with Art (ART), Art History (ARTH), Graphic Design (ARTD), or Art Education (ARTE) prefixes. To graduate, Majors present their work to a faculty jury who assess the student's development in two reviews: the Progress Review and the Senior Review. The Progress Review involves the submission of a portfolio of studio work completed after 15 credit hours of Visual Art Studio Core courses. The Senior Review consists of a public exhibition that presents the student's portfolio; the Senior Review exhibition also may include the student's fine art works.

#### **Graphic Design Internships, Field Trips and the MacIntosh Lap-top Requirement**

- The program's distinctive interest in practical experiences is realized through internships, regularly scheduled field trips to graphic design, public relations, and advertising offices and studios in the region, as well as student trips to design conferences and art galleries and museums. Annually, trips are made to Minneapolis, Omaha, and Sioux Falls. Special professional trips have included Japan, Chicago, and New York.
- Graphic Design has a MacIntosh laptop computer recommendation; please review the information on-line at: [http://coldfusion.sdstate.edu/users/norman\\_gambill/Laptop.doc](http://coldfusion.sdstate.edu/users/norman_gambill/Laptop.doc)

#### **Requirements for Art Minor: 24 credits**

To include six credit hours in art history.

#### **The Ritz Gallery, Field Trips, and the South Dakota Art Museum**

Located in Grove Hall, The Ritz Gallery program of public exhibitions presents works of students, faculty, alumni, and visiting artists/designers throughout the year. Ritz exhibitions offer visual art enrichment for the campus, community, and the state of South Dakota, as well as public scrutiny of the Department programs in all of their variety. The annual schedule of 20 exhibitions also function heavily in the instruction of our courses.

Visual Arts' commitment to concrete and intensifying art and design experiences is realized through regularly scheduled field trips to art and design studios and offices in the region, as well as student trips to art galleries and museums. Recent department-sponsored trips: central Italy, Japan, Chicago, and Scandinavia.

The South Dakota Art Museum, the state's official art museum, is not far from Grove Hall. Its auditorium is the site for the art history courses. Our students participate in the museum's rich program of exhibitions, artists' talks, films, and workshops. Visit their website: <http://www3.sdstate.edu/Administration/SouthDakotaArtMuseum/>

#### **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: [charles.scalet@sdstate.edu](mailto:charles.scalet@sdstate.edu)

<http://wfs.sdstate.edu>

## Faculty

Professor Scalet, Head; Distinguished Professor Emeritus Flake; Distinguished Professor Willis; Professors Berry, Brown, Higgins, Hubbard, Jenks; Professor Emeritus Linder; Associate Professor Chipps; Assistant Professor Jensen; Adjunct Professors Bowyer, Fredrickson, Leslie; Adjunct Associate Professors Barnes, Euliss, Lindzey, Uresk; Adjunct Assistant Professors Austin, Bakker, Blackwell, DePerno, Gigliotti, Holland, Klaver, Klumb, Lehman, Naugle, Rumble, Shivik, Sovada, Sutton.

## Programs

The Department offers the Bachelor of Science, Master of Science, and Doctor of Philosophy degrees. No minors are offered. A student who plans on a career in research should complete an advanced degree. Each undergraduate student is assigned an academic adviser in the Department to assist with curriculum planning. Students can, with our undergraduate 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 catalog.

### 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 obtain from bachelor's and master's 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)

April Brooks, Program Coordinator

Department of History

Scobey Hall 324

605-688-6042

e-mail: [april.brooks@sdstate.edu](mailto:april.brooks@sdstate.edu)

## Program

An interdisciplinary program (minor) enabling the student to select courses dealing directly or indirectly with women and their changing roles in history, the family, the labor force, politics, literature and other venues. The minor is particularly useful for students expecting to work with women in social work, counseling, nursing, business, or education. Eighteen hours with a "C" or better in each course are required for the minor. The Women's Studies Program Coordinator assists students to personalize their curriculum plans.

# Zoology (ZOOL)

Tom Cheesbrough

Department of Biology and Microbiology

Agricultural Hall 304

605-688-6141

e-mail: [biomicro@abs.sdstate.edu](mailto:biomicro@abs.sdstate.edu)

<http://biomicro.sdstate.edu/bio>

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



**EXTENDED PROGRAMS..... 127**

*Summer Term* .....128  
*USDSU (Sioux Falls Programs)*.....128  
*Outreach Programs* .....129

# Summer Term

**Mary Kay Helling**  
Associate Vice President for Academic Affairs  
Box 2201, Brookings, SD 57007-2098  
e-mail: mary.helling@sdstate.edu

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

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

## USDSU (Sioux Falls Programs)

**Gail Dobbs Tidemann, Dean**  
College of General Studies and Outreach Programs  
Box 511, Brookings, SD 57007-2098  
e-mail: gail.tidemann@sdstate.edu

South Dakota State University, through USDSU in Sioux Falls, provides college coursework and degree programs in Sioux Falls. USDSU is designed to serve the needs of non-traditional students in the Sioux Falls area. Most courses taught through USDSU are taught after 4:00 p.m. The course content, number and contact hours are the same as the identical course taught on campus in the regular day program. However, a typical three-credit course will meet for three hours one night per week rather than one hour three days per week. Coursework is offered during the fall, spring, and summer terms. The start and end of term for summer at USDSU is different from the dates of summer term on campus.

The majors offered in Sioux Falls include Bachelor of Applied Technical Science, Engineering, Family and Consumer Sciences, Liberal Studies, and Nursing, 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.



South Dakota State College officially was named South Dakota State University in 1964.



# Outreach Programs

Gail Dobbs Tidemann, Dean  
College of General Studies and Outreach Programs  
Box 511, Brookings, SD 57007-2098  
e-mail: gail.tidemann@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 USDSU in Sioux Falls, the West River Graduate Center in Rapid City, the Capital University Center in Pierre (CUC), Nursing Upward Mobility, and numerous other distance education classes, workshops, and services.

The Outreach Programs Office in the College of General Studies and Outreach Programs provides coordination and 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 Programs are designed to deliver both state- and self-support education through on-site or distance education credit courses, non-credit conferences, short courses, and workshops.

**Credit Programs.** Academic standards and policies governing off-campus and technology communicated courses are identical to the on-campus instructional program. Hence, credit course offerings, instruction and academic standards are the responsibilities of the Vice President for Academic Affairs, Deans of the colleges, and department heads. There are outreach locations throughout South Dakota where credit courses are presented each semester and many courses are available by distance education. Additional locations are added as need and enrollment indicates.

USDSU, see SDSU Sioux Falls Programs on page 128.

**Capital University Center** in Pierre was established by the people of Central South Dakota in 1982 to provide opportunities in higher education for the people of the region. In 1983, CUC and South Dakota State University entered into an agreement to enhance educational opportunities for residents of Central South Dakota through the offering of courses designed to transfer to degree-granting institutions of higher education. In 2003, CUC was fully merged into the SD Board of Regents System. SDSU offers at CUC the Associate of Arts degree in General Studies, the Bachelor of Science degree with a major in Liberal Studies, and the Master of Science degree in Industrial Management, as well as a variety of general education courses.

The **West River Graduate Center** in Rapid City provides graduate level opportunities through the College of Education and Counseling. The College offers Master of Education and Master of Science programs in Education and Counseling in Rapid City. These programs serve the military personnel, teachers, administrators, and counselors in Western South Dakota. SDSU coordinates its West River activities with other Regental universities serving the area.

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

The Nursing Upward Mobility program leading to the Bachelor of Science degree is offered for registered nurses desiring to upgrade their associate degrees or diplomas. The program is offered on line via

Internet and is available anywhere in the state. Clinical Practicums are performed in the student's community. The Master of Science in Nursing is also offered to various off-campus sites and on-line as needed and as programming allows. Please contact the Dean of Nursing at 888-216-9806 for information on nursing programs, or visit our website at [www3.sdstate.edu/Academics/CollegeofNursing](http://www3.sdstate.edu/Academics/CollegeofNursing).

**Distance Education.** South Dakota State University offers undergraduate and graduate courses using various distance education technologies. Utilizing the DDN (Digital Dakota Network), two-way audio and video classes allow students to actively participate in classroom activities while attending at a location more convenient to the student. South Dakota State University also offers Internet-based courses for students wishing a more flexible schedule. The Internet courses are similar to on campus courses, and students receive the same credit for completing an Internet course as they would for an on campus course. The Electronic University Consortium (EUC) of South Dakota is a single point of contact for information and access to distance education and training available from the six South Dakota public universities. Based upon more than 80 years of effective off-campus education, South Dakota is committed to serving:

- Working adults
- Part-time students
- Time- and place-bound individuals
- K-12 students, teachers and administrators
- Employees seeking career development skills
- Government and military personnel
- Persons with disabilities

For more information concerning distance education call the Coordinator of Distance Education toll free at 866-827-4153, or go to the Distance Education Website at <http://distance.sdstate.edu/>.

**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 Outreach Programs. 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.

Outreach Programs assistance to organizations is another contribution of the University to the social and economic development of the state. The Outreach Programs Office 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 Programs Office, South Dakota State University, Box 511, Brookings, SD 57007-2098, 605-688-4153.



All students gathered for orientation in 1957 in the Gymnasium.



MAJOR AND  
MINOR REQUIREMENTS ..... 131

# Major and Minor Requirements

All authorized majors and minors are listed here in alphabetical order. A contact person, his/her campus address, phone number, e-mail address and/or website is included with each major or minor. The curriculum plans shown are examples only. A student should work out a personalized plan with his/her adviser.

## Accounting (ACCT) Minor

**Richard Shane**  
**Department of Economics**  
**Scobey Hall 136**  
**605-688-4141**  
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**website: <http://econnet.sdstate.edu/dept/index.asp>**

**Requirements for Accounting Minor: 21 cr**

ACCT 210, Principles of Accounting I.....	3
ACCT 211, Principles of Accounting II.....	3
ACCT 310, Intermediate Accounting I.....	3
ACCT 311, Intermediate Accounting II.....	3
ACCT 320, Cost Accounting.....	3
ACCT 430, Income Tax Accounting.....	3
ECON 201, Principles of Microeconomics or	
ECON 202, Principles of Macroeconomics.....	3

## Aerospace Studies (AIR) Minor

**(Air Force ROTC)**  
**Lieutenant Colonel Craig A. Bond**  
**Department of Aerospace Studies**  
**DePuy Military Hall 003**  
**605-688-6106**  
**e-mail: [craig.bond@sdstate.edu](mailto:craig.bond@sdstate.edu)**

**Requirements for Aerospace Studies Minor: 16 cr**

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

AIR 101-101L, Aerospace Studies 100 and Lab.....	1
AIR 102-102L, Aerospace Studies 100 and Lab.....	1
AIR 201-201L, Aerospace Studies 200 and Lab.....	1
AIR 202-202L, Aerospace Studies 200 and Lab.....	1
AIR 301-301L, Aerospace Studies 300 and Lab.....	3
AIR 302-302L, Aerospace Studies 300 and Lab.....	3
AIR 401-401L, Aerospace Studies 400 and Lab.....	3
AIR 402-402L, Aerospace Studies 400 and Lab.....	3

## Agricultural and Biosystems Engineering (ABE) Major

**Van Kelley**  
**Department of Agricultural and Biosystems Engineering**  
**Agricultural Engineering 107**  
**605-688-5141**  
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**website: <http://abe.sdstate.edu/>**

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

	F	S
<b>Freshman Year</b>		
ABE 122, Introduction to Agricultural and Biological Engineering.....	2	
CHEM 112-112L*, General Chemistry I and Lab.....	4	
CHEM 114*, General Chemistry II or		
CHEM 120*, Elementary Organic Chemistry.....		3
ENGL 101*, Composition I.....	3	
GE 101, Introduction to Engineering and Technology.....		1
GE 121, Engineering Design Graphics I.....		1
MATH 123*, Calculus I and		
MATH 125, Calculus II.....	4	4
SPCM 101*, Fundamentals of Speech.....		3
SGR Goal 3*: Social Sciences/Diversity.....		3
SGR Goal 4*: Humanities and Arts/Diversity.....		3
Globalization Requirement (choose from list) (G).....	0-4	

	F	S
<b>Sophomore Year</b>		
ABE 343-343L, Physical Properties of Biological Materials and Lab.....	3	
BIOL 101-101L, Biology Survey I and Lab or		
PS 213-213L, Soils and Lab.....		3-4
EM 214, Statics.....	3	
EM 215, Dynamics.....		3
GE 122, Engineering Design Graphics II and		
GE 123, Computer Aided Drawing.....	1	1
MATH 225, Calculus III.....	4	
MATH 321, Differential Equations.....		3
PHYS 211-211L, University Physics I and Lab and		
PHYS 213-213L, University Physics II and Lab.....	4	4
SGR Goal 3*: Social Sciences/Diversity.....		3
SGR Goal 4*: Humanities and Arts/Diversity.....		3

	F	S
<b>Junior Year</b>		
ABE 314-314L†††, Ag Power and Machines and Lab.....	4	
ABE 324-324L†††, Ag Structures and Indoor Environment and Lab.....		4
ABE 372-372L, Microcomputer Applications in Agricultural Engineering and Lab.....		2
ABE 490, Seminar.....	1	
CSC 130, Visual Basic Programming.....	3	
EE 300-300L, Basic Electrical Engineering I and Lab.....	3	
EM 321, Mechanics of Materials.....	3	
EM 331, Fluid Mechanics.....		3
ENGL 277*, Technical Writing in Engineering†.....		3
ME 314, Thermodynamics.....	3	
Technical Elective††.....		3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ABE 411, Design Project III .....	2	
ABE 422, Design Project IV (AW) .....		2
ABE 434-434L†††, Natural Resources Engineering and Lab .....	4	
ABE 444-444L†††, Unit Operations of Biological Materials Processing and Lab .....		4
ABE 463-463L, Applied Instrumentation and Lab .....	3	
MATH 373, Introduction to Numerical Analysis or MATH 331, Advanced Engineering MATH or MATH 381, Introduction to Probability and Statistics or STAT 281, Introduction to Statistics .....		3-4
IGR Goal 2**: Personal Wellness .....		2-3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....		3
Technical Electives†† .....	7	

† You must receive a "C" or better in ENGL 277.

†† Technical Electives permit you to concentrate on your applied technical area of interest.

††† You must take these courses, with the exception that you may choose to **replace** one of these 4 Agricultural and Biosystems Engineering courses with **4 additional technical elective credits** (300 or higher in the College of Engineering) in addition to the basic technical elective requirements described below.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Accordingly, the elective program for each student must be approved by your adviser. This will include 10 credit hours of technical electives, of which at least 6 credits are 300 or above level courses in the College of Engineering.

### Technical Electives

Electives in all emphases:

ABE 353, Physical Climatology and Meteorology .....	3
ABE 491, Independent Study .....	1-3
ABE 492, Topics .....	1-4
ABE 497, 494, 496, Cooperative Education/ Internship/Field Experience .....	1-6
All 500 level courses listed in Agricultural and Biosystems Engineering .....	3
BIOL 103-103L, Biology Survey II and Lab or .....	3
CEE 346-346L, Geotechnical Engineering and Lab .....	4
CSC 314, Assembly Language .....	3
CSC 317, Computer Organization and Architecture .....	3
EE 422, Engineering Economy † .....	2
GEOG 488, Geographic Information Systems II .....	3
MATH 331, Advanced Engineering MATH .....	3
STAT 281, Introduction to Statistics or .....	3
MATH 381, Probability and Statistics .....	3
MNET 320-320L, Computer Aided Design/Drawing and Lab .....	3

† Technical elective credit not given for both CEE 475 and EE 422.

### Structures and Environment Emphasis

CEE 353, Structural Theory .....	3
CEE 346-346L, Geotechnical Engineering and Lab .....	4
CEE 455-455L, Steel Design and Lab .....	3
CEE 456-456L, Concrete Theory and Design and Lab .....	3
CEE 482, Engineering Administration † .....	3
ME 410, Environmental Engineering .....	3
ME 415, Heat Transfer .....	3
ME 439-439L, Heating and Air Conditioning Design and Lab .....	3
ME 451, Automatic Controls .....	3
MNET 320, Computer Aided Design/Drawing and Lab .....	3

† Technical elective credit not given for both CEE 475 and EE 422.

### Power and Machinery Emphasis

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

### Water and Natural Resources Engineering Emphasis

ABE 225, Principles of Environmental Science and Engineering .....	3
ABE 390, Seminar .....	1
ABE 460, Senior Design I Environmental Science/ Engineering .....	1
ABE 461, Senior Design II Environmental Science/ Engineering .....	2
AST 463, Agricultural Waste Management .....	3
CEE 106-106L, Elementary Surveying and Lab .....	4
CEE 323-323L, Water Supply and Wastewater Engineering and Lab .....	3
CEE 333-333L, Hydrology and Lab .....	3
CEE 346-346L, Geotechnical Engineering and Lab .....	4
CEE 423-423L, Municipal Water Distribution and Collection System Design .....	3
CEE 432, Hydraulic Engineering .....	3
PS 213-213L, Soils and Lab .....	3
PS 362-362L, Environmental Soil Management and Lab .....	3
PS 483, Irrigation—Crop and Soil Practices .....	3

### Environmental Science and Engineering Specialization

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

**Requirements for Agricultural and Biosystems Engineering  
Major – Food and Biological Materials Engineering Specialization  
Bachelor of Science in Agricultural and Biosystems Engineering**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ABE 122, Introduction to Agricultural and Biosystems Engineering .....	2		
CHEM 112-112L*, General Chemistry I and Lab and CHEM 120*, Elementary Organic Chemistry .....	4		3
ENGL 101*, Composition I .....	3		
GE 101, Introduction to Engineering and Technology .....		1	
GE 121, Engineering Design Graphics I.....		1	
MATH 123*, Calculus I and MATH 125, Calculus II.....	4		4
MICR 231-231L, General Microbiology and Lab .....		4	
SPCM 101*, Fundamentals of Speech.....		3	
SGR Goal 3*: Social Sciences/Diversity .....	3		
Globalization Requirement (choose from list).....	0-4		
<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ABE 343-343L, Engineering Properties of Biological Materials and Lab.....	3		
EM 214, Statics .....	3		
EM 215, Dynamics.....		3	
GE 122, Engineering Design Graphics II and GE 123, Computer Aided Drawing.....	1		1
MATH 225, Calculus III.....	4		
MATH 321, Differential Equations.....		3	
PHYS 211-211L, University Physics I and Lab and PHYS 213-213L, University Physics II and Lab .....	4		4
SGR Goal 3*: Social Sciences/Diversity .....	3		
SGR Goal 4*: Humanities and Arts/Diversity .....	3		
<b>Junior Year</b>		<b>F</b>	<b>S</b>
ABE 372-372L, Microcomputer Applications in Agriculture Engineering and Lab.....	2		
ABE 490, Seminar.....	1		
CHEM 464-464L, Biochemistry and Lab .....	4		
CSC 218, Introduction to C/C++/UNIX for Engineers .....	3		
EE 300-300L, Basic Electrical Engineering I and Lab.....	3		
EM 321, Mechanics of Materials .....	3		
EM 331, Fluid Mechanics .....	3		
ENGL 277*, Technical Writing in Engineering†† .....	3		
ME 314, Thermodynamics .....	3		
MICR 311-311L, Food Microbiology and Lab.....	4		
NFS 351-351L, Principles of Food Processing and Lab .....	3		
Technical Electives† .....	3		
<b>Senior Year</b>		<b>F</b>	<b>S</b>
ABE 411, Design Project III .....	2		
ABE 422, Design Project IV (AW).....	2		
ABE 444-444L, Unit Operations of Biological Materials Processing and Lab .....	4		
ABE 463-463L, Applied Instrumentation and Lab.....	3		
MATH 331, Advanced Engineering MATH or MATH 373, Introduction to Numerical Analysis or MATH 381, Introduction to Probability and Statistics or STAT 281, Introduction to Statistics .....	3		
NFS 360-360L, Food Chemistry and Lab.....	4		
IGR Goal 1***: Land and Natural Resources .....	3		
IGR Goal 2***: Personal Wellness** .....	2-3		
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3		
Technical Electives† .....	8		

† Technical electives permit you to concentrate on your applied technical area of interest.

†† You must receive a “C” or better in ENGL 277.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

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

**Suggested Technical Elective Courses**

ABE 314-314L, Ag Power and Machines and Lab.....	4
ABE 324-324L, Ag Structures and Indoor Environment and Lab .....	4
ABE 353-353L, Physical Climatology and Meteorology and Lab .....	3
ABE 434-434L, Natural Resource Engineering and Lab....	4
AS 341, Fresh Meat Operations .....	3
AS 345-345L, Value Added Meat Production and HACCP and Lab.....	3
AST 443-443L, Food Process and Engineering Fundamentals and Lab.....	3
AST 463, Agricultural Waste Management.....	3
BADM 360, Organization and Management.....	3
BIOL 101-101L, Biology Survey I and Lab .....	3
BIOL 103-103L, Biology Survey II and Lab .....	3
CEE 423-423L, Municipal Water Distribution and Collection System Design .....	3
CEE 424, Industrial Waste Treatment .....	2
CHEM 482, Environmental Chemistry .....	4
DS 313, Technical Control of Dairy Products I .....	3
DS 321-321L, Dairy Product Processing I and Lab.....	5
DS 322-322L, Dairy Product Processing II and Lab .....	5
MATH 381, Introduction to Probability and Statistics .....	3
ME 421, Design of Machine Elements .....	3
MICR 310-310L, Environmental Microbiology and Lab ...	4
NFS 341-341L, Food Science and Lab .....	4
PS 312, Grain and Seed Production and Processing .....	2
STAT 281, Introduction to Statistics.....	3

# Agricultural and Resource Economics (AGEC) Major

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 website: http://econnet.sdstate.edu/dept/index.asp

## Requirements for Agricultural and Resource Economics Major Bachelor of Science in Agriculture

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra .....	3	
SPCM 101*, Fundamentals of Speech and Lab.....	3	or 3
SGR Goal 3*: Social Sciences (Choose one of the following).....	3	
SOC 100, Introduction to Sociology		
SOC 150, Social Problems		
SOC 240, Sociology of Rural America		
ANTH 210, Cultural Anthropology		
SGR Goal 4*: Humanities and Arts .....		3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
Natural Science Elective* .....	3	3
Group I Elective† .....		3
General Electives.....		2-3

Sophomore Year	F	S
ACCT 210, Principles of Accounting I.....	3	
ACCT 211, Principles of Accounting II.....		3
AGEC 271-271L, Farm and Ranch Management and Lab ...	4	
ECON 201*, Principles of Microeconomics .....		3
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 201*, Composition II .....	3	
MATH 121-121L, Survey of Calculus and Lab or		
MATH 123, Calculus I.....		4-5
SGR Goal 4*: Humanities and Arts .....	3	
Group I Elective† .....		2
General Electives.....		3

Junior Year	F	S
AGEC 354, Agricultural Marketing and Prices .....	3	or 3
AGEC 478-478L, Agricultural Finance and Lab .....	3	
CSC 105, Introduction to Computers or		
CSC 205, Advanced Computer Applications .....	3	
ECON 301, Intermediate Microeconomics.....	3	
ECON 302, Intermediate Macroeconomics .....		3
ECON 330, Money and Banking .....	3	or 3
ENGL 379, Technical Communications.....	3	or 3
STAT 281, Introduction to Statistics .....		3
One of the following: .....	3	
SPCM 201, Interpersonal Communication		
SPCM 215, Public Speaking		
SPCM 222, Argumentation and Debate		
General Electives.....		5

Senior Year	F	S
IGR Goal 1**: AGECE 421, Farming and Food Systems		
Economics .....		3
AGEC 479, Agricultural Policy (G) (AW).....	3	or 3
One of the following: .....	3	or 3
ECON 404, History of Economic Thought		

ECON 405, Comparative Economic Systems		
ECON 440, Economics of the International Sector		
ECON 450, Industrial Organization		
IGR Goal 3**: ECON 460, Economic Development		
ECON 423, Statistics II.....		3
ECON 428, Mathematical Economics .....		3
IGR Goal 1**: ECON 472, Resource and Environmental		
Economics .....		3
General Electives.....		7

## Environmental Economics Emphasis

PS 213-213L, Soils and Lab (3)		
WL 110, Environmental Conservation (3)		
(These are Group I Elective Courses)		
One of the following:		
PHIL 100, Introduction to Philosophy (4)		
PHIL 454/REL 332, Environmental Ethics (3)		
PHIL 383/BIOL 383, Bioethics (4)		
Two of the following:		
ABS 475-475L Integrated Natural Resource		
Management and Lab (3)		
PS 362-362L, Environmental Soil Management		
and Lab (3)		
AS 446, Agroecology (3)		
PS 475/BIOL 475, Water Quality in Agriculture (3)		
One of these courses may be substituted for ECON 428, Mathematical Economics.		

## Accelerated Master's Degree

Outstanding students majoring in Agricultural Economics, Agricultural Business, or Economics may complete their baccalaureate degree and Master of Science in Economics combined in five years. Students apply for admission to the combined program in the fall semester of their junior year. Those admitted as graduate students take 400-500 level courses at the graduate level (500) their fourth (senior) year (see below). See the SDSU Graduate Catalog or the department graduate coordinator for complete details for the fifth year.

Fourth Year (Replaces Senior Year Above)	F	S
AGEC 479, Agricultural Policy (G) (AW).....	3	or 3
AGEC 521, Farming and Food Systems Economics .....	3	
ECON 423, Statistics II.....	3	
ECON 428, Mathematical Economics .....	3	
ECON 572, Resource and Environmental Economics.....	3	3
Two of the following:.....	3	3
AGEC 571, Advanced Farm and Ranch Management		
ECON 504, History of Economic Thought		
ECON 520, Economics of the Public Sector		
ECON 531, Managerial Economics		
ECON 540, Economics of the International Sector		
ECON 550, Industrial Organization		
ECON 560, Economic Development		
General Electives .....	4-7	7-10

† Group I Courses are listed on p. 64.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.



# Agricultural Business Major and Minor

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## Requirements for Agricultural Business Major Bachelor of Science in Agriculture

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or	3
MATH 102*, College Algebra .....	3		
SPCM 101*, Fundamentals of Speech and Lab.....	3	or	3
SGR Goal 3*: Social Sciences (Choose one of the following)			
SOC 100, Introduction to Sociology			
SOC 150, Social Problems			
SOC 240, Sociology of Rural America			
ANTH 210, Cultural Anthropology .....	3		
SGR Goal 4*: Humanities and Arts .....	3		3
IGR Goal 2**: Personal Wellness.....	2-3	or	2-3
Natural Science Elective* .....	3		3
Group I Elective† .....	2		3
<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I.....	3		
ACCT 211, Principles of Accounting II.....			3
AGEC 271-271L, Farm and Ranch Management and Lab ...	4		
ECON 201*, Principles of Microeconomics .....	3	or	3
ECON 202*, Principles of Macroeconomics (G) .....	3	or	3
ENGL 201*, Composition II .....	3		
MATH 121-121L, Survey of Calculus and Lab or			
MATH 123, Calculus I.....		4-5	
General Electives.....	4		4
<b>Junior Year</b>		<b>F</b>	<b>S</b>
AGEC 354, Agricultural Marketing and Prices .....	3	or	3
AGEC 478-478L, Agricultural Finance and Lab .....	3		
BADM 350, Legal Environment of Business and Contracts...	3	or	3
CSC 105, Introduction to Computers			
or CSC 205, Advanced Computer Applications .....	3		
ECON 301, Intermediate Microeconomics.....	3		
ECON 302, Intermediate Macroeconomics .....			3
ECON 330, Money and Banking .....	3	or	3
ENGL 379, Technical Communications.....			3
STAT 281, Introduction to Statistics .....			3
One of the following: .....	3		
SPCM 201, Interpersonal Communication			
SPCM 215, Public Speaking			
SPCM 222, Argumentation and Debate			
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3		
<b>Senior Year</b>		<b>F</b>	<b>S</b>
AGEC 479, Agricultural Policy (G) (AW).....	3	or	3
BADM 424, Operations Research.....	3	or	3
BADM 360, Organization and Management .....	3	or	3
IGR Goal 1**: Recommend AGEC 421 or ECON 472 .....			3
One Additional course prefixed AGEC.....	3		
Electives prefixed ACCT, AGEC, BADM, or ECON.....	3		3
General Electives.....	6		5

## Accelerated Master's Degree

Outstanding students majoring in Agricultural Economics, Agricultural Business or Economics may complete their baccalaureate degree and Master of Science in Economics combined in five years. Students apply for admission to the combined program the fall semester of their junior year. Those admitted as graduate students take 400-500 level courses at the graduate level (500) their fourth (senior) year (see below). See the SDSU Graduate Catalog or the department graduate coordinator for complete details for the fifth year.

Adjustments to baccalaureate course requirements are as follows:

<b>Fourth Year (Replaces Senior Year Above)</b>	<b>F</b>	<b>S</b>
AGEC 479, Agricultural Policy (G) (AW).....	3	or 3
BADM 424, Operations Research.....	3	
BADM 360, Organization and Management .....		3
ECON 423, Statistics II.....	3	
ECON 428, Mathematical Economics .....	3	
Four of the following:		
AGEC 521, Farming and Food Systems Economics		
AGEC 571, Advanced Farm and Ranch Management		
ECON 504, History of Economic Thought		
ECON 520, Economics of the Public Sector		
ECON 531, Managerial Economics		
ECON 540, Economics of the International Sector		
ECON 550, Industrial Organization		
ECON 560, Economic Development		
ECON 572, Resource and Environmental Economics		
General Electives .....	0-3	4-7

† Group 1 Courses are listed on p. 64.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Requirements for Agricultural Business Minor: 21-22 cr

ECON 201, Principles of Microeconomics .....	3
ECON 202, Principles of Macroeconomics.....	3
Two of the following: .....	6-7
ACCT 210, Principles of Accounting I (3)	
AGEC 271-271L, Farm and Ranch Management and Lab (4)	
AGEC 354, Agricultural Marketing and Prices (3)	
BADM 310, Business Finance (3)	
BADM 350, Legal Environment of Business (3)	
BADM 360, Organization and Management (3)	
ECON/BADM 370, Marketing (3)	
Nine additional credit hours of courses .....	9
prefixed AGEC, numbered 300 or above	

# Agricultural Education (AGED)

## Major

**Lonell Moeller**  
**Agriculture Education**  
**Department of Teacher Education**  
**Wenona Hall 107**  
**605-688-4378**  
**e-mail: lonell.moeller@sdstate.edu**

### Requirements for Agricultural Education Major Bachelor of Science in Agriculture

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
AST 202, Construction Techniques and Materials.....	2		
BIOL 101-101L*, Biology Survey I and Lab <b>and</b>			
BIOL 103-103L, Biology Survey II and Lab <b>and</b>			
GEOG 131-131L*, Physical Geography I and Lab; (10 cr)			
<b>or</b>			
BIOL-101-101L*, Biology Survey I and Lab <b>and</b>			
GEOG 131-131L*, Physical Geography I and Lab <b>and</b>			
GEOG 132-132L, Physical Geography II			
and Lab (11 cr) .....	3-7		3-7
ENGL 101*, Composition I .....	3		
MATH 102*, College Algebra .....	3		
PS 103-103L, Crop Production and Lab .....			3
SOC 100*, Introduction to Sociology (G) .....	3		
SPCM 101*, Fundamentals of Speech .....			3
SGR Goal 4*: Humanities and Arts .....			3
IGR Goal 2***: Personal Wellness.....	2-3		or 2-3
<b>Sophomore Year</b>			
AS 101, Introduction to Animal Science .....	3		<b>S</b>
AS 285-285L, Livestock Evaluation and Marketing			
and Lab.....			4
CHEM 106-106L, Chemistry Survey and Lab .....			4
CTE 295, Practicum (Professional Semester I) .....	1		
CTE 405, Philosophy of Career and Technical Education			
(Professional Semester I) .....	2		
ECON 202*, Principles of Macroeconomics <b>or</b>			
ECON 201*, Principles of Microeconomics .....			3
EDFN 475, Human Relations (Professional Semester I).....	3		
ENGL 201*, Composition II.....	3		
HO 111-111L, General Horticulture and Lab.....			3
MNET 231, Manufacturing Processes .....	3		
WL 110**, Environmental Conservation <b>or</b>			
WL 220, Introduction to Wildlife and Fisheries			
Management.....	3		
SGR Goal 4*: Humanities and Arts .....			3
<b>Junior Year</b>			
AGED 404, Program Planning in AGED (Professional			
Semester II) (AW) .....	4		<b>S</b>
ANTH 421**, Indians of North America.....	3		
AS 241, Meat Production to Consumption .....	3		
AST 342-342L, Applied Electricity and Lab .....	3		
EDFN 365, Computer-Based Technology and Learning .....	2		
EDFN 427, Middle School Philosophy and Application.....	2		
EPSY 302, Educational and Adolescent Psychology			
(Professional Semester II) .....			3
MNET 132, Welding Technology .....	3		
PHYS 101-101L, Survey of Physics and Lab.....	4		
PS 213-213L, Soils and Lab.....	3		

SEED 314, Supervised Clinical/Field Experience			
(Professional Semester II).....			1
SPED 401, Introduction to Educating Secondary Students ...1			
SEED 450, 7-12 Teaching Reading in Content Area			
(Professional Semester II).....			2
Agricultural Systems Technology (AST) Elective.....	3		

<b>Senior Year</b>		<b>F</b>	<b>S</b>
AGED 271-271L, Farm and Ranch Management and Lab .....			4
AGED 434, Special Methods in AGED (Professional			
Semester III).....	3		
AGED 454, Teaching Agricultural Systems Technology			
Labs (Professional Semester III).....	2		
AGED 475, Supervised Teaching Internship (Professional			
Semester III).....	8		
AGED 494-496, Internship/Field Experience .....			2
Two additional credit hours of courses prefixed			
ENGL, MCOM, or SPCM .....			2
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic			
Awareness.....			3
Approved Agricultural Electives <b>or</b> .....			5
•Approved Agricultural Electives <b>and</b> .....			2
Agricultural Systems Technology (AST) Elective .....			3

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Agricultural Journalism Major

**Mary Arnold**  
**Department of Journalism and Mass Communication**  
**Yeager Hall 211**  
**605-688-4171**  
**e-mail: mary.arnold@sdstate.edu**

### Requirements for Agricultural Journalism Major Bachelor of Science in Agriculture

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
BIOL 101-101L*, Biology Survey I and Lab <b>and</b>			
BIOL 103-103L*, Biology Survey II and Lab .....	3		3
CHEM 106-106L*, Chemistry Survey and Lab .....			4
ENGL 101*, Composition I .....	3		or 3
MATH 102*, College Algebra .....	3		
MCOM 155, Information Gathering .....	2		or 2
SPCM 101*, Fundamentals of Speech.....	3		or 3
SOC 100*, Introduction to Sociology <b>or</b>			
SOC 150*, Social Problems, (G), <b>or</b>			
SOC 240*, Sociology of Rural America, (G) <b>or</b>			
ANTH 210*, Cultural Anthropology, (G).....	3		
SGR Goal 4*: Humanities and Arts (G) .....			3
IGR Goal 2***: Personal Wellness.....	2-3		or 2-3
Group I Courses (See College of ABS listing, p. 64).....	3		3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ECON 201*, Principles of Microeconomics.....	3		
ENGL 201*, Composition II.....	3	or	3
MCOM 265-265L, Basic Photography and Studio.....	2	or	2
MCOM 210-210L, Basic Newswriting and Studio.....	3	or	3
MCOM 220-220L, Introduction to Digital Media and Studio.....	2	or	2
MCOM 225-225L, Introduction to Digital Delivery and Studio.....	2	or	2
PHYS 101-101L, Survey of Physics and Lab.....	3		
Second in Sequence of physics, chemistry or bio.....	3-4	or	3-4
SGR Goal 4*: Humanities and Arts* (G).....	3		
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
Also meet ABS College Social Science requirement.....	3	or	3
Group I Courses (See College of ABS listing, p. 64).....	3		3

<b>Junior Year</b>		<b>F</b>	<b>S</b>
MCOM 311-311L, News Editing and Studio.....	3	or	3
MCOM 332-332L, Broadcast Writing and Reporting and Studio and/or.....	3		
MCOM 316, Magazine Writing and Editing and/or.....	3		
MCOM 410, Advanced Reporting.....	3		
MCOM 370, Advertising Principles.....	3		
MCOM 438, Public Affairs Reporting (AW).....	3	or	3
IGR Goal 1**: Land and Natural Resources.....	3	or	3
Humanities Electives.....	2	or	3
Agriculture Electives.....	3		3
MCOM Electives.....	3		3

<b>Senior Year</b>		<b>F</b>	<b>S</b>
MCOM 430, Media Law.....	3	or	3
MCOM 490, Seminar.....	1	or	1
MCOM 494, Internship (summer).....	2	or	2
Agriculture Electives.....	3		6
Electives.....	6		8

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Agricultural Marketing Minor

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

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<b>Requirements for Agricultural Marketing Minor: 21-22 cr</b>	
AGEC 354, Agricultural Marketing and Prices.....	3
AGEC 454, Economics of Grain and Livestock Marketing.....	3
ECON 201, Principles of Microeconomics.....	3
ECON/BADM 370, Marketing.....	3
Three (3) of the following:.....	9-10

AGEC 479, Agricultural Policy (3)	
AS 285-285L, Livestock Evaluation and Marketing (4)	
BADM 474, Personal Selling (3)	
ECON 476, Marketing Research (3)	
ECON 440, Economics of the International Sector (3)	

## Agricultural Systems Technology (AST) Major and Minor

**Van Kelley**  
Department of Agricultural and Biosystems Engineering  
Agricultural Engineering 107  
605-688-5141  
e-mail: van.kelley@sdstate.edu  
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### Requirements for Agricultural Systems Technology Major Bachelor of Science in Agriculture

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
AST 202-202L, Construction Techniques and Materials and Lab.....	2		
AST 273, Microcomputer Applications in Agriculture or CSC 105, Computer Science I.....	3		3
CHEM 106-106L*, Chemistry Survey and Lab or CHEM 112-112L*, General Chemistry I and Lab.....	4		
ENGL 101*, Composition I.....	3		
MATH 120*, Trigonometry++++ or MATH 115*, Precalculus.....	3-5		
MNET 231, Manufacturing Processes.....	3		3
SPCM 101*, Fundamentals of Speech.....	3		3
SGR Goal 3*: Social Sciences.....	3		3
SGR Goal 4*: Humanities and Arts.....	3		
IGR Goal 2**: Personal Wellness.....	2-3		
Group I Elective+++.....	3		

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I.....	3		3
AST 213-213L, Agricultural, Industrial, and Outdoor Power and Lab or AST 313-313L, Farm Machinery Systems Management and Lab.....	3		
ECON 202*, Principles of Macroeconomics (G).....	3		3
ENGL 201*, Composition II+.....	3		3
GE 121, Engineering Design Graphics I and GE 123, Computer Aided Drawing or GE 120, Engineering Drawing/CAD.....	2-3		
PHYS 111-111L, Introduction to Physics I and Lab.....	4		
PS 213-213L**, Soils and Lab.....	3		3
Science Elective, selected from CHEM, PHYS, BIOL, MICR, or BOT.....	4		3
SGR Goal 4*: Humanities and Arts.....	3		

<b>Junior Year</b>		<b>F</b>	<b>S</b>
AST 333-333L, Soil and Water Mechanics and Lab.....	3		
AST 342-342L, Applied Electricity and Lab.....	3		3
BADM 310, Business Finance.....	3		
BADM 350, Legal Environment of Business and Contracts...	3		3
Group I Elective+++.....	3		3
Specialization Courses.....	3		6
Biological Science Electives++.....	3		3
Elective+.....	2		
Technical Elective++++.....	3		

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ABE 353-353L, Physical Climatology and Meteorology and Lab.....	3	
ABE 490, Seminar.....	1	
AST 303, Design Management Experience or AST 494-496-497, Internship/Field Experience/ Cooperative Education.....	3	3
AST 423-423L, Rural Structures and Lab.....	3	
AST 443-443L, Food Process and Engineering Fundamentals and Lab.....	3	
AST 463, Agricultural Waste Management (AW).....	3	
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	
Technical Elective††††.....	3	6
Specialization Courses.....	2	3

NFH 341-341L, Food Science and Lab.....	4
PS 312, Grain and Seed Production and Processing.....	2
Processing Elective.....	3

**Production Specialization**

Ag Production Electives.....	3
Animal Science Electives.....	9
Horticulture Electives.....	6
Plant Science Electives.....	9

**Environmental Systems Specialization**

AST 225, Principles of Environmental Science and Engineering.....	3
AST 390, Seminar.....	1
AST 460, Senior Design I Environmental Science/ Engineering.....	1
AST 461, Senior Design II Environmental Science/ Engineering.....	2
AST 462, Advanced Topics in National Research Technology.....	2
BIOL 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.....	3
Environmental Systems Technology Elective.....	3

**Environmental Science and Engineering Specialization**

The Environmental Science and Engineering Specialization is an interdisciplinary specialization with faculty and courses from the Agricultural and Biosystems Engineering, Agricultural Systems Technology, Civil and Environmental Engineering, and Environmental Management programs. The specialization is open to students with majors in any of the aforementioned programs and its goal is to incorporate the biological and ecological features of the involved programs to provide students with an interdisciplinary experience. Students from this specialization will be well prepared to apply the engineering, science, and environmental management aspects of each of these existing programs to engineer environmentally sustainable systems. Students graduating from the specialization will have that distinction noted on their diploma. Every student in this specialization is required to take four classes (AST 225, 460, 461, 462) that are unique to the specialization. In addition to the required classes, restrictive prerequisites on selected technical electives in the various participating programs will be relaxed allowing students in this specialization access that was formerly not available.

**Technical Electives**

ABE 372-372L, Microcomputer Applications in Agricultural Engineering and Lab.....	2
AST 213, Agricultural, Industrial and Outdoor Power.....	3
AST 262, Environmental Safety and Society.....	2
AST 313, Farm Machinery Systems Management.....	3
AST 492, Topics.....	1-3
AST 494 or 496 or 497, Internship/Field Experience/ Cooperative Education.....	1-3
BADM 380, Personal Finance.....	3
MNET 131, Machining Technology.....	3
MNET 132, Welding Technology.....	3
MNET 251, Electricity and Electronics I.....	3
MNET 252, Electricity and Electronics II.....	3
MNET 260/BADM 260, Production and Operations Management.....	3

† "C" grade required in ENGL 201.

†† Courses must be selected from the following areas: Botany, Biology, Entomology-Zoology, Microbiology.

††† AST majors are required to take 11 credits of Group I classes from page 64. Students may use a maximum of 6 credits of AST classes to satisfy the Group I requirement.

†††† Technical electives must be selected from the approved list provided.

††††† MATH 115 (5cr) may be taken instead of MATH 102 and MATH 120.

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

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

**Business Specialization**

AGEC 271-271L, Farm and Ranch Management and Lab.....	4
AGEC 354, Ag Marketing and Prices.....	3
AGEC 470, Ag Policy.....	3
AGEC 478, Ag Finance.....	3
AST 303, Design Management Experience.....	3
BADM 334, Small Business Management.....	3
BADM 360, Organization and Management.....	3
BADM 474, Principles of Selling.....	3
BADM 380, Personal Finance.....	3
ECON 201, Principles of Microeconomics.....	3
ECON 330, Money and Banking.....	3
STAT 281, Introduction to Statistics, or equivalent.....	3
Business Elective.....	3

**Processing Specialization**

AS 241, Meat: Production to Consumption.....	3
AS 341, Fresh Meat Operations.....	3
DS 321-321L, Dairy Product Processing I and Lab.....	5
DS 421, Dairy Plant Management.....	3
MICR 231-231L, General Microbiology and Lab.....	4
MICR 311-311L, Food Microbiology and Lab.....	4

MNET 350, Fluid Power Technology.....	3
Any 300 or higher level course in Animal and Range Sciences, Plant Science, Agricultural Business, Agricultural Economics, and Economics .....	3

**Requirements for Agricultural Systems Technology Minor: 18 cr**

AST 202-202L, Construction Techniques and Materials and Lab.....	2
AST 213-213L, Agricultural, Industrial and Outdoor Power and Lab .....	3
AST 333-333L, Soil and Water Mechanics and Lab .....	3
AST 342, Applied Electricity .....	3

**Plus 7 hours from the following:**

AST 262, Environmental Safety and Society .....	2
AST 273-273L, Microcomputer Applications in Agriculture and Lab.....	3
AST 313-313L, Farm Machinery Systems Management and Lab .....	3
AST 423-423L, Rural Structures and Lab .....	3
AST 443-443L, Food Process and Engineering Fundamentals and Lab .....	3
AST 463, Agricultural Waste Management .....	3
AST 492, Topics .....	1-3
AST 303, Design Management Experience.....	3
AST 494 or 496 or 497, Internship/Field Experience/ Cooperative Education .....	1-3

## Agronomy Major and Minor

Teaching Coordinator

Department of Plant Science

Northern Plains Biostress Laboratory

605.688.4586 (Teaching Office, SNP 248A)

605-688-5123 (Department Head)

Email: Douglas.Malo@sdstate.edu

http://plantsci.sdstate.edu

**Requirements for Agronomy Major**

**Bachelor of Science in Agriculture**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
SGR Goal 6*: BIOL 151-151L, General Biology I and Lab.....	4	
SGR Goal 6*: BOT 201-201L, General Botany and Lab or BIOL 153-153L, General Biology II and Lab .....	3-4	
SGR Goal 1*: ENGL 101, Composition I.....	3	
SGR Goal 5*: MATH 102, College Algebra or MATH 115, Precalculus or MATH 120, Trigonometry .....	3-5	or 3-5
PS 101, Opportunities in Plant Science .....	1	
PS 103-103L, Crop Production and Lab.....	3	
SGR Goal 2*: SPCM 101; Fundamentals of Speech or SPCM 215, Public Speaking or SPCM 222 Argumentation and Debate.....	3	
SGR Goal 3*: SOC 100, Introduction to Sociology (G) or SOC 150, Social Problems (G) or SOC 240, The Sociology of Rural America (G).....	3	
IGR Goal 2***: GS 143 Mastering Lifetime Learning Skills.....	2	or 2
Specialization and Elective Courses† .....	0-5	0-6

**Sophomore Year** **F** **S**

SGR Goal 3*: ECON 201, Principles of Microeconomics or ECON 202, Principles of Macroeconomics (G) .....	3
SGR Goal 1*: ENGL 201, Composition II .....	3

IGR Goal 1***: PS 213-213L, Soils and Lab.....	3
PS 223-223L, Principles of Plant Pathology and Lab .....	3
SGR Goal 4*: Humanities and Arts/Diversity (G).....	3
Specialization and Elective Courses† .....	4

**Junior Year** **F** **S**

BOT 327-327L, Plant Physiology and Lab.....	4
PS 421-421L, Soil Microbiology and Lab or MICR 231-231L, General Microbiology and Lab.....	4
Natural Resources Stewardship Elective (see list).....	3
PS 305-305L, Insect Biology and Lab .....	3
PS 323, Soil Fertility and Plant Nutrient Management .....	3
PS 390, Seminar.....	1
PS 494, Internship .....	1
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3
Specialization and Elective Courses† .....	2-13

**Senior Year** **F** **S**

ABS 475-475L, Integrated Natural Resource Management and Lab (AW).....	3
ENGL 379, Technical Communication .....	3
PS 343-343L, Weed Science and Lab .....	3
STAT 281, Introduction to Statistics .....	3
Specialization and Elective Courses† .....	6-13

† See selected specialization.

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Agronomy Major Core Curriculum**

The following courses (27 credits) are required in all areas of specialization under the agronomy major. A student must have a GPA of 2.5 or higher in the courses used to satisfy the Agronomy core curriculum in order to graduate with a major in Agronomy.

PS 101, Opportunities in Plant Science .....	1
PS 103-103L, Crop Production and Lab.....	3
PS 213-213L, Soils and Lab .....	3
PS 223-223L, Principles of Plant Pathology and Lab .....	3
PS 305-305L, Insect Biology.....	3
PS 323, Soil Fertility and Plant Nutrient Management .....	3
PS 343-343L, Weed Science and Lab.....	3
PS 390, Seminar.....	1
PS 494, Internship.....	1
ABS 475-475L, Integrated Natural Resource Management and Lab .....	3
Natural Resources Stewardship Elective (select one course from the following list):	
PS 243, Principles of Geology.....	3
PS 307-307L, Insect Pest Management.....	3
PS 310-310L, Soil Geography and Land Use Interpretation and Studio .....	3
PS 362-362L, Environmental Soil Management and Lab .....	3
PS 446, Agroecology .....	3

PS 475, Water Quality in Agriculture.....	3
ABS 203, Global Food Systems.....	3
ABS 482, International Experience.....	3
BIOL/PHIL 383, Bioethics.....	3

**Business Specialization**

ACCT 210, Principles of Accounting I.....	3
AGEC 354, Agricultural Marketing and Prices <b>or</b> AS 285-285L, Livestock Evaluation and Marketing and Lab.....	3 or 4
BADM 360, Organization and Management.....	3
CHEM 106-106L Chemistry Survey and Lab <b>or</b> CHEM 112-112L, General Chemistry I and Lab.....	4
CHEM 120-120L, Elementary Organic Chemistry and Lab <b>or</b> CHEM 108-108L, Organic and Biochemistry and Lab.....	4 or 5
PHYS 101-101L, Survey of Physics and Lab <b>or</b> PHYS 111-111L, Introduction to Physics I and Lab.....	4
PS 383-383L, Principles of Crop Improvement and Lab <b>or</b> BIOL 202, Genetics and Organismal Biology <b>or</b> BIOL 371, Genetics.....	3 or 4
Business Electives (see list below).....	6
Plant Science Electives† (at least one course from each of three areas listed on p. 139).....	10
Unrestricted Electives.....	5-10

† See Production Specialization for list of approved courses in crops, plant protection, and soils/environmental protection areas.

**Business Electives**

ACCT 211, Principles of Accounting II.....	3
ACCT 320, Cost Accounting.....	3
AGEC 271-271L, Farm and Ranch Management and Lab.....	4
AGEC 352, Agricultural Law.....	3
AGEC 354, Agricultural Marketing and Prices†.....	3
AGEC 421, Farming and Food Systems Economics.....	3
AGEC 454, Economics of Grain and Livestock Marketing.....	3
AGEC 473-473L/PS 473-473L, Rural Real Estate Appraisal and Lab†.....	3
AGEC 478-478L, Agricultural Finance and Lab.....	3
AGEC 479, Agricultural Policy.....	3
AS 285-285L, Livestock Evaluation and Marketing and Lab†.....	4
BADM 280, Personal Finance.....	3
BADM 310, Business Finance.....	3
BADM 350, Legal Environment of Business.....	3
BADM 351, Business Law.....	3
BADM 474, Personal Selling.....	3
ECON 201, Principles of Microeconomics†.....	3
ECON 202, Principles of Macroeconomics†.....	3
ECON 330, Money and Banking.....	3
ECON 433, Public Finance.....	3
ECON 460, Economic Development.....	3
ECON 472, Resource and Environmental Economics.....	3
ECON 476, Marketing Research.....	3

† Courses in Business electives cannot be used to meet other Agronomy major or specialization requirements.

**Production Specialization**

AGEC 354, Agricultural Marketing and Prices <b>or</b> AS 285-285L, Livestock Evaluation and Marketing and Lab <b>or</b> BADM 474, Personal Selling.....	3-4
CHEM 106-106L, Chemistry Survey and Lab <b>or</b> CHEM 112-112L, General Chemistry I and Lab.....	4
CHEM 120-120L, Elementary Organic Chemistry and Lab <b>or</b> CHEM 108-108L, Organic and Biochemistry and Lab.....	4 or 5

PHYS 101-101L, Survey of Physics and Lab <b>or</b> PHYS 111-111L, Introduction to Physics I and Lab.....	4
PS 383-383L, Principles of Crop Improvement and Lab <b>or</b> BIOL 202, Genetics and Organismal Biology <b>or</b> BIOL 371, Genetics.....	3 or 4

Plant Science Electives† (at least one course from each of three areas listed below).....	13
Unrestricted Electives.....	14-19

**Plant Science Electives †**

Crops Courses	Plant Protection Courses	Soils/Environmental Protection Courses
PS 303-303L, Seed Technology & Lab	PS 307-307L†, Insect Pest Management & Lab	PS 243†, Principles of Geology
PS 308-308L, Grain Grading & Lab	PS 333-333L, Diseases of Field Crops & Lab	PS 244, Geological Resources of South Dakota
PS 312, Grain & Seed Production & Processing	PS 334-334L Diseases of Horticultural Crops & Lab	PS 310-310L†, Soil Geography and Land Use Interpretation and Studio (G)
PS 313, Forage Crops & Pasture Management	PS 415-415L, Mycology and Lab	PS 321††, Soil Judging
PS 320††, Crop Judging	PS 420, Biological Control	PS 362-362L†, Environmental Soil Management & Lab
PS 383-383L†, Principles of Crop Improvement & Lab	PS 431-431L, Applied Insect Ecology & Lab	PS 412, Environmental Soil Chemistry
PS 440-440L, Crop Management with Precision Farming & Lab	PS 450-450L Field Studies in Plant Disease Diagnosis & Lab	PS 421-421L, Soil Microbiology & Lab
PS 453, Advanced Genetics		PS 446†, Agroecology
PS 480, Environmental Stress Physiology		PS 473-473L, Rural Real Estate Appraisal & Lab
		PS 475†, Water Quality in Agriculture
		PS 483, Irrigation-Crop and Soil Practices

† Courses in Plant Science electives cannot be used to meet other Agronomy major or specialization requirements.

†† Course cannot be used to solely meet area requirements.

**Pest Management Specialization**

ABS 203, Global Food Systems <b>or</b> AGEC 421, Farming and Food Systems Economics.....	3
BIOL 202-202L, Genetics and the Organism and Lab <b>or</b> BIOL 371, Genetics.....	3 or 4
BIOL 466, Environmental Toxicology and Contamination <b>or</b> AST 262, Environmental Safety and Society.....	2
BOT 301-301L, Plant Systematics and Lab <b>or</b> BOT 405-405L, Grasses and Grass-Like Plants and Lab <b>or</b> RANG 210-210L, Range Plant Identification and Lab.....	2
BOT 311, Principles of Ecology <b>or</b> BOT 415 Plant Ecology.....	3
CHEM 106-106L, Chemistry Survey and Lab <b>or</b> CHEM 112-112L, General Chemistry I and Lab.....	4
CHEM 120-120L, Elementary Organic Chemistry and Lab <b>or</b> CHEM 108-108L, Organic and Biochemistry and Lab.....	4 or 5
PHYS 101-101L, Surveys of Physics and Lab <b>or</b> PHYS 111-111L, Introduction to Physics I and Lab.....	4
PS 440-440L, Crop Management with Precision Farming and Lab.....	3

## Pest Management Electives

At least two courses from each of the three areas listed.

\*\* Not to include courses used to fulfill Plant Science of Biological Science Core or Natural Resources Stewardship Elective.

### Entomology

PS 307-307L, Insect Pest Management and Lab.....	3
PS 420-420L, Biocontrol of Arthropods and Lab .....	3
PS 431-431L, Applied Insect Ecology and Lab .....	3

### Plant Pathology

PS 333-333L, Diseases of Field Crops and Lab .....	3
PS 334-334L, Diseases of Horticultural Crops and Lab .....	3
PS 415-415L, Mycology and Lab .....	3
PS 450-450L, Field Studies of Plant Disease Diagnosis and Lab .....	2

### Plant Systems and Environmental Safety

ABS 203, Global Food Systems <b>or</b>	
AGEC 421, Farming and Food Systems Economics .....	3
AST 262, Environmental Safety and Society <b>or</b>	
BIOL 466, Environmental Toxicology and Contaminants .....	2 or 3
BIOL 301-301L, Plant Systematics and Lab <b>or</b>	
BOT 405-405L, Grasses and Grass-Like Plants and Lab <b>or</b>	
Range 210-210L, Range Plant Identification and Lab.....	2 to 4
BIOL 311, Principles of Ecology <b>or</b>	
BOT 419-419L Plant Ecology and Lab .....	3 or 4
PS 440-440L, Crop Production with Precision Agriculture and Lab <b>or</b>	
PS 475, Water Quality in Agriculture.....	3

### Science Specialization

BIOL 202-202L, Genetics and the Organism and Lab <b>or</b>	
BIOL 371, Genetics.....	3 or 4
CHEM 112-112L, General Chemistry I and Lab <b>and</b>	
CHEM 114-114L, General Chemistry II and Lab .....	8
CHEM 326-326L, Organic Chemistry I and Lab .....	4
CHEM 332-332L, Analytical Chemistry and Lab <b>or</b>	
CHEM 464-464L, Biochemistry I and Lab.....	4
MATH 123-123L, Calculus I and Lab <b>or</b>	
MATH 121-121L, Survey of Calculus and Lab.....	4-5
PHYS 111-111L, Introduction to Physics I and Lab <b>and</b>	
PHYS 113-113L, 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 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: 18 cr

PS 103-103L, Crop Production and Lab.....	3
PS 213-213L, Soils and Lab .....	3
PS 223-223L, Principles of Plant Pathology and Lab .....	3
PS 305-305L, Insect Biology and Lab.....	3
PS 323, Soil Fertility and Plant Nutrient Management .....	3
PS 343-343L, Weed Science and Lab.....	3

**NOTE:** Students must have a GPA of 2.5 or higher in courses used to satisfy the Agronomy Minor.

### Soil Science Certification: 21 cr

The following courses are strongly recommended for students seeking certification or licensure as a professional soil scientist:

PS 213-213L, Soils and Lab .....	3
PS 310-310L, Soil Geography and Land Use Interpretation and Studio.....	3
PS 323, Soil Fertility and Plant Nutrient Management .....	3
PS 362-362L, Environmental Soil Management and Lab .....	3
PS 412, Environmental Soil Chemistry .....	3
PS 421-421L, Soil Microbiology and Lab.....	3
Soils Elective.....	3

**Pest Management Minor:** See p. 223.

## American Indian Studies Minor

Allen R. Branum

American Indian Studies

Administration 217

email: allen.branum@sdstate.edu

### Requirements for American Indian Studies Minor: 20 cr

#### Required courses for the minor

ANTH 421†, Indians of North America <b>or</b>	
HIST 368†, History of the American Indians.....	3
ENGL 445†, American Indian Literature .....	3
LAKL 101†, Introductory Lakota I .....	4

10 credits chosen from the following elective courses:

AIS 100, Introduction to American Indian Studies .....	3
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 447†, American Indian Literature of the Present.....	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
LAKL 102†, Introductory Lakota II.....	4
LAKL 201†, Intermediate Lakota I.....	3
LAKL 202†, Intermediate Lakota II.....	3
POLS 417†, Tribal Government and Politics .....	3
REL 238†, Native American Religions .....	3
SOC 350, Ethnic and Racial Groups .....	3

† Courses crosslisted as AIS.

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



# Animal Science (AS)

## Major and Minor

Robert Thaler, Interim  
 Department of Animal and Range Sciences  
 Animal Science Complex 103A  
 605-688-5166  
 e-mail: robert.thaler@sdstate.edu

### Requirements for Animal Science Major Bachelor of Science in Agriculture

Freshman Year	F	S
AS 100, Opportunities in Animal Science .....	1	
AS 101-101L, Introduction to Animal Science and Lab .....	3	
BIOL 101-101L*, Biology Survey I and Lab <b>and</b>		
BIOL 103-103L*, Biology Survey II and Lab .....	3	3
<b>or</b>		
BIOL 151-151L*, General Biology I and Lab <b>and</b>		
BIOL 153-153L*, General Biology II and Lab .....	4	4
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra <b>or</b>		
MATH 115*, Precalculus .....	3-5	or 3-5
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3
IGR Goal 2**: Personal Wellness .....	2-3	or 2-3
Specialization and elective courses .....	2-3	2-3

Sophomore Year	F	S
AS 233-233L, Applied Animal Nutrition and Lab .....	4	or 4
AS 241, Meat: Production to Consumption .....	3	or 3
BIOL 371, Genetics .....	3	or 3
ECON 202*, Principles of Macroeconomics (G) .....	3	or 3
ENGL 201*, Composition II .....		3
SGR Goal 4*: Humanities and Arts .....	3	or 3
Specialization and elective courses .....	2-9	2-9

Junior Year	F	S
AS 323, Advanced Animal Nutrition .....	3	or 3
AS 332-332L, Principles of Animal Breeding and Lab .....		4
AS 390, Seminar .....	1	or 1
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	3
Communications Elective† .....	2-3	or 2-3
Specialization and elective courses .....	2-11	2-11

Senior Year	F	S
AS 433-433L, Livestock Reproduction and Lab .....	3	
AS 489, Current Issues in Animal and Range Sciences (AW) .....	1	or 1
AS Production Courses .....	3-6	or 3-6
IGR Goal 1**: Land and Natural Resources .....	3	or 3
Specialization and elective courses .....	5-11	5-11

† Choose one from ENGL 379, MCOM 210, MCOM 313, MCOM 331, SPCM 201, SPCM 215.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Business and Production Specialization

ACCT 210, Principles of Accounting I .....	3
AS 285-285L, Livestock Evaluation and Marketing .....	4
CHEM 106-106L, Chemistry Survey and Lab .....	4
CHEM 120-120L, Elementary Organic Chemistry and Lab .....	4
ECON 201, Principles of Microeconomics .....	3
PHYS 101-101L, Survey of Physics and Lab <b>or</b>	
Micro 231-231L, General Microbiology and Lab <b>or</b>	
CHEM 464-464L, Biochemistry and Lab .....	4
VET 223-223L, Anatomy and Physiology of Livestock and Lab .....	4
Animal Science Production Courses. Select two from:	
AS 365-365L, 474-474L, 477-477L, or 478-478L .....	6
Group 1 Electives, p. 64 .....	6

Business Electives .....

Select from the following:	
ACCT 211, Principles of Accounting II .....	3
AGEC 271-271L, Farm and Ranch Management and Lab .....	4
AGEC 352, Agricultural Law .....	3
AGEC 354, Agricultural Marketing and Prices .....	3
AGEC 421**, Farming and Food Systems Economics .....	3
AGEC 454, Economics of Grain and Livestock Marketing .....	3
AGEC 478-478L, 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 281, Introduction to Statistics .....	3
General Electives .....	7-12

### Science Specialization

CHEM 112-112L and 114-114L, General Chemistry I-II and Labs .....	8
CHEM 326-326L, Organic Chemistry I and Lab .....	4
CHEM 464-464L, Biochemistry and Lab .....	4
MATH 121-121L, Survey of Calculus and Lab .....	5
MICR 231-231L, General Microbiology and Lab .....	4
PHYS 111-111L-113-113L, Introduction to Physics I-II and Labs <b>or</b>	
PHYS 211-211L-213-213L, University Physics I-II and Labs .....	8
BIOL 221-221L, Human Anatomy and Lab and BIOL 325-325L, Physiology and Lab	
<b>or</b>	
VET 223-223L, Anatomy and Physiology of Livestock and Lab .....	4-7
AS Production Courses. Select two from:	
AS 365-365L, 474-474L, 477-477L, 478-478L .....	6
Group 1 Electives, p. 64 .....	6
General Electives .....	5-13

**Requirements for Animal Science Minor: 19 cr**

AS 101-101L, Introduction to Animal Science and Lab .....	3
AS 233-233L, Applied Animal Nutrition and Lab .....	4
AS 285-285L, Livestock Evaluation and Marketing and Lab .....	4
One of the following courses:	
AS 323, Advanced Animal Nutrition .....	3
AS 332-332L, Principles of Animal Breeding and Lab .....	4
AS 433-433L, Livestock Reproduction and Lab .....	3
Two of the following courses:	
(one must be 474-474L, 477-477L or 478-478L)	
AS 241, Meat: Production to Consumption .....	3
AS 365-365L, Horse Production and Lab .....	3
AS 474-474L, Beef Cattle Production and Lab .....	3
AS 477-477L, Sheep and Wool Production .....	3
AS 478-478L, Swine Production and Lab .....	3

**Requirements for Equine Studies Minor: 18-20 cr**

AS 104, Introduction to Horse Management .....	2
AS 105, Light Saddle Horses .....	1
AS 220, Fundamental Equine Nutrition .....	3
AS 213, Equine Health and Diseases .....	3
AS 365, Horse Production .....	3
AS 370, Stable Management .....	2
or AS 420, Reproductive Management .....	3
AS 490, Equine Internship .....	1
Choose one:	
AGEC 271, Farm and Ranch Management .....	4
BADM 334, Small Business Management .....	3
ENTR 336, Entrepreneurship .....	3

## Apparel Merchandising (AM) Major and Minor

Jane E. Hegland  
Department of Apparel Merchandising and Interior Design  
SNF 229  
605-688-5196  
e-mail: jane.hegland@sdstate.edu

**Requirements for Apparel Merchandising Major  
Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>	
AM 172, Introduction to Apparel Merchandising .....		2	
ARTH 100*, Art Appreciation (recommended) (G) .....	or	3	3
ENGL 101*, Composition I .....	or	3	3
FCS 101, Professional Foundations .....		1	
HIST 121*, History of Western Civilization to 1650 (recommended) or HIST 122*, History of Western Civilization since 1650 (recommended) (G) .....	or	3	3
MATH 102*, College Algebra (or higher) .....	or	3	3
PSYC 101*, General Psychology (recommended) or SOC 100*, Introduction to Sociology (recommended) (G) .....	or	3	3
SPCM 101*, Fundamentals of Speech or SPCM 215, Public Speaking (recommended) .....	or	3	3
SGR Goal 6*: Natural Sciences .....	or	3-4	3-4
IGR Goal 1**: Land and Natural Resources .....	or	3	3
IGR Goal 2**: Personal Wellness .....	or	2-3	2-3

**Sophomore Year**

AM 231-231L, Ready-to-Wear Analysis and Lab .....	F	S	3
AM 274-274L, Fashion Promotion and Visual Merchandising and Lab .....			3
AM 331-331L, Aesthetics of Dress and Lab (even years) .....			3
AM 372, Merchandising and Buying I .....			3
AM 480, Travel Studies .....			1
ENGL 201*, Composition II .....	or	3	3
ECON 201*, Principles of Macroeconomics (G) or ECON 202, Principles of Macroeconomic (G) .....	or	3	3
SGR Goal 6*: Natural Sciences .....	or	3-4	3-4
Electives .....	and	3	3

**Junior Year**

AM 242-242L, Textiles I and Lab .....	F	S	3
AM 315-315L, Apparel Design and Lab .....			3
AM 352, History of Dress in Western World (odd years) .....			3
AM 453, Socio-Psychological Aspects of Dress (even years) .....			3
AM 462, Retailing .....			3
AM 472-472L, Merchandising and Buying II and Lab .....			3
AM 487, Workplace Strategies .....			2
HDFS 241, Family Relations .....	or	3	3
Electives in BADM, ECON, MCOM, PSYC, SOC .....	and	6	3

**Summer School**

AM 495, Practicum .....			7
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**Senior Year**

IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (AM 381, Professional Behavior at Work required) .....	F	S	3
AM 482, Trends Analysis (AW) (odd years) .....	or	3	3
AM 490, Seminar .....			3
Electives in BADM, ECON, MCOM, PSYC, SOC .....			6
Electives .....			8 5-6

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits, English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Apparel Merchandising Minor: 18 cr**

AM 231-231L, Ready to Wear Analysis and Lab .....	3
AM 242-242L, Textiles I and Lab .....	3
Apparel Merchandising Electives .....	12
(9 credits must be at the 300 level or above)	

# Applied Information Technology (AIT) Minor

Daniel Landes  
College of Arts and Science  
SNF 251  
605-688-4723  
e-mail: daniel.landess@sdstate.edu

## Requirements for the Applied Information Technology Minor: 18 cr

CSC 110, Introduction to Ethical and Legal Issues in Information Technology .....	3
CSC 112, Principles of Internet Applications .....	3
CSC 205, Advanced Computer Applications .....	3
Choose a minimum of 9 credits from the following courses:	
ABE 372, Microcomputer Applications in Agricultural Engineering ...	2
ARTD 251, Graphic Design I .....	3
ARTD 255, Computer Graphics I .....	3
AST 273, Microcomputer Applications in Agriculture .....	3
CSC 325, Management Information Systems .....	3
EDFN 365, Computer-Based Technology and Learning .....	2
GE 120-120L, Engineering Drawing/CAD and Lab .....	3
MCOM 161-161L, Fundamentals of Desktop Publishing and Studio...3	
MCOM 413-413L, Computer Assisted Information Gathering and Studio .....	2
MEPR 130, Introduction to Electronic Media .....	3
MEPR 331-331L, Video Production and Lab .....	3
MEPR 431-431L, Advanced Television Production and Lab .....	3

# Applied Technical Science, Bachelor of (BATS)

Keith W. Corbett  
College of General Studies and Outreach Programs  
Medary Commons 121  
605-688-4153  
e-mail: keith.corbett@sdstate.edu

## Area of Specialization

Applied Agriculture	F	S
BATS 100 Transfer Credits .....	0-49	
ENGL 101*, Composition I .....	3	or 3
ENGL 201*, Composition II .....	3	or 3
SPCM 101*, Fundamentals of Speech .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
ECON 201*, Principles of Microeconomics or ECON 202*, Principles of Macroeconomics (G) .....	3	or 3
BIOL 101-102, Biology Survey I .....	3	or 3
CHEM 106-106L*, Chemistry Survey .....	4	or 4
SGR Goal 3*: Social Sciences (G) .....	3	or 3
SGR Goal 4*: Humanities and Arts (G) .....	6	or 6
SGR Goal 6*: Natural Sciences .....	1	or 1
IGR Goal 1**: Land and Natural Resources .....	3	or 3
IGR Goal 2**: Personal Wellness .....	2	or 2
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
AGEC 354, Agricultural Marketing and Prices .....	3	or 3
ACCT 201, Principles of Accounting I or STAT 281, Introduction to Statistics .....	3	or 3
PS 383/383L, Principles of Crop Improvement and Lab .....	3	or 3
BIOL 103/103L, Biology Survey II and Lab or		

BOT 201/201L, General Botany and Lab or CHEM 120/120L, Elementary Organic Chemistry and Lab or MICR 231/231L, General Microbiology and Lab or PHYS 101/101L, Introduction to Physics and Lab .....	4	or	4
ABS 475/475L, Integrate Management of Natural Resources and Lab or AGEC 421, Food and Farm Systems Economics or AS 474, Beef Production and Lab or AS 477, Sheep Production and Lab or AS 478, Swine Production and Lab or DS 412/412L, Dairy Farm Management and Lab or HO 412/412L, Greenhouse Management and Lab or HO 413/413L, Arboriculture and Lab or HO 415, Nursery Management or HO 416, Advanced Turfgrass Science or PS 440/440L, Crop Management with Precision Farming .....	3	or	3
AST course numbered 300 or above .....	3	or	3
ABS 203, Global Food Systems .....	3	or	3
PS 223-223L, Principles of Plant Pathology and Lab or AS 285, Livestock Evaluation and Marketing .....	3	or	3
PS, AS, DS, HO or ABE 490, Seminar (AW) .....	1	or	1
Courses numbered 300 or above with the prefix ABE, ABS, AGECE, AS, AST, DS, HO, LA, PR, RANG, VET, or WL .....	12	or	12
Free electives/other program supporting courses .....	5	or	5
Globalization Requirement .....	1-4		

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

General Supervision	F	S
BATS 100 Transfer Credits .....	0-49	
ENGL 101*, Composition I .....	3	or 3
ENGL 201* Composition II .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
SPCM 101*, Fundamentals of Speech .....	3	or 3
PSYC 101*, General Psychology .....	3	
SGR Goal 3*: Social Sciences (G) .....	3	or 3
SGR Goal 4*: Humanities and Arts (G) .....	6	or 6
SGR Goal 6*: Natural Sciences .....	6	or 6
IGR Goal 1**: Land and Natural Resources .....	3	or 3
IGR Goal 2**: Personal Wellness .....	2	or 2
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
SPCM 320, Communication in Interviewing .....	3	or 3
CSC 205, Advanced Computer Applications .....	3	or 3
BADM 360, Organization and Management .....	3	or 3
BADM 350, Legal Environment of Business .....	3	
SPCM 410, Organizational Communication .....	3	
CA 421, Diversity in the Workplace .....	3	
MNET 365, Occupational Safety and Health .....	3	or 3
ECON 467, Labor, Law and Economics .....	3	or 3
PSYC 331, Industrial and Organizational Psychology .....	3	
SOC 353, Sociology of Work or PHIL 320, Professional Ethics or Business Ethics course .....	3	or 3
MNET 494, Internship (AW) .....	3	or 3
Globalization Requirement .....	1-4	
Elective .....	2	or 2

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

<b>General Technology</b>	<b>F</b>	<b>S</b>
BATS 100 Transfer Credits .....	0-49	
ENGL 101*, Composition I .....	3	or 3
ENGL 201*, Composition II .....	3	or 3
MATH 120*, Trigonometry.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
CHEM 106-106L*, Chemistry Survey.....	4	or 4
SGR Goal 3*: Social Sciences (G).....	6	or 6
SGR Goal 4*: Humanities and Arts (G).....	6	or 6
SGR Goal 6*: Natural Sciences .....	4	or 4
IGR Goal 1***: Land and Natural Resources .....	3	or 3
IGR Goal 2***: Personal Wellness .....	2	or 2
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
GE 121, Engineering Design.....	1	or 1
GE 123, Computer Aided Drawing.....	2	or 2
CSC 205, Advanced Computer Applications.....	3	or 3
CSC 325, Management Information System .....	3	or 3
MNET 231-231L, Manufacturing Processes I and Lab.....	3	or 3
MNET 251-251L, Electricity and Electronics I and Lab.....	3	or 3
MNET 260, Production and Operations Management.....	3	or 3
AST 342-342L, Applied Electricity and Lab.....	3	or 3
AST 423-423L, Rural Structures and Lab .....	3	or 3
AST 443-443L, Food Process and Engineering Fundamentals and Lab .....	3	or 3
MNET 494, Internship (AW) .....	3	or 3
Globalization Requirement .....	1-4	
300-400 Level Elective .....	6	or 6

**A total of 20 credits of 300, 400 level coursework is required from the core and track courses.**

<b>Industrial Sales</b>	<b>F</b>	<b>S</b>
BATS 100 Transfer Credits .....	0-49	
ENGL 101*, Composition I .....	3	or 3
ENGL 201* Composition II .....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
MATH 102*, College Algebra .....	3	or 3
PHYS 101-101L, Survey of Physics and Lab.....	4	or 4
SGR Goal 3*: Social Sciences (G).....	6	or 6
SGR Goal 4*: Humanities and Arts (G).....	6	or 6
SGR Goal 6*: Natural Sciences .....	4	or 4
IGR Goal 1***: Land and Natural Resources .....	3	or 3
IGR Goal 2***: Personal Wellness .....	2	or 2
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
SPCM 320, Communication in Interviewing.....	3	or 3
GE 121, Engineering Design.....	1	or 1
GE 123, Computer Aided Drawing.....	2	or 2
CSC 205, Advanced Computer Applications.....	3	or 3
MNET 231-231L, Manufacturing Processes I and Lab.....	3	or 3
MNET 251-251L, Electricity and Electronics I and Lab.....	3	or 3
MNET 252-252L, Electricity and Electronics II and Lab .....	3	or 3
BADM 360, Organization and Management .....	3	or 3
MNET 334-334L, CAM/CNC and Lab .....	3	or 3
MNET 451-451L, Industrial Electronics and Control and Lab.....	3	or 3
MNET 494, Internship (AW) .....	3	or 3
ECON 370, Marketing .....	3	or 3
BADM 474, Personal Selling.....	3	or 3
Globalization Requirement .....	1-4	
Elective .....	2	

**A total of 20 credits of 300, 400 level coursework is required from the core and track courses.**

<b>Industrial Supervision</b>	<b>F</b>	<b>S</b>
BATS 100 Transfer Credits .....	0-49	
ENGL 101*, Composition I .....	3	or 3
ENGL 201*, Composition II.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
BADM 360, Organization and Management .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
STAT 281, Introduction to Statistics .....	3	or 3
SGR Goal 3*: Social Sciences (G).....	6	or 6
SGR Goal 4*: Humanities and Arts (G).....	6	or 6
SGR Goal 6*: Natural Sciences .....	6	or 6
IGR Goal 1***: Land and Natural Resources .....	3	or 3
IGR Goal 2***: Personal Wellness .....	2	or 2
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
GE 121, Engineering Design.....	1	or 1
GE 123, Computer Aided Drawing.....	2	or 2
MNET 231-231L, Manufacturing Processes I and Lab.....	3	or 3
MNET 260, Production and Operations Management.....	3	or 3
MNET 365, Occupational Safety and Health.....	3	or 3
MNET 367, Plant Layout and Material Handling.....	3	or 3
MNET 462, Quality Management.....	3	or 3
MNET 463, Production and Inventory Management.....	3	or 3
BADM 360, Organization and Management.....	3	or 3
MNET 494, Internship (AW) .....	3	or 3
BADM 350, Legal Environment of Business .....	3	or 3
CSC 205, Advanced Computer Applications.....	3	or 3
Globalization Requirement .....	1-4	
Elective .....	2	

**A total of 20 credits of 300, 400 level coursework is required from the core and track courses.**

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

\*\* South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). See pages 43-45 for details.  
(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Art (ART) Major and Minor

**Norman Gambill**  
**Department of Visual Arts**  
**Grove Hall 101**  
**605-688-4103**  
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**e-mail: sdsu.artdept@sdsu.edu**  
**website: [http://coldfusion.sdsu.edu/users/norman\\_gambill/HTML/Visual\\_Arts\\_Department1024.html](http://coldfusion.sdsu.edu/users/norman_gambill/HTML/Visual_Arts_Department1024.html)**

Art history courses can be used for the Core's humanities sequence, but Visual Arts students are required to take at least three hours in humanities outside the Department. Modern Languages are required for the B.A. See p. 192 for Graphic Design.

### Requirements for Art Major – Art Education Specialization Bachelor of Arts in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 110, First Review.....	0	0	
ARTH 100*, Art Appreciation.....	3	or 3	
ENGL 101*, Composition I.....	3	or 3	
SPCM 101*, Fundamentals of Speech.....	3	or 3	
SGR Goal 5*: Mathematics.....	3	or 3	
SGR Goal 6*: Natural Sciences.....	4	4	
Visual Arts Studio Core, p. 124.....	6	6	

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 200, Progress Review.....	0	or 0	
ART 251, Ceramics I.....	3	or 3	
ARTH 211*, World Art I, (G).....	3		
ARTH 212*, World Art II, (G).....		3	
ENGL 201*, Composition II.....	3	or 3	
Modern Language.....	4	4	
Professional Semester I.....	5	or 5	
SGR Goal 3*: Social Sciences.....	3	3	
Visual Arts Studio Core, p. 124.....	3	or 3	

<b>Junior Year</b>		<b>F</b>	<b>S</b>
ART 241, Sculpture I.....	3	or 3	
ARTE 414, K-12 Art Methods.....	3	or 3	
EDFN 427-527, Middle School: Philosophy and Application.....	2	or 2	
SEED 420, Teaching Special Needs Students.....	1	or 1	
Modern Language.....	3	3	
Professional Semester II.....	6	or 6	
Visual Arts Studio Core, p. 124.....		3	
Art History Advanced Writing Course (AW).....	3	or 3	
Art Studio Electives.....	3	3	
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3	

<b>Senior Year</b>		<b>F</b>	<b>S</b>
ART 400, Senior Review.....	0	or 0	
EDFN 365, Computer Based Technology and Learning.....	2	or 2	
HIST 368, History of American Indians or ANTH 421, Indians in North America.....	3	or 3	
Professional Semester III.....	14	or 14	
Art Elective.....	3	or 3	
IGR Goal 1**: Land and Natural Resources.....	3	or 3	
Electives (complete 300-400 level rule, can be ART/ARTD/ARTH courses).....	3	or 3	

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Art Major – Art Education Specialization  
Bachelor of Science in Arts and Science**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 110, First Review.....	0	0	
ARTH 100*, Art Appreciation, (G).....		3	
ENGL 101*, Composition I.....	3	or 3	
SPCM 101*, Fundamentals of Speech.....	3	or 3	

SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences.....	4	4
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
Visual Arts Studio Core, p. 124.....	6	6

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 200, Progress Review.....	0	or 0	
ART 251, Ceramics I.....	3	or 3	
ARTH 211*, World Art I, (G).....	3		
ARTH 212*, World Art II, (G).....		3	
ENGL 201*, Composition II.....	3	or 3	
Professional Semester I.....	5	or 5	
SGR Goal 3*: Social Sciences.....	3	3	
SGR Goal 4*: Humanities and Arts.....	3	or 3	
Visual Arts Studio Core, p. 124.....	3	3	
General Elective.....	1	or 1	

<b>Junior Year</b>		<b>F</b>	<b>S</b>
ART 241, Sculpture I.....	3	or 3	
ARTE 414, K-12 Art Methods.....	3	or 3	
EDFN 427-527 Middle School: Philosophy and Application.....	2	or 2	
SEED 420 Teaching Special Needs Students.....	1	or 1	
Professional Semester II.....	6	or 6	
Visual Arts Studio Core, p. 124.....		3	
IGR Goal 1**: Land and Natural Resources.....	3	3	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3	
Art History Advanced Writing Course (AW).....	3	or 3	
Art Studio Electives.....	3	3	
Electives (complete the 300-400 level rule, can be ART/ARTD/ARTH courses)			

<b>Senior Year</b>		<b>F</b>	<b>S</b>
ART 400, Senior Review.....	0	or 0	
EDFN 365, Computer Based Technology and Learning.....	2	or 2	
HIST 368, History of American Indians or ANTH 421, Indians in North America.....	3	or 3	
Professional Semester III.....	14	or 14	
Art Elective.....	3	or 3	
Electives (complete 300-400 level rule, can be ART/ARTD/ARTH courses)			

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Art Major – Visual Arts Specialization –  
Painting/Printmaking emphasis  
Bachelor of Arts in Arts and Science**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 110, First Review.....	0	0	
ARTH 100*, Art Appreciation, (G).....	3	or 3	
ENGL 101*, Composition I.....	3	or 3	
SPCM 101*, Fundamentals of Speech.....	3	or 3	
SGR Goal 5*: Mathematics.....	3	or 3	
SGR Goal 6*: Natural Sciences.....	4	4	
Visual Arts Studio Core, p. 124.....	6	6	

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 200, Progress Review	0	or	0
ART 231, Painting I	3	or	3
ART 281, Printmaking I	3	or	3
ARTH 211*, World Art I, (G)	3		
ARTH 212*, World Art II, (G)			3
ENGL 201*, Composition II	3	or	3
Modern Language	4		4
SGR Goal 3*: Social Sciences	3		3
IGR Goal 2**: Personal Wellness	2-3	or	2-3
Visual Arts Studio Core, p. 124	3		

<b>Junior Year</b>		<b>F</b>	<b>S</b>
ART 331, Painting II	3	or	3
ART 332, Painting—Intermediate or ART 382, Printmaking—Intermediate	3	or	3
ART 381, Printmaking II	3	or	3
Modern Language	3		3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness	3	or	3
Visual Arts Studio Core (finish it)	3		3
Art History Advanced Writing Course (AW)	3	or	3
Art Studio Electives	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

<b>Senior Year</b>		<b>F</b>	<b>S</b>
ART 400, Senior Review	0	or	0
ART 431, Painting III or ART 481, Printmaking—Advanced	3	or	3
IGR Goal 1**: Land and Natural Resources	3	or	3
Art Electives	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Art Major – Visual Arts Specialization – Painting/Printmaking emphasis

#### Bachelor of Science in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 110, First Review	0		0
ARTH 100*, Art Appreciation, (G)	3	or	3
ENGL 101*, Composition I	3	or	3
SPCM 101*, Fundamentals of Speech	3	or	3
SGR Goal 5*: Mathematics	3	or	3
SGR Goal 6*: Natural Sciences	4		4
IGR Goal 2**: Personal Wellness	2-3	or	2-3
Visual Arts Studio Core, p. 124	6		6

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 200, Progress Review	0	or	0
ART 231, Painting I	3	or	3
ART 281, Printmaking I	3	or	3
ARTH 211*, World Art I, (G)	3		
ARTH 212*, World Art II, (G)			3

ENGL 201*, Composition II	3	or	3
SGR Goal 3*: Social Sciences	3		3
SGR Goal 4*: Humanities and Arts	3	or	3
Visual Arts Studio Core, p. 124	3		
General Elective	2	or	2

<b>Junior Year</b>		<b>F</b>	<b>S</b>
ART 331, Painting II	3	or	3
ART 332, Painting—Intermediate or ART 382, Printmaking—Intermediate	3	or	3
ART 381, Printmaking II	3	or	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness	3	or	3
Art History Advanced Writing Course (AW)	3	or	3
Art Studio Electives	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

<b>Senior Year</b>		<b>F</b>	<b>S</b>
ART 400, Senior Review	0	or	0
ART 431, Painting III or ART 481, Printmaking—Advanced	3	or	3
IGR Goal 1**: Land and Natural Resources	3	or	3
Art Electives	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Art Major – Visual Arts Specialization – Ceramics/Sculpture emphasis

#### Bachelor of Arts in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 110, First Review	0		0
ART 241, Sculpture I	3	or	3
ARTH 100*, Art Appreciation, (G)	3	or	3
ENGL 101*, Composition I	3	or	3
SPCM 101*, Fundamentals of Speech	3	or	3
SGR Goal 5*: Mathematics	3	or	3
SGR Goal 6*: Natural Sciences	4		4
Visual Arts Studio Core, p. 124	6		3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 200 Progress Review	0	or	0
ART 251, Ceramics I	3	or	3
ART 341, Sculpture II	3	or	3
ARTH 211*, World Art I, (G)	3		
ARTH 212*, World Art II, (G)			3
ENGL 201*, Composition II	3	or	3
Modern Language	4		4
SGR Goal 3*: Social Sciences	3		3
IGR Goal 2**: Personal Wellness	2-3	or	2-3
Visual Arts Studio Core, p. 124	3		

<b>Junior Year</b>		<b>F</b>	<b>S</b>
ART 351, Ceramics II .....	3	or	3
ART 352, Ceramics—Intermediate or ART 342, Sculpture III .....	3	or	3
Modern Language .....	3		3
IGR Goal 3** <sup>*</sup> : Social Responsibility/Cultural and Aesthetic Awareness .....	3	or	3
Visual Arts Studio Core (finish it) .....	3		
Art History Advanced Writing Course (AW) .....	3	or	3
Art Studio Electives .....	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

<b>Senior Year</b>		<b>F</b>	<b>S</b>
ART 400, Senior Review .....	0	or	0
ART 451, Ceramics—Advanced or ART 441, Sculpture—Advanced .....	3	or	3
IGR Goal 1** <sup>*</sup> : Land and Natural Resources .....	3	or	3
Art Electives .....	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Art Major – Visual Arts Specialization – Ceramics/Sculpture emphasis

#### Bachelor of Science in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 110, First Review .....	0		0
ART 241, Sculpture I .....	3	or	3
ARTH 100*, Art Appreciation, (G) .....	3	or	3
ENGL 101*, Composition I .....	3	or	3
SPCM 101*, Fundamentals of Speech .....	3	or	3
SGR Goal 5*: Mathematics .....	3	or	3
SGR Goal 6*: Natural Sciences .....	3		3
IGR Goal 2** <sup>*</sup> : Personal Wellness .....	2-3	or	2-3
Visual Arts Studio Core, p. 124 .....	6		3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 200 Progress Review .....	0	or	0
ART 251, Ceramics I .....	3	or	3
ART 341, Sculpture II .....	3	or	3
ARTH 211*, World Art I, (G) .....	3		3
ARTH 212*, World Art II, (G) .....	3	or	3
ENGL 201*, Composition II .....	3	or	3
SGR Goal 3*: Social Sciences .....	3		3
SGR Goal 4*: Humanities and Arts .....	3	or	3
Visual Arts Studio Core, p. 124 .....	3		3
General Elective .....	2	or	2

<b>Junior Year</b>		<b>F</b>	<b>S</b>
ART 351, Ceramics II .....	3	or	3
ART 352, Ceramics—Intermediate or ART 342, Sculpture III .....	3	or	3
IGR Goal 3** <sup>*</sup> : Social Responsibility/Cultural and			

Aesthetic Awareness .....	3	or	3
Visual Arts Studio Core (finish it) .....	3	or	3
Art History Advanced Writing Course (AW) .....	3	or	3
Art Electives .....	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

<b>Senior Year</b>		<b>F</b>	<b>S</b>
ART 400, Senior Review .....	0	or	0
ART 451, Ceramics—Advanced or ART 441, Sculpture—Advanced .....	3	or	3
IGR Goal 1** <sup>*</sup> : Land and Natural Resources .....	3	or	3
Art Electives .....	3		3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)			

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Art Major – Visual Arts Specialization – General Art emphasis

#### Bachelor of Science in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 110, First Review .....	0		0
ARTH 100*, Art Appreciation, (G) .....	3	or	3
ENGL 101*, Composition I .....	3	or	3
SPCM 101*, Fundamentals of Speech .....	3	or	3
SGR Goal 5*: Mathematics .....	3	or	3
SGR Goal 6*: Natural Sciences .....	3		3
IGR Goal 2** <sup>*</sup> : Personal Wellness .....	2-3	or	2-3
Visual Arts Studio Core, p. 124 .....	6		6

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 200 Progress Review .....	0	or	0
ARTH 211*, World Art I, (G) .....	3		3
ARTH 212*, World Art II, (G) .....	3		3
ENGL 201*, Composition II .....	3	or	3
SGR Goal 3*: Social Sciences .....	3		3
SGR Goal 4*: Humanities and Arts .....	3	or	3
Art Elective .....	3		3
Visual Arts Studio Core, p. 124 .....	3		3
General Elective .....	2	or	2

<b>Junior Year</b>		<b>F</b>	<b>S</b>
IGR Goal 3** <sup>*</sup> : Social Responsibility/Cultural and Aesthetic Awareness .....			3
Art History Advanced Writing Course (AW) .....	3	or	3
Art Studio Electives .....	3	or	3
ARTD/ART-Area of Specialization † .....	3		3
General Electives (complete 300-400 level rule) .....	10-11	or	10-11



<b>Senior Year</b>	<b>F</b>	<b>S</b>
ART 400, Senior Review.....	0	0
IGR Goal 1** : Land and Natural Resources .....	3	3
Art Elective.....	6	3
ARTD/ART-Area of Specialization †.....	3	3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses) .....	6-7	6-7

† You need to take three courses in one of the five studio concentrations: Painting, printing, ceramics, sculpture or graphic design. Two courses should be taken during the Junior Year and one course taken during the Senior Year.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Art Major – Visual Arts Specialization –  
General Art emphasis**

**Bachelor of Arts in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ART 110, First Review.....	0	0
ART 200, Progress Review .....	0	0
ARTH 100*, Art Appreciation, (G).....	3	3
ENGL 101*, Composition I .....	3	3
SPCM 101*, Fundamentals of Speech.....	3	3
SGR Goal 5*: Mathematics.....	3	3
SGR Goal 6*: Natural Sciences .....	4	4
Visual Arts Studio Core, p. 124.....	6	6

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ARTH 211*, World Art I, (G) .....	3	3
ARTH 212*, World Art II, (G).....	3	3
ENGL 201*, Composition II.....	3	3
Modern Language.....	4	4
SGR Goal 3*: Social Sciences .....	3	3
Art Elective.....	3	3
Visual Arts Studio Core, p. 124.....	3	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
Modern Language.....	3	3
IGR Goal 2** : Personal Wellness.....	2-3	2-3
IGR Goal 3** : Social Responsibility/Cultural and Aesthetic Awareness.....	3	3
Art History Advanced Writing Course (AW) .....	3	3
Art Studio Elective .....	3	3
ARTD/ART-Area of Specialization †.....	3	3
Electives		

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ART 400, Senior Review.....	0	0
IGR Goal 1** : Land and Natural Resources .....	3	3
Art Elective.....	6	3
ARTD/ART-Area of Specialization †.....	3	3
Electives (complete 300-400 level rule, can be ART/ARTD/ ARTH courses)		

† You need to take three courses in one of the five studio concentrations: Painting, printing, ceramics, sculpture or graphic design. Two courses should be taken during the Junior Year and one course taken during the Senior Year.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**ART MINOR**

**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: jim.booher@sdstate.edu**

**Requirements for Athletic Training Major**

**Bachelor of Science in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
AT 164, Introduction to Athletic Training.....	2	2
SGR Goal 1* : ENGL 101, Composition I .....	3	3
SGR Goal 2* : SPCM 101, Fundamentals of Speech.....	3	3
SGR Goal 3* : PSYC 101, General Psychology.....	3	3
SGR Goal 3* : HDFS 210, Lifespan Development .....	3	3
SGR Goal 4* : Humanities and Arts .....	3	3
SGR Goal 5* : MATH 102, College Algebra .....	3	3
SGR Goal 6* : Chemistry.....	4	4
IGR Goal 2** : PHA 201, Medications and Wellness .....	2	2

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
HLTH 250, First Aid .....	2	2
NURS 201, Medical Terminology.....	1	1
PE 354, Prevention and Care of Athletic Injuries.....	2	2
BIOL 221, Human Anatomy .....	4	4
BIOL 325, Physiology.....	4	4
NFS 221, Survey of Nutrition .....	3	3
Humanities and Arts.....	2-3	2-3
Social Sciences/Diversity .....	3	3
SGR Goal 1* : ENGL 201, Advanced Composition .....	3	3
SGR Goal 4* : Humanities and Arts .....	3	3
IGR Goal 1** : Land and Natural Resources .....	3	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
AT 441-541, Athletic Training Techniques I.....	3	3
AT 442-542, Athletic Training Techniques II.....	3	3
AT 371, Athletic Training Clinical Experience I.....	2	2
AT 372, Athletic Training Clinical Experience II .....	2	2
AT 374, Athletic Training Clinical Experience IV.....	2	2
AT 454-554, Athletic Injury Assessment-Lower Extremity...2	2	2
AT 456-556, Athletic Injury Assessment-Upper Extremity .....	2	2
AT 464-564, Therapeutic Modalities in AT.....	2	2
NURS 323, Introduction to Pathophysiology .....	3	3
PE 454, Biomechanics.....	3	3
PSYC 417, Health Psychology (alternate years) .....	3	3
IGR Goal 3** : HLTH/HSC 443, Public Health Science (G).....	3	3

<b>Summer</b>	
AT 471, Fall Clinical Experience .....	1

<b>Senior Year</b>	<b>F</b>	<b>S</b>
AT 443-543, Athletic Training Techniques III .....	3	
AT 444-544, Athletic Training Techniques IV .....		3
AT 373, Athletic Training Clinical Experience III .....	2	
AT 474-574, Rehabilitation of Athletic Injuries (AW) .....	2	
AT 490, Seminar .....		2
PE 350, Exercise Physiology .....	3	
PE 400, Exercise Test and Prescription .....		3

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Aviation Education (AVIA) Major and Minor

**Jeff Boulware**  
College of Education and Counseling  
Wenona Hall 112  
605-688-5126  
e-mail: [jeff.boulware@sdstate.edu](mailto:jeff.boulware@sdstate.edu)  
website: <http://learn.sdstate.edu/Aviation>

South Dakota State University offers a Bachelor of Science in Education degree in Career Technical Education with a specialization in Aviation Education. This four-year degree program requires a student to obtain pilot certification from the private pilot through flight instructor certificates. In addition, courses are available to obtain the certified flight instructor instrument, multi-engine, and multi-engine instructor ratings. Students attend classes on campus for general education and flight theory courses, while flying with one of two flight contractors located at Brookings or Sioux Falls airports to obtain flight certificates and ratings.

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

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

The degree includes courses in safety, human factors, teaching methodologies, curriculum development and other courses recognized by our industry advisory board, and potential employers, as courses which prepare the best future employee. Students are expected to complete the flight instructor certificate by the end of the junior year, then have the opportunity to instruct incoming students during their senior year, with the intent of graduating with the highest level of flight instruction experience possible.

## Requirements for Career and Technical Education Major—Aviation Education Specialization

### Bachelor of Science in Education

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
AVIA 101, Introduction to General Aviation .....	1	
AVIA 200, Aviation Safety .....	3	or 3
AVIA 201, Aviation Weather .....	3	or 3
AVIA 270, Private Pilot Operation .....	3	or 3
AVIA 272, Private Pilot Flight I .....	2	or 2
AVIA 273, Private Pilot Flight II .....		3
ENGL 101*, Composition I .....	3	or 3
ENGL 201*, Composition II .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences <b>and/or</b> .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I .....	3	or 3
AVIA 370, Commercial Pilot Theory .....		3
AVIA 371, Instrument Pilot Theory .....	3	
AVIA 372, Instrument Flight .....	2	
AVIA 373, Commercial Flight I .....		3
EDFN 365, Computer Based Tech and Learning .....	2	or 2
PHYS 101-101L*, Survey of Physics I and Lab .....	4	or 4
PSYC 101, General Psychology or		
SOC 100, Introduction to Sociology .....	3	or 3
SGR Goal 3*: Social Sciences <b>and/or</b> .....	3	or 3
SGR Goal 4*: Humanities and Arts <b>and/or</b> .....	3	or 3
IGR Goals 1-3** .....	2-3	or 2-3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
AVIA 295, Practicum .....	1	
AVIA 300, Human Factors in Aviation .....		3
AVIA 305, Intro to Aviation Administration .....	3	
AVIA 374, Commercial Flight II .....	3	
AVIA 470, Professional Flight Instructor .....		3
CTE 405, Philosophy of Career and Technical Education .....	2	
CTE 419, Methods of Teaching .....		3
CTE 430, Cooperative Education .....		3
ENGL 379, Technical Communications (AW) .....	3	or 3
SGR Goal 3*: Social Sciences <b>and/or</b> .....	3	or 3
SGR Goal 4*: Humanities and Arts <b>and/or</b> .....	3	or 3
IGR Goals 1-3** .....	2-3	or 2-3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
AVIA 400, Air Transportation System .....		3
CTE 440, Curriculum .....	3	
ECON 202*, Principles of Macroeconomics (G) .....	3	or 3
EDFN 475, Human Relations .....	3	or 3
SGR Goal 3*: Social Sciences <b>and/or</b> .....	3	or 3
SGR Goal 4*: Humanities and Arts <b>and/or</b> .....	3	or 3
IGR Goals 1-3** .....	2-3	or 2-3

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Aviation Minor: 19 cr

AVIA 200, Aviation Safety.....	3
AVIA 270, Private Pilot Theory.....	3
AVIA 272, Private Pilot Flight I.....	2
AVIA 273, Private Pilot Flight II.....	3
AVIA 300, Human Factors in Aviation.....	3
AVIA 371, Instrument Pilot Theory.....	3
AVIA 372, Instrument Flight.....	2

## Biology (BIOL) Major and Minor

Tom Cheesbrough

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### Requirements for Biology Major Bachelor of Science

Majors must complete the core curriculum and one of the specialization for their B.S.

#### Core Curriculum:

Freshman Year	F	S
BIOL 151-151L, General Biology I and Lab .....	4	
BIOL 153-153L, General Biology II and Lab .....		4
ENGL 101*, Composition I .....	3	
SPCM 101*, Fundamentals of Speech.....		3
SGR Goal 3*: Social Sciences .....		3
SGR Goal 5*: Mathematics: choose a, b, c, or d <sup>1</sup> .....	3-5	3-4
a. MATH 102, College Algebra and MATH 120, Trigonometry		
b. MATH 115, Precalculus		
c. MATH 121-121L, Survey of Calculus		
d. MATH 123-123L, Calculus I and MATH 125, Calculus II		
SGR Goal 6*: Natural Sciences		
CHEM 112-112L, General Chemistry I and Lab.....	4	
CHEM 114-114L, General Chemistry II and Lab .....		4
IGR Goal 2**: any course listed except BIOL 105.....	2-3	

#### Sophomore Year

F	S
BIOL 202-202L, Genetics and Organismal Biology and Lab <sup>2</sup> .....	4
BIOL 204-204L, Genetics and Cellular Biology and Lab.....	4
BIOL 290, or MICR 390, Careers Seminar .....	1
ENGL 201*, Composition II.....	3
MICR 231-231L, General Microbiology and Lab.....	4
Organic Chemistry: choose a or b <sup>3</sup> .....	4
a. CHEM 326-326L, Org. CHEM I and Lab and CHEM 328-328L, Org. CHEM II and Lab	
b. CHEM 326-326L, Org. CHEM I and Lab and CHEM elective (CHEM 464-464L recommended)	
SGR Goal 3*: Social Sciences .....	3
SGR Goal 4*: Humanities and Arts .....	3

#### Junior Year

F	S
Physics: choose a or b <sup>4</sup> .....	4
a. PHYS 111-111L, Introduction to Physics I and Lab and PHYS 113-113L, Introduction to Physics II and Lab	
b. PHYS 101-101L, Survey of Physics and Lab	

STAT 281, Statistical Methods or MATH 125, Calculus II.....	3-4
IGR Goal 1**: Land and Natural Resources: choose a or b.....	3-4
a. BIOL 311, Ecology <sup>5</sup>	
b. BIOL 383, Bioethics <sup>6</sup> (G)	
c. ENVM 275, Intro to Environmental Science <sup>7</sup>	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3
Specialization courses/electives .....	6

#### Senior Year

F	S
Research and communications skills (select a, b or c) <sup>8</sup>	
a. BIOL 490 or MICR 490, Seminar (AW)	
b. BIOL, BOT, or MICR 496, Field Experience or 498, Undergraduate Research	
ENGL 379, Technical Elective (AW).....	3
Specialization courses/electives .....	13

- Students in the Preprofessional Specialization, Biology-Ecology Specialization, or planning to attend graduate school should take MATH 121, or 123 and 125.
- Students in all specializations except Biology-Ecology Specialization and Environmental Management are required to take this series. Biology-Ecology Specialization and Environmental Management students must take either BIOL 202 or BIOL 371; they are not required to take the other courses in this series.
- Pre-professional students should talk to their adviser before selecting this option.
- Phys 101/101L is not sufficient for students planning to enter professional schools, graduate degree programs, or those in the Environmental Management major.
- Required for Biology-Organismal and Biology Ecology specializations. Recommended for other Microbiology and Biology specializations, except Pre-professional.
- Recommended for Biology-Pre-professional specialization.
- Required for Environmental Management majors.
- Consult with the 490 instructor before selecting 496 or 498.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Molecular/Cellular Specialization

#### Required Courses

CHEM 464-464L, Biochemistry and Lab <sup>1</sup> .....	4
MICR 436, Molecular Microbial Genetics (Fall).....	4
MICR 438, Molecular Microbial Genetics Lab.....	2

<sup>1</sup> This can be taken as part of the CHEM 326-326L, 464-464L, option in the departmental core. However, the recommended Chemistry series is CHEM 326-326L, 328-328L and 464-464L.

#### Molecular and Cellular Electives

Take at least **three (3)** courses from the following list:

BIOL 373, Evolution .....	3
BIOL 453, Advanced Genetics .....	3
CHEM 465, Biochemistry II .....	4
MICR 424, Virology.....	3
MICR 423, Pathogenesis .....	3
MICR 439 Medical and Veterinary Immunology.....	3

#### Physiology Electives

Take at least **one (1)** course from the following list:

BIOL 325-325L, Physiology and Lab .....	4
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BOT 327-327L, Plant Physiology and Lab .....	4
MICR 332-332L, Microbial Physiology and Lab .....	4

**Organismal Electives**

Take at least **two (2)** courses from the following list:

BIOL 221-221L, Human Anatomy and Lab.....	3
BOT 201-201L, General Botany and Lab .....	3
BOT 301-301L, Plant Systematics and Lab .....	4
BOT 405-405L, Grasses and Grasslike Plants and Lab .....	3
BOT 421-421L, Plant Anatomy and Lab .....	3
BIOL 200-200L, Biological Diversity and Lab.....	3
MICR 414-414L, Anaerobic Microbiology and Lab.....	3
MICR 433-433L, Medical Microbiology and Lab .....	4
ZOOL 301, Animal Behavior .....	3
ZOOL 355-355L, Mammalogy and Lab .....	4
ZOOL 365-365L, Vertebrate Zoology and Lab.....	4
ZOOL 441-441L, Vertebrate Histology and Lab.....	4
ZOOL 467-467L, General Parasitology and Lab .....	3
ZOOL 483-483L, Developmental Biology and Lab .....	4

**Population and Ecology Electives**

Take at least **one (1)** course from the following list:

BIOL 383, Bioethics <b>or</b> BIOL 311, Ecology <sup>2</sup> .....	3
BOT 415-415L, Plant Ecology and Lab.....	4
BIOL 440-440L, Restoration Ecology and Lab .....	4
BIOL 467, Environment Toxicology and Contaminants .....	3
ENVM 425-425L, Disturbance Ecology and Lab.....	4
MICR 310-310L, Environmental Microbiology and Lab .....	4
MICR 421-421L, Soil Microbiology and Lab.....	3

2 You may use either BIOL 311 or BIOL 383 for this requirement if you have not already used this course to fulfill IGR Goal 1 of the core.

**Preprofessional Specialization**

**Health Related**

*Required courses*

BIOL 221-221L, Human Anatomy and Lab <sup>1</sup> .....	4
BIOL 325-325L, Physiology and Lab <sup>1</sup> .....	4
MICR 439, Medical and Veterinary Immunology .....	3

*Elective courses*

Take at least **four (4)** courses from the following list:

BIOL, MICR 491, Independent Study, or 494, Internship, or 498, Research .....	3-4
CHEM 465, Biochemistry II .....	3
HSC 445, Epidemiology .....	4
MICR 311-311L, Food Microbiology and Lab .....	4
MICR 424, Medical and Veterinary Virology .....	3
MICR 433, Medical Microbiology .....	3
NURS 324, Introduction to Pathophysiology.....	3
PE 454, Biomechanics .....	3
VET 623, Advanced Mammalian Physiology .....	5
ZOOL 441-441L, Histology and Lab .....	4
ZOOL 467-467L, General Parasitology and Lab .....	3
ZOOL 483-483L, Developmental Biology and Lab .....	4

Recommended General Electives (if not taken to meet core requirements) to complete the 128 credits required for graduation:

BOT 127, Ethnobotany .....	3
BIOL 373, Evolution .....	3
CHEM 464-464L, Biochemistry and Lab .....	4
HLTH 364-364L, Emergency Med. Tech. and Lab.....	4
MATH 121-121L, Survey of Calculus <b>or</b> MATH 123 and 125, Calculus I and II.....	5
MICR 440L, Infectious Disease Lab .....	3
NFS 321, Human Nutrition .....	3

PSYC 101, General Psychology or 102, Introduction to Psychology .....	3
STAT 281, Introduction to Statistics.....	3
SPCM 201, Interpersonal Communication.....	3

1 Pre-Vet students can substitute VET 223-223L, Anatomy and Physiology of Domestic Animals and Lab and ZOOL 483-483L, Developmental Biology and Lab for these courses.

**NOTE:** Most professional schools require at least 1 year math (e.g., MATH 121 and STAT 281), 1 year physics, 1 year majors biology and 2 years majors chemistry.

**Organismal Biology Specialization †**

*Required Core Courses<sup>1</sup>*

<b>Plant:</b> BOT 201-201L, General Botany and Lab.....	3
<b>Animal:</b> BIOL 200-200L, Animal Diversity and Lab .....	4
<b>Concept:</b> BIOL 373, Evolution.....	3

*Focus Electives<sup>2</sup>*

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

BIOL 221-221L, Human Anatomy and Lab.....	3
BIOL 325-325L, Physiology and Lab .....	4
BIOL 383, Bioethics .....	4
BIOL 440-440L, Restoration Ecology and Lab .....	4
BIOL 466, Environmental Toxicology and Contaminants .....	3
BIOL 494, Internship or BIOL 496, Field Experience ...	1-4
BOT 301-301L, Plant Systematics and Lab .....	4
BOT 327-327L, Plant Physiology and Lab .....	4
BOT 405-405L, Grasses and Grasslike Plants and Lab .....	3
BOT 421-421L, Plant Anatomy and Lab .....	3
ENVM 275, Intro to Environmental Science .....	3
ENVM 425-425L, Disturbance Ecology and Lab.....	4
MICR 310-310L, Environmental Microbiology and Lab .....	4
MICR 421/421L, Soil Microbiology and Lab .....	3
WL 363-363L, Ornithology and Lab.....	4
WL 367-367L, Ichthyology and Lab.....	3
ZOOL 302, Animal Behavior .....	3
ZOOL 305-305L, Insect Biology and Lab .....	4
ZOOL 355-355L, Mammalogy and Lab .....	4
ZOOL 365-365L, Vertebrate Zoology and Lab.....	4
ZOOL 441-441L, Vertebrate Histology and Lab.....	4
ZOOL 467-467L, General Parasitology and Lab .....	3
ZOOL 483-483L, Developmental Biology and Lab .....	4

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

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

**Ecology Specialization**

*Required Courses*

BOT 415-415L, Plant Ecology and Lab .....	4
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*Systematics/Survey Electives*

(choose 1 BOT and 1 BIOL, PS, WL or ZOOL)

BOT 301-301L, Plant Systematics and Lab .....	4
BOT 405-405L, Grasses and Grasslike Plants and Lab .....	3
WL 363-363L, Ornithology and Lab.....	4
WL 367-367L, Ichthyology and Lab.....	3
ZOOL 305-305L, Insect Biology and Lab .....	3
ZOOL 355-355L, Mammalogy and Lab .....	3

## Organismal Biology Electives

### (choose 1)

BOT 327-327L, Plant Physiology and Lab .....	4
BOT 421-421L, Plant Anatomy and Lab .....	3
BIOL 221-221L, Human Anatomy and Lab.....	3
BIOL 325-325L, Physiology and Lab .....	4
ZOOL 365-365L, Vertebrate Zoology .....	4
ZOOL 467-467L, Parasitology and Lab.....	3

### Suggested Ecology Specialization Electives

BIOL 440-440L, Restoration Ecology .....	4
BIOL 467, Environmental Toxicology and Contaminants .....	3
ENVM 275, Introduction to Environmental Science .....	3
MICR 310-310L, Environmental Microbiology.....	4
PR 303, Forest Ecology and Management .....	3
PS 446, Agroecology.....	3
RANG 321, Wildland Ecosystems.....	3
RANG 325-325L, Measurement Topics: Natural Resources Measurements and Lab .....	3
WL 415-415L, Upland Game Ecology and Management .....	3
WL 417-417L, Large Mammal Ecology and Management.....	3
WL 419-419L, Waterfowl Ecology and Management.....	3
WL 421-421L, Grassland Fire Ecology.....	3
ZOOL 301, Animal Behavior.....	3

### Secondary Education Specialization

#### Required courses<sup>1</sup>

BIOL 221-221L, Human Anatomy and Lab.....	3
BIOL 325-325L, Physiology and Lab .....	4
BIOL 373, Evolution .....	3
BOT 201-201L, General Botany and Lab .....	3

Take at least **four (4)** courses from the following list:

BIOL 200-200L, Biodiversity and Lab .....	4
BIOL 383, Bioethics .....	4
BIOL 440-440L, Restoration Ecology and Lab .....	4
BIOL 467, Environ. Toxicology and Contaminants.....	3
BOT 127-127L, Ethnobotany .....	3
BOT 301-301L, Plant Systematics and Lab .....	4
BOT 405-405L, Grasses and Grasslike Plants and Lab .....	3
BOT 327-327L, Plant Physiology and Lab .....	4
BOT 415-415L, Plant Ecology and Lab.....	4
BOT 421-421L, Plant Anatomy and Lab .....	3
ENVM 275, Intro to Environmental Science .....	3
ENVM 425-425L, Disturbance Ecology and Lab.....	4
MICR 310-310L, Environmental Microbiology and Lab .....	4
MICR 439, Medical and Veterinary Immunology .....	4
MICR 436, Molecular and Microbial Genetics.....	4
WL 363-363L, Ornithology and Lab.....	4
WL 367-367L, Ichthyology and Lab.....	3
ZOOL 301, Animal Behavior .....	3
ZOOL 305-305L, Insect Biology and Lab .....	3
ZOOL 355-355L, Mammalogy and Lab .....	4
ZOOL 365-365L, Vertebrate Zoology and Lab.....	4
ZOOL 441-441L, Vertebrate Histology and Lab.....	4
ZOOL 467-467L, General Parasitology and Lab .....	3
ZOOL 483-483L, Developmental Biology and Lab .....	4

<sup>1</sup> Students selecting the Biology: Secondary Education Specialization need the well rounded exposure to biology that is provided by the Core Requirements (BIOL 151/151L, 153/153L, 202/202L, 204/204L, 311, MICR 231/231L) and the Specialization Requirements (BIOL 373, 325/325L and BOT 201). The BioMicro Core contains 41-49 hours of General Education, IGR, and Biology requirements. The Secondary Education Specialization requires an additional 22-26 credits. Students complete their degree by taking additional courses from Education, the life sciences and other areas to complete the required 128 credits.

### Requirements for Biology Minor: 18 cr

The minor in Biology consists of BIOL 101-101L or BIOL 151-151L, and additional credit hours in Biology and Microbiology Departmental courses for a total of at least 18 credits. Two courses must be at the 300 level. No more than 3 credits can come from 493, 494, 495, 496, 497 and 498. A minimum GPA of 2.0 is required in these courses.

## Biomedical Engineering Minor

Lewis Brown

College of Engineering

Crothers Engineering Hall 201

605-688-4161

e-mail: lewis.brown@sdstate.edu

### Requirements for Biomedical Engineering Minor: 18 credits

BIOL 221-221L, Human Anatomy and Lab .....	4
BIOL 325-325L, Physiology and Lab .....	4
EE 464*, Senior Design I.....	2
EE 465*, Senior Design II .....	2
EE 491**, Independent Study.....	3
Elective *** .....	3

\* or equivalent course from ABE, ME, or PHYS. The capstone design project must focus on biomedical engineering and be approved by the Coordinator.

\*\* must be biomedical engineering project approved by the Coordinator.

\*\*\* selected from:

EE 454-554, Biomedical Instrumentation and Electrical Safety or  
EE 450-550, Biomedical Signal Processing

## Biotechnology Minor

Don Marshall

Agriculture Hall 156

605-688-5133

e-mail: donald.marshall@sdstate.edu

### Requirements for Biotechnology Minor: 18 credits minimum

#### Required courses:

ABS 205, Biotechnology in Agriculture and Medicine .....	2
BIOL 202-202L, Genetics and Organismal Biology and Lab .....	4
MICR 436, Molecular Microbial Genetics .....	4
CHEM 464L, Biochemistry I Lab or MICR 438, Molecular Microbial Genetics Lab .....	1-2

#### Restricted Electives. Must complete remaining credits from the following list:

AS 332-332L, Principles of Animal Breeding and Lab.....	4
AS 433-433L, Livestock Reproduction and Lab .....	3
BIOL 373, Evolution .....	3
BIOL 383, Bioethics.....	4
BIOL/PS 453, Advanced Genetics .....	3
CHEM 464, Biochemistry I.....	3
DS 301-301L, Dairy Microbiology and Lab.....	3
DS 411, Dairy Breeds and Breeding .....	2
HO/PS 383-383L, Principles of Crop Improvement and Lab .....	3
HO 312-312L, Plant Propagation and Lab.....	3
MICR 332L, Microbial Physiology Lab .....	2
MICR 422, Immunology .....	4
MICR/VET 424, Medical and Veterinary Virology .....	3
ZOOL 483-483L, Developmental Biology and Lab .....	4

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

# Botany (BOT) Minor

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## Requirements for Botany Minor: 18 cr

The minor in Botany consists of BIOL 101-101L or 151-151L, BOT 201-201L, and additional courses with a BOT prefix for a total of at least 18 credits. Two courses must be at the 300 level or above. No more than 3 credits can come from 493, 494, 495, 496, 497 and 498. A minimum GPA of 2.0 is required in these courses.

# Business Area Studies

Richard Shane  
 Department of Economics  
 Scobey Hall 136  
 605-688-4141  
 e-mail: [janet.wilson@sdstate.edu](mailto:janet.wilson@sdstate.edu)  
 website: <http://econnet.sdstate.edu/dept/index.asp>

## Business Economics Specialization – 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.

<b>Accounting</b>	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I .....	3	or 3
ACCT 211, Principles of Accounting II .....	3	or 3
ACCT 310, Intermediate Accounting I .....	3	
ACCT 311, Intermediate Accounting II .....		3
ACCT 320, Cost Accounting .....	3	
ACCT 430, Income Tax Accounting .....	3	

<b>Agricultural Economics</b>	<b>F</b>	<b>S</b>
AGEC 271-271L, Farm and Ranch Management and Lab ....	4	or 4
AGEC 352, Agricultural Law .....	3	
AGEC 354, Agricultural Marketing and Prices .....	3	or 3
AGEC 373/PS 373, Rural Real Estate Appraisal .....	3	
AGEC 454, Economics of Grain and Livestock Marketing .....	3	or 3
AGEC 478-478L, Agricultural Finance and Lab .....	3	

<b>Apparel Merchandising and Interior Design</b>	<b>F</b>	<b>S</b>
AM 372, Merchandising and Buying I .....		3
AM 462/ID 462, Retailing .....		3
AM 473, International Trade in Textiles and Apparel .....		3

<b>Business Administration</b>	<b>F</b>	<b>S</b>
BADM 310, Business Finance .....	3	or 3
BADM 334, Small Business Management .....	3	or 3
BADM 350, Legal Environment of Business .....	3	or 3
BADM 351, Business Law .....	3	or 3
BADM 360, Organization and Management .....	3	or 3
BADM 380, Personal Finance .....		3
BADM 416, Commercial Bank Management .....		3
BADM 424, Operations Research .....		3
BADM 474, Personal Selling .....	3	or 3
BADM 482, Business Policy and Strategy .....	3	or 3
BADM 483 Seminar in Business Consulting .....	3	or 3

<b>Computer Science</b>	<b>F</b>	<b>S</b>
CSC 330, COBOL Programming .....	3	3 3
<b>Economics</b>	<b>F</b>	<b>S</b>
ECON 330, Money and Banking .....	3	or 3
ECON/BADM 370, Marketing .....	3	or 3
ECON 467, Labor, Law and Economics .....		3
ECON/BADM 476, Marketing Research .....	3	or 3
<b>Engineering Technology and Management</b>	<b>F</b>	<b>S</b>
CM 443, Construction Planning and Scheduling .....	3	or 3
MNET 260/BADM 260, Principles of Production and Operations Management .....	3	or 3
<b>Geography</b>	<b>F</b>	<b>S</b>
GEOG 454, Site Selection and Development .....	3	or 3
<b>Mathematics</b>	<b>F</b>	<b>S</b>
MATH 242, Mathematics of Finance .....		3
<b>Mass Communications</b>	<b>F</b>	<b>S</b>
MCOM 313, Publicity Methods .....	2	2 2
MCOM 370, Principles of Advertising .....	3	
<b>Political Science</b>	<b>F</b>	<b>S</b>
POLS 428, Personnel and Budgetary Administration .....		3
<b>Psychology</b>	<b>F</b>	<b>S</b>
PSYC 331, Business and Industrial Psychology .....	3	
<b>Speech</b>	<b>F</b>	<b>S</b>
SPCM 201, Interpersonal Communication .....		3
SPCM 215, Public Speaking .....	3	or 3

# Business Minor<sup>†</sup>

Richard Shane  
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 website: <http://econnet.sdstate.edu/dept/index.asp>

## Requirements for Business Minor: 21 cr

ACCT 210, Principles of Accounting I .....	3
ECON 201, Principles of Microeconomics .....	3
ECON 202, Principles of Macroeconomics .....	3
Two (2) of the following: .....	6
BADM 310, Business Finance (3)	
BADM 334, Small Business Management (3)	
BADM 350, Legal Environment of Business (3)	
BADM 360, Organization and Management (3)	
ECON/BADM 370, Marketing (3)	
Two courses from Business Area Studies <sup>††</sup> , p. 155 .....	6

<sup>†</sup> This minor provides the prerequisites for the Master of Science in Industrial Management (MSIM) offered by the Department of Engineering Technology and Management at South Dakota State University (605-688-4161). Preparation for a Master's in Business Administration (MBA) offered by the Business School at the University of South Dakota (605-677-5235), and other business schools, includes the three required courses listed above and Marketing, Business Finance, Business Management, Accounting II, Calculus, Statistics, Production and Operations Management, and Management Information Systems. These courses (except Calculus) can be used to fulfill the select two of the following and Business Area Studies requirements listed above.

<sup>††</sup> The elective program desired should be planned with the student's academic adviser and submitted to the Economics Department Head for approval. Minor program forms can be obtained from the Economics Department.

See p. 182 for Entrepreneurial Studies Minor requirements.

# Career and Technical Education (CTE) Major

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## Requirements for Career and Technical Education Major Bachelor of Science in Education

The Career and Technical Education (CTE) program is multifaceted in that it can be used as a degree leading to a teaching profession or industry interests. The major is comprised of traditional and non-traditional students. The traditional student enters after graduating from high school seeking either teaching or industry interests. The non-traditional makes up a large number of students enrolled in CTE and are individuals currently teaching in a technical field and pursuing a bachelor's degree concurrently.

Individuals currently teaching and enrolled in the CTE major are often under a demanding schedule. Typically participants are scattered across the State and find it challenging to take a significant amount of coursework in a particular semester. Traditional freshman/sophomore/junior and senior years at college are a remote possibility due to full-time employment, scheduling, and locations. Individuals are encouraged to contact a person in the CTE Program at SDSU to begin drafting a schedule and timeline needed to complete an undergraduate program.

There is a five-year rotation schedule of the required courses in CTE and individuals are asked to visit the CTE homepage for the latest information on the course rotations. There are certain CTE courses offered through distance learning activities to accommodate students across the State. Courses within the General Education Core may be taken at other regental institutions offering coursework in an undergraduate program. It is strongly recommended to obtain approval before enrolling in another course at another institution.

The following courses are part of the Career and Technical Education teacher preparation program at SDSU and represent a small number of courses offered:

- CTE 405, Philosophy of Career and Technical Education
- CTE 419, Methods of Teaching\*
- CTE 420, Entrepreneurship in Career and Technical Education
- CTE 425, Development of Career and Technical Education Thought and Practice\*
- CTE 430, Cooperative Education Coordination Techniques\*
- CTE 440, Curriculum Design in Career and Technical Education\* (AW)

(\* represents a required course for CTE)

There are numerous courses offered in Career and Technical Education that will allow the student flexibility in developing a program to meet the demands of the ever-changing career field. The following is a sample of courses offered to meet individual student needs:

- CTE 208, Occupational Internship I
- CTE 308, Occupational Internship II
- CTE 408, Occupational Internship III
- CTE 380, Technical Industrial Training
- CTE 463, Technical and Industrial Experiences
- CTE 491, Independent Study
- CTE 492, Topics

The "CTE 189 Technical Specialty:" course permits Career and Technical Education students to receive college credit for technical training or industry experience by meeting specific requirements. A

complete description of CTE 189 and the requirements to receive credit can be found in the Course Description area of this catalog.

For the CTE student to meet the Board of Regents requirement for the following:

### Globalization Requirement

The student will complete SOC 100, Introduction to Sociology.

### Advanced Writing Requirement

The student will complete CTE 440, Curriculum Design in CTE.

The undergraduate curriculum in CTE, along with additional education information, can be found at the CTE homepage at the address listed above.

# Chemistry (CHEM) Major and Minor

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## Requirements for Chemistry Major Bachelor of Science in Arts and Science

	<b>F</b>	<b>S</b>
<b>Freshman Year</b>		
SGR Goal 1*: ENGL 101, Composition I .....	3	or 3
SGR Goal 2*: SPCM 101, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences (G) .....	3	or 3
SGR Goal 4*: Humanities and Arts (G) .....	0-6	0-6
<b>SGR Goal 5*: MATH 123, Calculus I or</b>		
MATH 121-121L, Survey of Calculus and Lab .....	4-5	or 4-5
<b>SGR Goal 6*: CHEM 112-112L, General Chemistry I</b>		
and Lab .....	4	
<b>SGR Goal 6*: CHEM 114-114L, General Chemistry II</b>		
and Lab .....		4

	<b>F</b>	<b>S</b>
<b>Sophomore Year</b>		
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
CHEM 328-328L, Organic Chemistry II and Lab .....		4
PHYS 111-111L, Introduction to Physics I and Lab .....	4	
PHYS 113-113L, Introduction to Physics II and Lab .....		4
SGR Goal 1*: ENGL 201, Composition II .....	3	or 3
SGR Goal 4*: Humanities and Arts (G) .....	3	or 3
IGR Goal 1**: Land and Natural Resources .....	3	or 3
Biological Science Elective†† .....	3	or 3
Electives† .....		0-3

	<b>F</b>	<b>S</b>
<b>Junior Year</b>		
CHEM 332-332L, Analytical Chemistry I and Lab .....	4	
CHEM 342-342L, Physical Chemistry and Lab (AW) .....	4	
IGR Goal 2**: Personal Wellness .....	2-3	or 2-3
<b>IGR Goal 3**: Social Responsibility/Cultural and</b>		
Aesthetic Awareness .....	0-3	or 0-3
Biological Science Elective†† .....	3	or 3
Electives† .....	0-7	0-13

	<b>F</b>	<b>S</b>
<b>Senior Year</b>		
Social Science Elective†† .....	3	or 3
Electives† .....	0-16	0-16

† Electives must include at least 8 credits of Chemistry selected from CHEM 344-344L, 434-434L, 452-452L, 464-464L, 465, 482, 498. MATH 125 is recommended as an elective.

†† Required by the College of Arts and Science Core. See College of Arts and Science requirements, pp. 65-66.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Suggested elective courses for those interested in associated careers in:**

*Allied Health*

BIOL 151-152; BIOL 221-222, 325-325L, 467-467L; MICR 231-231L, 422-422L; CHEM 464-464L, 382, 383, 434-434L, STAT 281

*Biological Sciences*

CHEM 464-464L, 465; Biological Science upper division, 9 credits; BIOL 151-152

*Education*

CHEM 452-452L, 464-464L, 482; Education Requirements

*Environmental*

CHEM 434-434L, 464-464L, 482; MICR 310; BOT 415; BIOL 311; GEOG 337

*Quality Control*

CHEM 434-434L, 452-452L, 464-464L; STAT 281

**Requirements for Chemistry Major – ACS Certified Bachelor of Science in Arts and Science**

Freshman Year	F	S
SGR Goal 1*: ENGL 101, Composition I .....	3	
SGR Goal 1*: ENGL 201, Composition II .....		3
SGR Goal 2*: SPCM 101, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences (G) .....	0-6	0-6
SGR Goal 5*: MATH 123, Calculus I .....	4	
SGR Goal 6*: CHEM 112-112L, General Chemistry I and Lab .....	4	
SGR Goal 6*: CHEM 114-114L, General Chemistry II and Lab .....		4
MATH 125, Calculus II .....		4

Sophomore Year	F	S
CHEM 332-332L, Analytical Chemistry I and Lab .....	4	
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
CHEM 328-328L, Organic Chemistry II and Lab .....		4
PHYS 211-211L, University Physics I and Lab .....	4	
PHYS 213-213L, University Physics II and Lab .....		4
SGR Goal 4*: Humanities and Arts (G) .....	0-6	or 0-6
IGR Goal 2**: Personal Wellness .....	2-3	or 2-3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (G) .....	3	or 3
MATH Elective† .....	3	or 3

Junior Year	F	S
CHEM 342-342L, Physical Chemistry I and Lab .....	4	
CHEM 344-344L, Physical Chemistry II and Lab .....		4
CHEM 452-452L, Inorganic Chemistry and Lab .....	4	
IGR Goal 1**: Land and Natural Resources .....	2-3	or 2-3

Biological Science Elective†† .....	3	3
Social Science Elective†† .....	3	or 3
Electives† .....	0-8	0-8

Senior Year	F	S
CHEM 464-464L, Biochemistry and Lab .....	3	or 3
CHEM 434-434L, Instrumental Analysis and Lab .....		4
CHEM 498, Undergraduate Research (AW) .....	3	or 3
Computer Science Course .....	3	or 3
Advanced Physics Elective .....	3	or 3
Advanced Chemistry Elective .....	3	or 3
Electives† .....	0-12	0-12

**Emphases**

Within the ACS-certified chemistry specialization, courses from the elective credits may be chosen to develop emphases that are recognized by the American Chemistry Society.

**Biochemistry Emphasis**

The following courses may be taken as electives to develop the biochemistry emphasis: CHEM 465; one course (4 semester hours) taken from cell biology (BIOL 343-343L), molecular biology (BIOL 462 and 464-465), microbiology (MICR 231-231L), genetics (BIOL 371), molecular and microbial genetics (MICR 436-438), or physiology (ZOOL 325-325L). An additional 6 semester hours from these courses should replace the computer science and advanced physics elective in the major. Any of these courses at, or above, the 300-level maybe substituted for the remaining advanced chemistry electives. The required undergraduate research experience (CHEM 498) must be in biochemistry and for at least 3 credits.

**Chemical Physics Emphasis**

The following courses may be taken as electives to develop the chemical physics emphasis: three semester hours of advanced physics electives beyond that already required; at least three semester hours of advanced mathematics electives. The required undergraduate research experience (CHEM 498) must be in physical chemistry and for at least 3 credits.

**Environmental Chemistry Emphasis**

The following courses may be taken as electives to develop the environmental chemistry emphasis: CHEM 482 and one of the following sequences; PS 213-213L and PS 412, MICR 231-231L and MICR 310-310A or PS 421-421L, CEE 333-333L and BIOL 475. The required undergraduate research experience (CHEM 498) must be in environmental chemistry and for at least 3 credits. Field work and/or studies of modeling in environmental systems are encouraged as a component of the undergraduate research experience.

† Electives must include at least 4 credits of Chemistry selected from CHEM 465, 482, 516, or 498. MATH 321 is recommended as an elective.

†† Required by the College of Arts and Science Core. See College of Arts and Science requirements, pp. 65-66.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.



### 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 (CHEM 112-112L and CHEM 114-114L) 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 grade of "C" or better is required for each course proposed for the minor. At least 50% of chemistry courses applied toward a minor must be completed at SDSU.

## (Pre-) Chiropractic

Katherine Erdman

College of General Studies and Outreach Programs

Medary Commons 122

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web site:

<http://www3.sdstate.edu/Academics/PreProfessionalPrograms/PreChiropractic/Index.cfm>

The adviser can provide assistance in selecting a major or electives to meet the requirements for admission to chiropractic college. Requirements for most chiropractic colleges in the United States:

### General Biology with labs, 6 semester credits or one academic year†

Choose two of the following:

- BIOL 151 and 151L, General Biology I
- MICR 231 and 231L, General Microbiology
- BIOL 221 and 221L, Human Anatomy (recommended)
- BIOL 325 and 325L, Physiology (recommended)

### General Chemistry with labs, 6 semester credits or one academic year

- CHEM 112 and 112L, General Chemistry I (required)
- CHEM 114 and 114L, General Chemistry II (required)

### Organic Chemistry with labs, 6 semester credits or one academic year

- CHEM 326 and 326L, Organic Chemistry (required)
- CHEM 328 and 328L, Organic Chemistry or
- CHEM 464 and 464L, Biochemistry I (recommended)

### General Physics with labs, 6 semester credits or one academic year

- PHYS 111 and 111L, Intro to Physics I, (required) and

Choose one (1) from the following:

- PHYS 113 and 113L, Intro to Physics II
- STAT 281, Intro to Statistics
- PE 454, Biomechanics
- PE 350, Exercise Physiology

### General Psychology, 3 semester credits†

- PSYC 101, General Psychology (recommended), or
- PSYC 102, Introduction to Psychology

### Communications, 6 semester credits†

Choose two of the following:

- ENGL 101, Composition I
- ENGL 201, Composition II
- SPCM 101, Fundamentals of Speech

† Additional courses may fulfill this requirement. See the adviser for details.

### Social Sciences and Humanities (15 semester hours, minimum)

Most social science and humanities courses listed in the BOR System General Education Requirements (SGRs) fulfill this requirement. Other options are also appropriate. Consult the adviser for details.

### Electives (42 semester hours, minimum)

This requirement is typically met by completing coursework for a degree program. Biology, Microbiology, Nutrition, and Health Promotion are popular majors for Pre-Chiropractic students. However, pre-chiropractic students may choose other majors. Consult the adviser for assistance selecting a major that is appropriate for your professional goals.

## Civil Engineering (CEE) Major

Arden B. Sigl, Acting Head

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605-688-5427

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### 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
CHEM 112-112L*, General Chemistry I and Lab .....	4	
GE 121, Engineering Design Graphics I.....	1	
ENGL 101*, Composition I .....	3	
GE 101, Introduction to Engineering .....	1	
MATH 123*, Calculus I .....	4	
SGR Goal 4* <sup>1</sup> : Humanities and Arts/Diversity.....	3	
CHEM 114*, General Chemistry II or		
CHEM 120*, Elementary Organic Chemistry .....		3
GE 122, Engineering Design Graphics II .....		1
SPCM 101*, Fundamentals of Speech.....		3
CEE 106-106L, Elementary Surveying and Lab .....		4
MATH 125, Calculus II.....		4
SGR Goal 3* <sup>1</sup> : Social Sciences/Diversity.....		3
Sophomore Year	F	S
PHYS 211-211L, University Physics I and Lab .....	4	
GE 123, Computer Aided Drawing .....	1	
EM 214, Statics .....	3	
MATH 225, Calculus III.....	4	
CEE 225**, Principles of Environmental Science and		
Engineering .....		3
SGR Goal 4*: Humanities and Arts/ Diversity .....		3
PHYS 213-213L, University Physics II and Lab.....		4
CEE 216-216L, Materials and Lab .....		3
EM 215, Dynamics.....		3
MATH 321, Differential Equations .....		3
SGR Goal 3*: <sup>1</sup> Social Sciences/ Diversity .....		3
Junior Year	F	S
ENGL 201*, Composition II or		
ENGL 277*, Technical Writing in Engineering.....		3
CEE 311, Structural Materials Lab .....		1
CEE 340-340L, Engineering Geology and Lab .....		3
CEE 490, Seminar .....		1
EM 321, Mechanics of Materials .....		3

EM 331, Fluid Mechanics .....	3
MATH 381, Introduction to Probability and Statistics .....	3
CEE 323-323L, Water Supply and Wastewater Engineering and Lab .....	3
CEE 353, Structural Theory .....	3
CEE 363, Highway and Traffic Engineering .....	3
CEE 346-346L, Geotechnical Engineering and Lab.....	4
CSC 150, Computer Science I .....	3
IGR Goal 2** <sup>†</sup> : Personal Wellness .....	2

<b>Senior Year</b>	<b>F</b>	<b>S</b>
CEE 464, Capstone Design I.....	1	
CEE 455-455L, Steel Design and Lab .....	3	
CEE 331, Fluid Mechanics Lab .....	1	
CEE 432, Hydraulic Engineering.....	3	
CEE Technical Electives .....	6	
Applied Elective <sup>†</sup> .....	2	
CEE 465, Civil Engineering Capstone Design II (AW) .....		2
CEE 456-456L, Concrete Theory and Design and Lab .....		3
CEE 482, Engineering Administration.....		3
CEE Technical Electives .....		6
IGR Goal 3** <sup>†</sup> : Social Responsibility/Cultural and Aesthetic Awareness.....		3

**Total hours required for graduation..... 136**

**Technical Electives Credits  
(12 credits required, must be selected from not less than two sub-disciplines)**

CEE 208-208L, Engineering Surveys and Lab.....	3
CEE 304, Land Surveying .....	3
CEE 306-306L, Photo Interpretation and Photogrammetry and Lab .....	3
CEE 333-333L, Hydrology and Lab.....	3
CEE 411-411L, Bituminous Materials and Lab.....	3
CEE 422-422L, Environmental Engineering Instrumentation and Lab .....	3
CEE 423-423L, Municipal Water Distribution and Wastewater Collection System Design.....	3
CEE 424, Industrial Waste Treatment.....	3
CEE 429-429L, Solid Waste Engineering and Management and Lab .....	3
CEE 435, Water Resources Engineering.....	3
CEE 443, Matrix Analysis of Structures.....	3
CEE 444, Precast Concrete Structures.....	3
CEE 446, Advanced Geotechnical Engineering .....	3
CEE 447-447L, Foundation Engineering and Lab .....	3
CEE 452, Prestressed Concrete.....	3
CEE 457-457L, Indeterminate Structures and Lab.....	3
CEE 458, Design of Timber Structures .....	3
CEE 459, Advanced Structural Mechanics.....	3
CEE 467, Transportation Engineering .....	3
CEE 472, Geosynthetics .....	3
CEE 483-483L, Municipal Engineering and Lab .....	3
CEE 491, Independent Study.....	1-3
CEE 492, Topics .....	1-3
CEE 494, Internship.....	1-3
CEE 496, Field Experience.....	1-3
CEE 497, Cooperative Education .....	1-3
EE 300-300L, Basic Electrical Engineering I and Lab .....	3
ME 314, Thermodynamics.....	3

<sup>†</sup> Course to be selected from the department's approved list.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Clinical and Laboratory Sciences (MEDT) Major

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### Requirements for Clinical and Laboratory Sciences Major- Clinical Laboratory Specialization Bachelor of Science in Arts and Science

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 101-101L, Biology Survey and Lab .....	3	
BIOL 221-221L, Anatomy and Lab .....		4
SGR Goal 1*: ENGL 101, Composition I .....	3	or 3
SGR Goal 2*: SPCM 101, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences.....	0-3	0-3
SGR Goal 4*: Humanities and Arts.....	0-3	or 0-3
SGR Goal 5*: MATH 102, College Algebra or MATH 115, Precalculus.....	3-5	or 3-5
SGR Goal 6*: CHEM 112-112L, General Chemistry I and Lab.....	4	
SGR Goal 6*: CHEM 114-114L, General Chemistry II and Lab.....		4
IGR Goal 2** <sup>†</sup> : Personal Wellness.....	2-3	or 2-3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
CHEM 464-464L, Biochemistry and Lab .....		4
SGR Goal 1*: ENGL 201, Composition II.....	3	or 3
MICR 231-231L, General Microbiology and Lab .....	4	or 4
STAT 281, Introduction to Statistics .....	3	or 3
BIOL 325-325L, Physiology and Lab.....	4	or 4
SGR Goal 3*: Social Sciences (G).....	0-3	or 0-3
SGR Goal 4*: Humanities and Arts.....	0-3	or 0-3
Social Science Elective <sup>††</sup> .....	3	or 3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
CHEM 332-332L, Analytical Chemistry and Lab .....	4	
CHEM 382-382L, Techniques in Clinical Laboratory Technology I and Lab .....	3	
CHEM 383, Techniques in Clinical Laboratory Technology II (AW) .....		3
CHEM 434-434L, Instrumental Analysis and Lab .....		4
MEDT 487, Internship Orientation .....		1
MICR 323, Medical Microbiology.....		3

<sup>1</sup> One of the courses selected to satisfy SGR Goals 3 or 4, or IGR Goals 1 or 3, must satisfy the BOR Globalization Requirement (G) as well.

MICR 499, Medical and Veterinary Immunology .....	3		
IGR Goal 3** : Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
Humanities or Social Science Elective†† .....	3	or	3

### Senior Year

Twelve months of training in a hospital school of Medical Technology approved by the National Accrediting Agency for Clinical Laboratory Sciences for which 40 semester credits will be granted. Eighty-eight (88) credit hours must be earned at SDSU prior to the internship. Interns register for MEDT 494 during summer, fall and spring semesters of the internship year.

†† Required by the College of Arts and Science Core. See College of Arts and Science requirements, pp. 65-66.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

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

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
SGR Goal 6*: CHEM 112-112L, General Chemistry I and Lab.....	4	
SGR Goal 6*: CHEM 114-114L, General Chemistry II and Lab.....	4	
SGR Goal 1*: ENGL 101, Composition I .....	3	or 3
SGR Goal 5*: MATH 102, College Algebra.....	3	
SGR Goal 2*: SPCM 101, Fundamentals of Speech.....	3	or 3
IGR Goal 1** : BIOL 101-101L, Biology Survey and Lab ...	3	
SGR Goal 3*: Social Sciences.....	0-3	0-3
SGR Goal 4*: Humanities and Arts.....	0-3	or 0-3
IGR Goal 2** : Personal Wellness.....	2-3	or 2-3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
MICR 231-231L, General Microbiology and Lab .....	4	or 4
SGR Goal 1*: ENGL 201, Composition II .....	3	or 3
STAT 281, Introduction to Statistics .....	3	or 3
BIOL 371, Genetics.....	3	or 3
BIOL 383, Bioethics.....	4	
SGR Goal 3*: Social Sciences/Human Community (G)...	0-6	or 0-6
SGR Goal 4*: Humanities and Arts .....	3	or 3
Elective.....	0-4	or 0-4

<b>Junior Year</b>	<b>F</b>	<b>S</b>
CHEM 332-332L, Analytical Chemistry and Lab .....	4	
CHEM 434-434L, Instrumental Analysis and Lab .....	4	
CHEM 464-464L, Biochemistry I and Lab .....	4	
CHEM 465, Biochemistry II .....	3	
MICR 323-324, Medical Microbiology and Lab .....	3	
MICR 422, Immunology .....	4	
IGR Goal 3** : Social Responsibility/Cultural and Aesthetic Awareness.....	2	or 2
Elective.....	3-5	6-8

### Senior Year

MICR 436, Molecular and Microbial Genetics .....	4		
CHEM 494, Internship.....	0-12		0-12
Electives .....	0-10		0-10

†† Required by the College of Arts and Science Core. See College of Arts and Science requirements, pp. 65-66.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Communication Studies and Theatre (CST) Major and Minor

**Laurie L. Haleta**  
**Department of Communication Studies and Theatre**  
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### Requirements for Communication Studies and Theatre Major – MEPR Specialization (Media Production) Bachelor of Science in Arts and Science

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
MEPR 130, Introduction to Electronic Media .....	3	or 3
MEPR 144, Media Production Activities.....	1	or 1
MEPR 160* Introduction to Film (or MEPR 360)† .....	3	
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	3
IGR Goal 2** : Personal Wellness.....	2-3	or 2-3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or 3
MEPR 330-330L, Writing for Radio and TV and Lab .....	3	3
MEPR 331-331L, Production and Lab.....	3	or 3
MEPR 344, Media Production Activities.....	1	or 1
SGR Goal 4*: Humanities and Arts (not in CST).....	3	3
IGR Goal 1** : Land and Natural Resources .....	3	or 3
IGR Goal 3** : Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3

<b>Junior and Senior Year</b>	<b>F</b>	<b>S</b>
MEPR 332-332L, Radio News Reporting and Lab or MEPR 333-333L, TV News Reporting and Lab .....	3	or 3
MEPR 360, Film Narrative (or MEPR 160) .....	3	3
MEPR 431, Advanced Production .....	3	or 3
SPCM 305, Communication Research (AW).....	3	
SPCM 410, Organizational Communication.....	3	3
SPCM 434, Small Group Communication.....	3	or 3
SPCM 470, Intercultural Communication (G).....	3	3
CST Electives .....	6	6
General Electives.....	5	5

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

† MEPR students who do not take MEPR 160 must take an additional three (3) credits from the approved list of Humanities and Arts.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Major – MEPR Specialization (Media Production)**

**Bachelor of Arts in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
Modern Language*, 101 and 102.....	4	4
MEPR 130, Introduction to Electronic Media .....	3	
MEPR 144, Activities.....	1	or 1
MEPR 160*, Introduction to Film (or MEPR 360)† .....	3	
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
IGR Goal 2***: Personal Wellness.....	2-3	or 2-3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or 3
Modern Language, 201 and 202.....	3	3
MEPR 330-330L, Writing for Radio and Television and Lab.....	3	
MEPR 331-331L, Video Production and Lab .....	3	or 3
MEPR 344, Media Production Activities.....	1	or 1
SGR Goal 6*: Natural Sciences .....	3	3
IGR Goal 1***: Land and Natural Resources .....	3	or 3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3

<b>Junior and Senior Year</b>	<b>F</b>	<b>S</b>
MEPR 332-332L, Radio News Reporting and Lab or MEPR 333-333L, TV News Reporting and Lab .....	3	or 3
MEPR 360, Film Narrative .....	3	3
MEPR 431, Advanced Production.....	3	or 3
SPCM 305, Communication Research (AW).....	3	
SPCM 410, Organizational Communication .....	3	
SPCM 434, Small Group Communication.....	3	or 3
SPCM 470, Intercultural Communication (G).....	3	3
SGR Goal 4*: Humanities and Arts .....	3	or 3
CST Electives .....	6	6
General Electives.....	5	5

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

† MEPR students who do not take MEPR 160 must take an additional three (3) credits from the approved list of Humanities and Arts.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Major – SPCM Specialization (Speech Communication) Bachelor of Science in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SPCM 281, Forensic Activities .....	1	or 1
SGR Goal 3*: Social Sciences .....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	3
IGR Goal 2***: Personal Wellness.....	2-3	or 2-3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or 3
DCOM 211, Phonetics.....	3	3
SPCM 201, Interpersonal Communication .....	3	3
SPCM 215, Public Speaking .....	3	or 3
SPCM 340, Oral Interpretation .....	3	or 3
SGR Goal 4*: Humanities (not in CST) .....	3	3
IGR Goal 1***: Land and Natural Resources .....	3	or 3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3

<b>Junior and Senior Year</b>	<b>F</b>	<b>S</b>
SPCM 222, Argumentation and Debate .....	3	
SPCM 305, Communication Research (AW).....	3	
SPCM 320, Communication Interviewing .....	3	3
SPCM 405, Theories of Communication .....	3	3
SPCM 410, Organizational Communication.....	3	3
SPCM 415, Communication and Gender.....	3	
SPCM 417, Political Communication .....	3	
SPCM 434, Small Group Communication.....	3	or 3
SPCM 442, Group Performance of Literature .....	3	3
SPCM 460, Family Communication .....	3	3
SPCM 470, Intercultural Communication (G).....	3	3

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

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Major –  
SPCM Specialization (Speech Communication)**

**Bachelor of Arts in Arts and Science**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or	3
Modern Language*, 101 and 102.....	4		4
SPCM 101*, Fundamentals of Speech.....	3	or	3
SPCM 281, Forensic Activities .....	1	or	1
SGR Goal 3*: Social Sciences .....	3		3
SGR Goal 5*: Mathematics.....	3	or	3
IGR Goal 2**: Personal Wellness.....	2-3	or	2-3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or	3
Modern Language, 201 and 202.....	3		3
DCOM 211, Phonetics.....			3
SPCM 201, Interpersonal Communication .....			3
SPCM 215, Public Speaking .....	3	or	3
SPCM 340, Oral Interpretation .....	3	or	3
SGR Goal 4*: Humanities.....	3		3
SGR Goal 6*: Natural Sciences .....	3		3
IGR Goal 1**: Land and Natural Resources .....	3	or	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3

<b>Junior and Senior Year</b>		<b>F</b>	<b>S</b>
SPCM 222, Argumentation and Debate .....	3		
SPCM 305, Communication Research (AW).....	3		
SPCM 320, Communication Interviewing .....			3
SPCM 405, Theories of Communication .....			3
SPCM 410, Organizational Communication.....			3
SPCM 415, Communication and Gender.....	3		
SPCM 417, Political Communication .....	3		
SPCM 434, Small Group Communication.....	3	or	3
SPCM 442, Group Performance of Literature .....			3
SPCM 460, Family Communication .....			3
SPCM 470, Intercultural Communication (G).....			3

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

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Major –  
SPED Specialization (Speech Education)**

**Bachelor of Science in Arts and Science**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
DCOM 131, Introduction to Communication Disorders .....	3	or	3
ENGL 101*, Composition I .....	3	or	3
MEPR 130, Introduction to Electronic Media .....	3		
SPCM 101*, Fundamentals of Speech.....	3	or	3
THEA 131*, Acting.....	3	or	3
SGR Goal 3*: Social Sciences .....	3		3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Sciences .....	3		3
IGR Goal 2**: Personal Wellness.....	2-3	or	2-3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or	3
SPCM 201, Interpersonal Communication .....			3
THEA 241-241L, Stagecraft and Lab .....	3	or	3
SGR Goal 4*: Humanities and Arts (not in CST).....	3		3
IGR Goal 1**: Land and Natural Resources .....	3	or	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3

<b>Junior and Senior Year</b>		<b>F</b>	<b>S</b>
SPCM 215, Public Speaking .....	3	or	3
SPCM 222, Argumentation and Debate .....	3		
SPCM 305, Communication Research (AW).....	3		
SPCM 340, Oral Interpretation .....	3	or	3
SPCM 375, Teaching of Speech.....	3		
SPCM 410, Organizational Communication.....			3
SPCM 442, Group Performance of Literature .....			3
SPCM 470, Intercultural Communication (G).....			3
THEA 351, Directing or THEA 355, Children's Theatre .....	3	or	3
CST Electives .....	9	or	9

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

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

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Major –  
SPED Specialization (Speech Education)**

**Bachelor of Arts in Arts and Science**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
DCOM 131, Introduction to Communication Disorders .....	3	or	3
ENGL 101*, Composition I .....	3	or	3
Modern Language*, 101 and 102.....	4		4
MEPR 130, Introduction to Electronic Media .....	3		
SPCM 101*, Fundamentals of Speech.....	3	or	3
THEA 131*, Acting.....	3	or	3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 3*: Social Sciences .....	3		3
IGR Goal 2**: Personal Wellness.....	2-3	or	2-3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or	3
Modern Language, 201 and 202.....	3		3
SPCM 201, Interpersonal Communication .....			3
THEA 241-241L, Stagecraft and Lab .....	3	or	3
IGR Goal 1**: Land and Natural Resources .....	3	or	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
SGR Goal 6*: Natural Sciences .....	3		3
SGR Goal 4*: Humanities and Arts .....	3		3

<b>Junior and Senior Year</b>		<b>F</b>	<b>S</b>
SPCM 215, Public Speaking .....	3	or	3
SPCM 222, Argumentation and Debate .....	3		
SPCM 305, Communication Research (AW).....	3		
SPCM 340, Oral Interpretation .....	3	or	3
SPCM 375, Teaching of Speech.....	3		
SPCM 410, Organizational Communication.....			3
SPCM 442, Group Performance of Literature .....			3
SPCM 470, Intercultural Communication (G).....			3
<b>THEA 351, Directing or</b>			
THEA 355, Children's Theatre .....	3	or	3
CST Electives .....	9	or	9

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

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

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Major – THEA Specialization (Theatre)  
Bachelor of Science in Arts and Science**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or	3
SPCM 101*, Fundamentals of Speech.....	3	or	3
THEA 100*, Introduction to Theatre .....	3	or	3
THEA 131, Acting .....	3	or	3
THEA 241-241L, Stagecraft and Lab .....	3	or	3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Sciences .....	3		3
SGR Goal 3*: Social Sciences .....	3		3
IGR Goal 2***: Personal Wellness.....	2-3	or	2-3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or	3
SPCM 470, Intercultural Communication.....			3
THEA 243, Makeup for the Stage.....	3		
SGR Goal 4*: Humanities and Arts (not in CST).....	3		3
IGR Goal 1***: Land and Natural Resources .....	3	or	3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3

<b>Junior and Senior Year</b>		<b>F</b>	<b>S</b>
THEA 351, Directing .....	3		
THEA 375, Theatre Arts Management.....	3		
<b>THEA 441, Scene Design or</b>			
THEA 445, Lighting .....	3	or	3
THEA 460-560, Theatre History .....			3
THEA 410-510, Dramatic Literature (AW) .....			3
THEA 480, Summer Theatre			
(Summer Only-repeatable, 1-5 cr) .....	5	or	5
CST Electives .....	8	or	8

Minimum Theatre hours required for major — 40 hours

Maximum Activities Credit toward major — 8 hours  
(from THEA 135, THEA 145, THEA 195, and THEA 480)

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

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Major – THEA Specialization (Theatre)**

**Bachelor of Arts in Arts and Science**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or	3
Modern Language*, 101 and 102.....	4		4
SPCM 101*, Fundamentals of Speech.....	3	or	3
THEA 100*, Introduction to Theatre .....	3	or	3
THEA 131, Acting .....	3	or	3
THEA 241-241L, Stagecraft and Lab .....	3	or	3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 3*: Social Sciences .....	3		3
IGR Goal 2***: Personal Wellness.....	2-3	or	2-3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or	3
Modern Language, 201 and 202.....	3		3
SPCM 470, Intercultural Communication (G).....			3
THEA 243, Makeup for the Stage.....	3		
IGR Goal 1***: Land and Natural Resources .....	3	or	3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
SGR Goal 4*: Humanities and Arts .....	3		3
General Electives.....	3		3

<b>Junior and Senior Year</b>		<b>F</b>	<b>S</b>
THEA 351, Directing .....	3		
THEA 375, Theatre Arts Management.....	3		
<b>THEA 441, Scene Design or</b>			
THEA 445, Lighting .....	3	or	3
THEA 460-560, Theatre History .....			3
THEA 410-510, Dramatic Literature (AW) .....			3
THEA 480, Summer Theatre			
(Summer Only-repeatable, 1-5 cr) .....	5	or	5
CST Electives .....	8	or	8

Minimum Theatre hours required for major — 40 hours

Maximum Activities Credit toward major — 8 hours  
(from THEA 135, THEA 145, THEA 195, and THEA 480)

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

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Communication Studies and Theatre Minor: 20 cr**  
20 semester credits including SPCM 101, approved by the department head. Not more than 8 credits chosen from activity courses (MEPR 144-344, SPCM 281 and 491, THEA 135, 145, 195, and 491) may be counted.

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

## Computer Science (CSC) Major and Minor

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### 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*, Composition I .....	3	or 3
GE 101, Introduction to Engineering and Technology .....		1
MATH 123*, Calculus I .....	4	
MATH 125, Calculus II .....		4
MATH 253, Elementary Logic and Sets .....		3
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences .....	6	
IGR Goal 1**: Land and Natural Resources .....		3

Sophomore Year	F	S
CSC 300, Data Structures .....	3	
CSC 314, Assembly Language .....	3	
CSC 317, Computer Organization and Arch .....		3
EE 245-245L, Digital Systems .....	4	
MATH 215, Matrix Algebra .....	2	
MATH 316, Discrete Mathematics .....		3
PHYS 111/111L*, Introduction to Physics I and Lab, and PHYS 113/113L*, Introduction to Physics II and Lab or		3
PHYS 211/211L*, University Physics I and Lab, and PHYS 213/213L*, University Physics II and Lab or		3
CHEM 112/112L*, General Chemistry I and Lab, and CHEM 114/114L*, General Chemistry II and Lab or		3
BIOL 151/151L*, General Biology I and Lab, and BIOL 153/153L*, General Biology II and Lab .....	4	or 4
Natural Science from Department approved list .....	4	or 4

SGR Goal 4*: Humanities and Arts .....	6
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3

Junior Year	F	S
CSC 303, Ethical and Security Issues in Computing (G) .....		3
CSC 354, Introduction to Systems Programming .....	3	
CSC 445, Introduction to Theory of Computation .....	3	
CSC 446, Compiler Construction .....		3
ENGL 277, Technical Writing in Engineering .....	3	
MATH 373, Introduction to Numerical Analysis .....	3	
STAT 281, Introduction to Statistics† .....	3	
Electives .....	7	4

Senior Year	F	S
CSC 422, Graphical User Interface .....	3	
CSC 456, Operating Systems .....	3	
CSC 461 Programming Languages .....		3
CSC 470, Software Engineering .....	3	
CSC 484, Database Management Systems .....		3
CSC 485, Software Engineering II (AW) .....	3	
IGR Goal 2**: Personal Wellness .....	2	
Applied Electives†† .....	6	6

† May substitute MATH 381.

†† Courses numbered 300 or above, at least 9 of the credits from CSC courses, the rest may be from a support discipline.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Computer Networking Emphasis

The Computer Science Department offers an emphasis in computer networking. Student interested in Computer Networking Emphasis should take the courses below. This emphasis deals with the hardware and software issues in running a computer system. All EET courses have both lecture and laboratory components, so as the theory is taught, it is immediately reinforced with hands-on lab experience. The student starts with Electricity and Electronics course, which covers topics from basic electronics and microprocessors. This leads to the Computer Systems course, which specifically deals with the electronic hardware side of computers, and also with basic PC set-up software. Finally, there is a 2-semester sequence in the study of personal computer systems, networking, and data communications from a software and management point of view, concentrating on Intel-type personal computers.

Current Microsoft and Novell software systems are installed and explored by the students. This course of study is designed to prepare students to work with the installation of new systems, and the maintenance of existing Local-Area-Networks (LANs), looking at both hardware and software issues. An emphasis is placed on the complete system, including management of the system and the people and information involved. Students interested in Network should take the following courses:

CSC 474, Computer Networks .....	3
EET 252-252L, Electricity and Electronics I and Lab .....	3
EET 370-370L, Computer Systems and Lab .....	4
EET 472-472L, Networking I and Lab .....	4
EET 474-474L, Networking II and Lab .....	4

### Information Technology Management Emphasis

Information is one of the most important assets of any organization. The use of the computer and software in the current Information Age requires business to employ individuals savvy in producing, manipulating, and analyzing data. Business leaders understand that management of the organizational information systems must be entrusted to a competent and knowledgeable person. Students interested in Information Technology Management Emphasis should take courses:

- CSC 205, Advanced Microcomputer Application .....3
- CSC 325, Management Information Systems .....3
- CSC 474, Computer Networks .....3
- CSC 484, Database Management Systems.....3

### Software Engineering Emphasis

The Computer Science Program offers an emphasis in Software Engineering. This emphasis deals with the engineering design aspects of software such as quality control, software assurance, requirements and specifications as well as the human-machine interface. Students interested in the Software Engineering Emphasis should take the courses below.

- SE 320, Software Requirements and Formal Specs .....3
- SE 330, Human Factors and User Interface .....3
- SE 410, Software Test and Quality Assurance .....3
- SE 440, Embedded Systems Programming .....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*, Composition I .....	3	or 3
MATH 123*, Calculus I .....	4	
MATH 125, Calculus II .....		4
PHYC 101, General Psychology .....		3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	3
SGR Goal 3*: Social Sciences .....	3	

#### Sophomore Year

	F	S
CSC 300, Data Structures.....	3	
CSC 314, Assembly I .....	3	
CSC 317, Computer Organization and Architecture.....		3
EE 245-245L, Digital Systems.....	4	
ENGL 201*, Advanced Composition II.....		3
MATH 215, Matrix Algebra.....	2	
MATH 253, Elementary Logic and Sets .....	3	
MATH 316, Discrete Mathematics.....		3
SGR Goal 4*: Humanities and Arts .....		6
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	

#### Junior Year

	F	S
CSC 354, Introduction to Systems Programming.....	3	
CSC 445, Introduction to Theory of Computation .....	3	
CSC 446, Compiler Construction.....		3
CSC 456, Operating Systems .....	3	
CSC 461, Programming Languages .....	3	
CSC 470, Software Engineering .....	3	
EDFN 338, Foundation of Education.....	2	
EPSY 302, Educational Psychology .....	2	
HIST 368, History and Culture of the American Indians or ANTH 421, Indians of North America .....		3
MATH 373, Introduction to Numerical Analysis.....	3	
STAT 281, Introduction to Statistics† .....	3	

#### Senior Year

	F	S
CSC 480, Methods for Teaching Computer Science .....	3	
EDFN 365, Computer Base Technology and Learning .....	2	
EDFN 475, Human Relations.....	3	
SEED 314, Supervised Clinical/Field Experience .....	1	
SEED 400, Curriculum and Instruction in Middle/Secondary Schools .....		3
SEED 410, Social Foundations, Management and Law .....		2
SEED 420, Teaching Special Needs Students.....		1
SEED 450, 7-12 Teaching of Reading in Content Area.....	3	
SEED 488, 7-12 Student Teaching .....		8
IGR Goal 2***: Personal Wellness .....	2	
IGR Goal 1***: Land and Natural Resources.....	3	
Electives.....		1

† May substitute MATH 381.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Computer Science Minor: 21 cr

CSC 150, Computer Science I .....	3
CSC 250, Computer Science II.....	3
CSC 300, 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

Teresa Hall, Department Head

Pat Pannell, Program Coordinator

Department of Engineering Technology and Management

Solberg Hall 202

605-688-4160

e-mail: Pat.Pannell@sdstate.edu

### Requirements for Construction Management Major Bachelor of Science in Construction Management

#### Freshman Year

	F	S
ACCT 210, Principles of Accounting I.....	3	
ACCT 211, Principles of Accounting II.....		3
CM 101, Introduction to Construction.....	1	
CHEM 106-106L*, Chemistry Survey and Lab .....	4	
CSC 105, Introduction to Computers.....		3
ENGL 101*, Composition I .....	3	
GE 101, Introduction to Engineering and Technology .....		1
GE 121, Engineering Design Graphics I.....	1	
MATH 115*, Precalculus .....	5	
MATH 121-121L, Survey of Calculus and Lab.....		5
SPCM 101*, Fundamentals of Speech.....		3
IGR Goal 2***: Personal Wellness .....		2



<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
CM 216, Construction Materials.....	3	or	3
CM 232, Plans, Specifications and Blueprint Reading.....	3	or	3
ECON 201*, Principles of Microeconomics.....	3		
ECON 202*, Principles of Macroeconomics (G).....			3
ENGL 379*, Technical Communications.....	3		
GE 123, Computer Aided Drawing.....			1
PHIL 220*, Introduction to Ethics.....	3		
PHYS 111-111L*, Introduction to Physics I and Lab.....	4		
SGR Goal 3*: Social Sciences.....	3		
SGR Goal 4*: Humanities and Arts.....	3		
Technical Electives (from approved CM program list).....	3		

<b>Junior Year</b>		<b>F</b>	<b>S</b>
BADM 350, Legal Envir. of Business and Contracts.....	3		
CM 210-210L, Construction Surveying and Lab.....	3	or	3
CM 320-320L, Construction Soil Mechanics and Lab.....	3	or	3
CM 332-332L, Building Construction Methods and Systems.....	3	or	3
CM 333, Mechanical, Electrical, Plumbing Systems.....	3	or	3
CM 352, Cost Estimating.....	3	or	3
CM 353, Structural Theory for Technologists.....	3	or	3
CM 374, Heavy Construction Methods and Systems.....	3	or	3
IGR Goal 3*: Social Responsibility/Cultural and Aesthetic Awareness.....			3
Technical Elective (from approved CM program list).....			5

<b>Senior Year</b>		<b>F</b>	<b>S</b>
BADM 334, Small Business Management.....	3		
CM 400, Risk Management and Construction Safety.....	3	or	3
CM 410, Construction Project Management and Supervision.....	3	or	3
CM 443, Construction Planning and Scheduling.....	3	or	3
CM 455, Residential Construction.....	3	or	3
CM 473, Construction Management (AW).....	3	or	3
CM 482, Engineering Administration.....			3
IGR Goal 1*: Land and Natural Resources.....	3		
Technical Electives (from approved CM program list).....			3

**NOTE:** Students are required to have a minimum grade of "C" in all of the courses that are designated as prerequisites for the required courses.

### Business Minor

Students enrolled in the Construction Management program have the option to obtain the Business minor offered through the Economics Department, p. 155. With proper planning, the students can fulfill the Business minor requirements and without exceeding the 128 credits required for Construction Management majors.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Consumer Affairs (CA) Major and Minor

**Andrew Stremmel**  
**Department of Human Development, Consumer and Family Sciences**  
**SNF 369**  
**605-688-6418**  
**e-mail: Andrew.Stremmel@sdstate.edu**

### Requirements for Consumer Affairs Major

#### Bachelor of Science in Family and Consumer Sciences

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
CA 150, Early Experience in Consumer Affairs.....			1
ENGL 101*, Composition I.....	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations.....	1	or	1
SPCM 101*, Fundamentals of Speech.....	3	or	3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Sciences.....	3		3
SGR Goal 3*: Social Sciences.....	3	or	3
SGR Goal 4*: Humanities and Arts.....	3	or	3
IGR Goal 2**: Personal Wellness.....	2-3	or	2-3
IGR Goal 1**: Land and Natural Resources.....	3	or	3
Emphasis Electives.....	3	or	3

#### Sophomore Year

	<b>F</b>	<b>S</b>
CA 230, Consumer Behavior.....	3	or 3
CA 289, Consumers and the Market.....	3	
ECON 202*, Principles of Macroeconomics (G).....	3	or 3
ENGL 201*, Composition II.....	3	or 3
HDFS 241, Family Relations.....	3	or 3
SGR Goal 4*: Humanities and Arts.....	3	or 3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
Emphasis Electives.....	4	5

#### Junior Year

	<b>F</b>	<b>S</b>
CA 340, Work Family Interface (AW).....		3
CA 345, Foundations of Financial Planning for Individuals and Families.....	3	or 3
CA 381, Professional Behavior at Work.....	3	
Emphasis Electives.....	6	3

#### Senior Year

	<b>F</b>	<b>S</b>
CA 412-412L, Strategies for Consumer Affairs Professionals and Lab.....		4
CA 487, Transition to the Professional World.....	1	
CA 494, Internship.....		10
Emphasis Electives.....	9	

### Requirements for Family Financial Planning Emphasis

CA 399, FFP: Theory and Practices.....	3
CA 499, FFP: Applications.....	3
ECON 201, Microeconomics.....	3
ACCT 210, Principles of Accounting I.....	3

Must take 15 credits from the following list:

BADM 310, Business Finance.....	3
BADM 330, Money and Banking.....	3
BADM 334, Small Business Management.....	3
BADM 360, Organization and Management.....	3
ACCT 211, Principles of Accounting II.....	3
ACCT 430, Income Tax Accounting.....	3
ECON 492, Special Topics: Investments.....	3

<b>Requirements for Resource Management Emphasis</b>	
CA 442, Family Resource Management Lab .....	3
FCSE 421, Adult Education .....	3
BADM 350, Legal Environment of Business .....	3
BADM 360, Organization and Management .....	3
HFM 455, Meetings and Convention Management .....	3

Must take 12 credits from the following list:

BADM 351, Business Law .....	3
ECON 370, Marketing .....	3
BADM 474, Personal Selling .....	3
MCOM 161, Desktop Publishing .....	3
MCOM 314, Sales Promotion and Marketing .....	3
MCOM 374, Advertising Principles .....	3
MCOM 475, Public Relations .....	3
HFM 482, Hospitality Marketing .....	3
HFM 171, Intro to Hospitality Industry .....	3
SPCM 201, Interpersonal Communication .....	3
HFM 361, Hospitality Industry Law .....	2

**NOTE:** A grade of "C" or better is required in all courses with a CA prefix.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Consumer Affairs Minor: 18 cr**

(select 18 credits from the list below)

CA 230, Consumer Behavior† .....	3
CA 289, Consumers and the Market .....	3
CA 340, Work Family Interface† .....	3
CA 345, Foundations in Financial Planning for Individuals and Families† .....	3
CA 442, Family Resource Management Lab .....	3
CA 492, Topics .....	3
FCSE 421, Adult Education .....	3

† These courses are only offered once a year. Deviations from the established program schedule can extend the time required to complete the program.

## Counseling and Human Resource Development (CHRD)

Jay Trenhaile  
 Department of Counseling and Human Resource Development  
 Wenona Hall 318  
 605-688-4190  
 e-mail: jay.trenhaile@sdstate.edu

See Graduate Catalog for requirements.

## Criminal Justice (CJUS) Minor

Donna Hess  
 Department of Sociology  
 Scobey Hall 224  
 605-688-4132  
 e-mail: donna.hess@sdstate.edu

**Requirements for Criminal Justice Minor: 18 cr†**

CJUS 201, Introduction to Criminal Justice .....	3
SOC 351, Criminology†† .....	3

12 hours from:

CJUS 203, Policing in a Free Society .....	3
CJUS 331, Civil Rights and Liberties .....	3
CJUS 433, Criminal Procedure .....	3
CJUS 431, Criminal Law .....	3
CJUS 412, Criminal Prosecution and Defense .....	3
CJUS 436, Juvenile Justice .....	3
CJUS 491, Independent Study .....	3
SOC 325, Domestic and Intimate Violence†† .....	3
SOC 354, Victimology†† .....	3
SOC 455, Juvenile Delinquency†† .....	3
SOC 456, Community Corrections†† .....	3
SOC 460, Advanced Criminology†† .....	3
SOC 482, Sociology of Law†† .....	3
SOC 492 Topics .....	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.

CJUS minors may choose any major.

## Curriculum and Instruction

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 Department of Educational Leadership  
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See Graduate Catalog for requirements.

## Dairy Manufacturing (DS) Major

Vikram V. Mistry, Head  
 Dairy Science Department  
 Dairy-Microbiology 109  
 605-688-4116  
 e-mail: vikram.mistry@sdstate.edu

**Requirements for Dairy Manufacturing Major**

**Bachelor of Science in Agriculture**

Freshman Year	F	S
CHEM 106-106L*, Chemistry Survey and Lab or CHEM 112-112L*, General Chemistry I and Lab .....		4
DS 130-130L, Introduction to Dairy Science and Lab .....	3	or 3
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra or MATH 115*, Precalculus .....	3-5	or 3-5

SGR Goal 3*: Social Sciences .....	3	
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	3
IGR Goal 2**: Personal Wellness .....	2	or 2
Group 1 Electives, p. 64 .....	3	1
Electives .....	2	or 2

**Sophomore Year** **F** **S**

IGR Goal 1**: BIOL 101-101L, Biology Survey I and Lab .....	3	
BIOL 103-103L*, Biology Survey II and Lab .....	3	3
CHEM 108-108L, Organic and Biochemistry and Lab <b>or</b> CHEM 120-120L, Elementary Organic Chemistry and Lab .....	4-5	
DS 202, Dairy Products Judging .....	1	1
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 201*, Composition II .....	3	
MICR 231-231L, General Microbiology and Lab .....	4	
Electives .....	6	5

**Junior and Senior Years** **F** **S**

ACCT 210, Principles of Accounting I .....	3	3
AST 443, Food Process and Engineering Fundamentals .....	3	
DS 313-313L, Technical Control of Dairy Products I and Lab <b>and</b> DS 422-422L, Technical Control of Dairy Products II and Lab .....	3	4
DS 301-301L, Dairy Microbiology and Lab .....	3	
DS 321-321L, Dairy Product Processing I and Lab <b>and</b> DS 322-322L, Dairy Product Processing II and Lab .....	5	5
DS 421, Dairy Plant Management .....	3	
DS 490, Seminar (AW) .....	1	
DS 496, Field Experience .....	3	
MICR 311-311L, Food Microbiology and Lab .....	4	
Food Science Elective††† .....	3	or 3
PHYS 101-101L, Survey of Physics and Lab <b>or</b> PHYS 111-111L, Introduction to Physics I and Lab <b>or</b> PHYS 211-211L, University Physics I and Lab .....	4	
Communications Elective†† .....	2	
Economics, Business Administration, or Statistics Elective† .....	3	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
Electives .....	11	or 11

† Economics, Business Administration, or Statistics electives to be selected from: BADM 280, 310, 350, 351, 360; ECON 201, 301, 330, 370, 433, 467; STAT 281; ACCT 211.

†† Communication elective to be selected from: ENGL 379; MCOM 210, 313, 316, 331; SPCM 215.

††† Food Science elective to be selected from: NFS 111, 141, 321, 341, 351, 421, 451.

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Dairy Manufacturing Major  
Microbiology Specialization  
Bachelor of Science in Agriculture**

**Freshman Year** **F** **S**

CHEM 112-112L*, General Chemistry I and Lab <b>or</b> CHEM 114/114L*, General Chemistry II and Lab .....	4	
DS 130-130L, Introduction to Dairy Science and Lab .....	3	or 3
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra <b>or</b> MATH 115*, Precalculus .....	3-5	or 3-5
SGR Goal 3*: Social Sciences .....	3	
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	3
IGR Goal 2**: Personal Wellness .....	2	or 2

**Sophomore Year** **F** **S**

IGR Goal 1**: BIOL 101-101L, Biology Survey I and Lab .....	3	
BIOL 103-103L*, Biology Survey II and Lab .....	3	3
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
CHEM 328-328L, Organic Chemistry II and Lab .....	4	
DS 202, Dairy Products Judging .....	1	1
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 201*, Composition II .....	3	3
MICR 231-231L, General Microbiology and Lab .....	4	4
BIOL 202-202L, Genetics and Organismal Biology and Lab .....	4	
BIOL 204-204L, Genetics and Cellular Biology and Lab .....	4	
MICR 310-310L, Environmental Microbiology and Lab .....	4	

**Junior and Senior Years** **F** **S**

ACCT 210, Principles of Accounting I .....	3	3
AST 443, Food Process and Engineering Fundamentals .....	3	
DS 313-313L, Technical Control of Dairy Products I and Lab <b>and</b> DS 422-422L, Technical Control of Dairy Products II and Lab .....	3	4
DS 301-301L, Dairy Microbiology and Lab .....	3	
DS 321-321L, Dairy Product Processing I and Lab <b>and</b> DS 322-322L, Dairy Product Processing II and Lab .....	5	5
DS 421, Dairy Plant Management .....	3	
DS 490, Seminar (AW) <b>or</b> MICR 490 Seminar (AW) .....	1	
DS 496, Field Experience .....	3	or 3
MICR 311-311L, Food Microbiology and Lab .....	4	
STAT 281, Statistical Methods .....	3	or 3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
CHEM 464-464L, Biochemistry and Lab .....	4	
MICR 332, Microbial Physiology Lecture .....	2	
MICR 333L, Microbial Physiology Lab .....	2	
MICR 442-442L, Immunology and Lab .....	4	
MICR 436, Molecular Microbial Genetics .....	4	

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Dairy Production (DS) Major

Vikram Mistry, Head  
 Dairy Science Department  
 Dairy-Microbiology 109  
 605-688-4116  
 e-mail: vikram.mistry@sdstate.edu

## Requirements for Dairy Production Major Bachelor of Science in Agriculture

Freshman Year		F	S
CHEM 106-106L*, Chemistry Survey and Lab or CHEM 112-112L*, General Chemistry I and Lab.....			4
DS 130-130L, Introduction to Dairy Science and Lab .....	3	or	3
DS 212, Dairy Cattle Evaluation.....			2
ENGL 101*, Composition I .....	3	or	3
MATH 102*, College Algebra or MATH 115*, Precalculus.....	3-5		
PS 103-103L, Crop Production and Lab.....			3
SPCM 101*, Fundamentals of Speech.....	3	or	3
SGR Goal 3*: Social Sciences .....	3		
SGR Goal 4*: Humanities and Arts .....	3		3
IGR Goal 2**: Personal Wellness .....			2

Sophomore Year		F	S
AS 233-233L, Applied Animal Nutrition and Lab.....	4		
IGR Goal 1**: BIOL 101-101L, Biology Survey I and Lab ...	3		
BIOL 103-103L*, Biology Survey II and Lab.....			3
CHEM 108-108L, Organic and Biochemistry and Lab or CHEM 120-120L, Elementary Organic Chemistry and Lab .....	4-5		
DS 202, Dairy Products Judging.....			1
ECON 202*, Principles of Macroeconomics (G) .....	3		
ENGL 201*, Composition II.....	3		
MICR 231-231L, General Microbiology and Lab .....			4
PHYS 101-101L, Survey of Physics and Lab or PHYS 111-111L, Introduction to Physics I and Lab or PHYS 211-211L, University Physics I and Lab .....	4		4
Plant Science Elective†† .....	3	or	3

Junior and Senior Years		F	S
AGEC 271-271L, Farm and Ranch Management and Lab .....	4		
AS 323, Advanced Animal Nutrition .....	3		
AS 433-433L, Livestock Reproduction and Lab .....	3		
BIOL 371, Genetics.....	3		
DS 301-301L, Dairy Microbiology and Lab.....			3
DS 411, Dairy Breeds and Breeding .....	2		
DS 412-412L, Dairy Farm Management and Lab .....			4
DS 413, Physiology of Lactation .....			3
DS 432, Dairy Cattle Feeding .....	3		
DS 490, Seminar (AW) .....	1		
DS 496, Field Experience.....	3		
VET 223-223L, Anatomy and Physiology of Livestock and Lab.....			4
Communications Elective†.....	2		
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
Electives.....	11		12

The following specializations have been approved for the curricula in Agriculture. Students may use elective credits in the major to fulfill requirements for the specialization.

Business Specialization	
ACCT 210, Principles of Accounting I.....	3
BADM 360, Organization and Management.....	3
ECON 201, Principles of Microeconomics .....	3

Plus 12 hours to be chosen from:

ACCT 211, Principles of Accounting II.....	3
AGEC 354, Agricultural Marketing and Prices.....	3
BADM 310, Business Finance.....	3
BADM 380, Personal Finance.....	3
ECON 330, Money and Banking.....	3
ECON 370, Marketing.....	3
ECON 476, Marketing Research .....	3
STAT 281, Introduction to Statistics, or equivalent .....	3

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

† Communication elective to be selected from: ENGL 379; MCOM 210, 313, 316, 331; SPCM 215.

†† Plant Science elective to be selected from PS 213 or 313.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Dance Minor

Melissa Hauschild-Mork  
 Department of Health, Physical Education and Recreation  
 Physical Education Center 271  
 605-688-5023  
 email: melissa.mork@sdstate.edu

A dance minor provides opportunities for students to gain an appreciation and understanding in the history and techniques involved in dance. The minor will also provide opportunities for students to study dance within a broad curricular base that will benefit students from a variety of majors. Moreover, the minor will benefit students by providing: opportunities for self exploration and self assessment from a physical, cognitive and spiritual perspective; opportunities for aesthetic growth and criticism; opportunities to view dance as an art form and its connection to other art forms from a historical and a performance perspective; an outlet for expression and communication; opportunities for critical thinking, creative problem solving, and global thinking (linking content to other subject areas, cultures, etc); opportunities for students to cultivate healthy lifestyles. All students interested in obtaining this minor must obtain written approval from the dance coordinator.

Requirements for Dance Minor		F	S
DANC 130, Fundamentals of Dance and Rhythms .....	1	or	1
DANC 131, Movement 1 (odd yrs) .....			2
DANC 132, Movement 2 (odd yrs) .....			2

DANC 230, Technique 1† (odd years).....	1
DANC 231, Technique 2† (odd years).....	1
DANC 240, Multicultural Dance (odd years).....	1
DANC 241, Creative Movement for Children (even years)....	2
DANC 330, Technique 3† (odd years).....	1
DANC 331, Technique 4† (even years).....	1
DANC 430, Composition and Choreography (even years)....	1
DANC 431, Dance for the Musical Theatre (even years).....	1

† Students need only take 2 credits from the group of these courses – either DANC 230 and 231 or 330 and 331.

**Elective Courses in the Minor: (6 credits from this list)**

BIOL 221-221L, Anatomy and Lab.....	4
MUS 100, Music Appreciation .....	3
PE 204, Professional Preparation: Rhythm and Dance .....	1
PE 454, Biomechanics .....	3
THEA 100, Introduction to Theatre .....	3
THEA 131, Introduction to Acting .....	3
THEA 435, History of the American Musical .....	3

**(Pre-) Dental**

**Scott Pedersen**  
**Department of Biology and Microbiology**  
**Agricultural Hall 329**  
**605-688-5529**

**e-mail: scott.pedersen@sdstate.edu**  
**web page: <http://www3.sdstate.edu/academics/preprofessionalprograms/>**

**Suggested Pre-Dental Coursework**

**See your Pre-Dental Adviser for a complete listing**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 151-151L*, General Biology I and Lab <b>and</b>		
BIOL 153-153L*, General Biology II and Lab .....	4	4
CHEM 112-112L*, General Chemistry I and Lab <b>and</b>		
CHEM 114-114L*, General Chemistry II and Lab .....	4	4
MATH 102*, College Algebra, <b>or</b>		
MATH 115*, Precalculus <b>or</b>		
Placement in Calculus.....	3-5	
MATH 121-121L, Survey of Calculus and Lab <b>or</b>		
MATH 123*, Calculus I.....	4-5	
MICR 231-231L, General Microbiology .....	4	

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
CHEM 326-326L, Organic Chemistry I and Lab <b>and</b>		
CHEM 328-328L, Organic Chemistry II and Lab .....	4	4
BIOL 202-202L, Genetics and Organismal Biology <b>and</b>		
BIOL 204-204L, Genetics and Cellular Biology .....	4	4
BIOL 221-221L, Human Anatomy .....	4	
BIOL 325-325L, Physiology .....	4	

<b>Junior Year</b>	<b>F</b>	<b>S</b>
CHEM 464-464L, Biochemistry and Lab.....	4	
STAT 281, Introduction to Statistics <b>or</b>		
MATH 125, Calculus II .....	3-4	or 3-4
PHYS 111-111L*, Introduction to Physics I and Lab <b>and</b>		
PHYS 113-113L*, Introduction to Physics II and Lab.....	4	4

**Senior Year**  
**Complete Major Requirements**

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Early Childhood Education Major**

**Andrew Stremmel**  
**Department of Human Development, Consumer and Family Sciences**  
**SNF 369**  
**605-688-6418**  
**e-mail: Andrew.Stremmel@sdstate.edu**

**Requirements for Early Childhood Education Major Birth to 5 Specialization**

**Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
CSC 105, Introduction to Computers.....	3	or 3
ECE 150-150L, Early Experience and Lab.....	2	or 2
ECE 227, Human Development and Personality I: Childhood.....	3	or 3
ENGL 101*, Composition I .....	3	or 3
FCS 101, Family and Consumer Sciences: Professional Foundations .....	1	or 1
HDFS 210*, Lifespan Development .....	3	or 3
PSYC 101*, General Psychology.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
WEL 100**, Wellness for Life.....	2	or 2
SGR Goal 4*: SOC 100, Introduction to Sociology (G) .....	3	or 3
SGR Goal 5*: Mathematics (MATH 102 or higher).....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	or 3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
DCOM 212, Language Development.....		3
ECE 220, Health, Safety, and Nutrition .....	3	or 3
ECE 228-228L, Observation and Participation in ECE with Lab .....	3	or 3
EDFN 338, Foundations of American Education .....	2	or 2
EDFN 475, Human Relations .....	3	or 3
ENGL 201*, Composition II .....	3	or 3
HDFS 241, Family Relations .....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	or 3
SGR Goal 4*: Humanities and Arts (G) .....	3	or 3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
IGR Goal 3**: SOC 100, Introduction to Sociology.....	3	or 3
ANTH 421**, Indians of North America .....	3	or 3
ECE 361-361L, Methods/Materials Early Childhood Education† (AW).....	5	or 5
ECE 362-362L, Early Childhood Education Curriculum† .....	5	or 5
ECE 364, Parent/Child Relationships in a Professional Context .....	3	or 3

ECE 365-365L, Emergent Literacy in Birth to 8 Education.....	3	or	3
ECE 468, Early Intervention Family Centered Practices.....	3		
ECE 487, Orientation to Child and Family Services Practicum.....	1		
ECE 371-371L, Infants and Toddlers: Developmentally Appropriate Practices.....	3	or	3
ECE 470, Early Childhood Inclusion Strategies.....	3		
EDFN 365, Computer Based Technology and Learning.....	2	or	2
IGR Goal 1**: Land and Natural Resources.....	3	or	3

**Senior Year**

ECE 441, Professional Issues Child and Family Study.....	3		
ECE 455, Administration and Supervision in Early Childhood Settings.....	3		
ECE 465†, Introduction to Developmental Assessment of Young Children.....	3	or	3
ECE 488†, Student Teaching in Early Childhood Education.....	6	or	6
ECE 495, Practicum.....	8-12	or	8-12
Electives.....	8	or	8

A pre-graduate check is required 2 semesters before graduation semester.

At beginning of graduation semester, a graduation application must be completed.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS or ECE prefix is considered a course in the major.

A grade of "C" or better is required in PSYC 101, ENGL 101, SPCM 101, MATH 102.

† Taken concurrently.

Students must meet all GPA Requirements (2.6 for graduation) and be accepted into the ECE Teacher Education program ECE- PSII and ECE-PS III. Students will be required to pass the PRAXIS content and Principles of Teaching and Learning exams in order to be considered a Highly Qualified Teacher.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Early Childhood Education Major Birth to 8 Specialization**

**Bachelor of Science in Family and Consumer Sciences**

**Freshman Year**

BIOL 101-101L**, Biology and Lab.....	3	or	3
ECE 150-150L, Early Experience and Lab.....	2	or	2
ECE 227, Human Development and Personality I: Childhood.....	3	or	3
ENGL 101*, Composition I.....	3	or	3
FCS 101, Family and Consumer Sciences: Professional Foundations.....	1	or	1
HDFS 210*, Lifespan Development.....	3	or	3
PSYC 101*, General Psychology.....	3	or	3
SPCM 101*, Fundamentals of Speech.....	3	or	3
WEL 100**, Wellness for Life.....	2	or	2
SOC 100, Introduction to Sociology (G).....	3	or	3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 4*: Humanities Elective.....	3	or	3

**Sophomore Year**

ECE 220, Health, Safety, and Nutrition.....	3	or	3
ECE 228-228L, Observation and Participation in ECE with Lab.....	3	or	3
EDFN 338†, Foundation of American Education.....	2	or	2
EDFN 475†, Human Relations.....	3	or	3
ENGL 201*, Composition II.....	3	or	3
GEOG 131-131L, Physical Geography and Lab.....	4	or	4
HDFS 241, Family Relations.....	3	or	3
MATH 141 or MATH 341.....	3	or	3
ENGL 240, Juvenile Literature.....	3		
EDFN 492, Reading in Primary Grades.....	3		

**Junior Year**

ANTH 421**, Indians of North America.....	3	or	3
ECE 361-361L†, Methods/Materials Early Childhood Education (AW).....	5	or	5
ECE 362-362L†, Early Childhood Education Curriculum.....	5	or	5
ECE 364, Parent/Child Relationships in a Professional Context.....	3	or	3
ECE 365-365L, Emergent Literacy in Birth to 8 Education.....	3	or	3
ECE 371-371L, Infants and Toddlers: Developmentally Appropriate Practices.....	3	or	3
EDFN 365, Computer Based Technology and Learning.....	2	or	2
PHYS 101-101L, Survey of Physics and Lab or.....	4	or	4
PHYS 185, Intro to Astronomy or.....	3	or	3
CHEM 106-106L, Survey of Chemistry and Lab.....	4	or	4

**Senior Year**

ECE 465†, Introduction to Developmental Assessment of Young Children.....	3	or	3
ECE 473, Orientation to K-2 Student Teaching.....	2	or	2
ECE 478-478L, Integrated Curriculum in Birth to 8 Education.....	4	or	4
ECE 488†, Student Teaching in Early Childhood Education and Birth to 8.....	6	and	6
MUS 351, Music Education I: Elementary Music Concepts (summer only).....	2		
PE 360, K-8 Physical Education Methods (summer only).....	2		
MATH 342, MATH Concepts.....	3	or	3
ECE 470, Early Childhood Inclusions Strategies.....	3		

A pre-graduate check is required 2 semesters before graduation semester.

At beginning of graduation semester, a graduation application must be completed.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS or ECE department/program prefix is considered a course in the major.

A grade of "C" or better is required in PSYC 101, ENGL 101, SPCM 101, MATH 102.

† Taken concurrently.

Students must meet all GPA requirements (2.6 for graduation) and be successfully admitted into ECE-, PSII, III, and IV.

Students must pass the PRAXIS content and Principles of Teaching and Learning Exams in order to be considered a Highly Qualified Teacher.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Early Childhood Education Major Cooperative Agreement with Black Hills State University Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ART 121*, Design I.....	3	or 3
BIOL 101-101L**, Biology Survey I and Lab.....	3	or 3
ECE 150-150L, Early Experience and Lab.....	2	or 2
ENGL 101*, Composition I.....	3	or 3
FCS 101, Family and Consumer Sciences: Professional Foundations.....	1	
HDFS 210*, Lifespan Development.....	3	or 3
HIST 151, U.S. History to 1877 <b>or</b> HIST 152, U.S. History since 1877.....	3	or 3
PSYC 101*, General Psychology.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
WEL 100**, Skills for Healthy Living.....	2	or 2
SGR Goal 5*: Mathematics (MATH 102 or higher).....	3	or 3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ECE 220, Health, Safety, and Nutrition.....	3	or 3
ECE 227, Human Development and Personality I: Childhood.....	3	or 3
ECE 228-228L, Observation and Participation in Early Childhood with Lab.....	3	or 3
ENGL 201*, Composition II.....	3	or 3
ENGL 240, Literature for Young Readers.....	3	
EPSY 302, Educational Psychology.....	3	or 3
GEOG 131-131L*, Physical Geography I and Lab.....	4	or 4
HDFS 241, Family Relations.....	3	or 3
MATH 141, Survey of Mathematics.....	3	
PHYS 101-101L, Survey of Physics and Lab <b>or</b> CHEM 106-106L, Survey of Chemistry/Lab.....	4	or 4
POLS 100, American Government.....	3	or 3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
ECE 365-365L, Emergent Literacy in Birth-8 and Lab.....	3	or 3
ECE 361-361L†, Methods/Materials Early Childhood Education (AW).....	5	or 5
ECE 362-362L†, Early Childhood Education Curriculum.....	5	or 5
ECE 364, Parent/Child Relationships in a Professional Context.....	3	or 3
ECE 371-371L, Infants and Toddlers: Developmentally Appropriate Practices.....	3	
EDFN 338†, Foundations of American Education.....	2	or 2
EDFN 475†, Human Relations.....	3	or 3
GEOG 200*, Introduction to Human Geography, (G) <b>or</b> GEOG 210*, World Regional Geography, (G).....	3	or 3
MUS 351, Music Education I: Elementary Music (summer only).....	2	
PE 360, K-8 Physical Education Methods (summer only).....	2	
MATH Elective.....	3	or 3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ANTH 421**, Indians of North America.....	3	or 3
ECE 400, Orientation to Cooperative Elementary Education.....		0
ECE 441, Professional Issues in Child Family Study.....	3	
ECE 465†, Introduction to Developmental Assessment of Young Children.....	3	or 3
ECE 488†, Student Teaching in Early Childhood Ed.....	6	or 6
EDFN 365, Computer-Based Technology and Learning.....	2	or 2
SPED 300, Studies with Exceptionalities.....	3	or 3

Courses taken at BHSU to meet state elementary education certification will require additional semesters. Enroll in ECE 400 (0 cr) while at BHSU.

A pre-graduate check is required 2 semesters before going to BHSU.

At beginning of graduation semester, a graduation application from SDSU must be completed.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.

Students are required to have an overall GPA of 2.6 and have a "C" or better in ENGL 101, SPCM 101, EPSY 302, EDFN 338, MATH 102.

Students must meet all GPA requirements and successfully be admitted to ECE Teacher Education Program ECE PSII and ECE PS III.

Students must meet all requirements for admission to Teacher Education Program at BHSU and SDSU. Students must successfully complete the PPST Exam or CAAP. Students pass the PRAXIS content and Principles of Teaching and Learning exams to be considered a Highly Qualified Teacher.

† Taken concurrently.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Early Childhood Education Major Cooperative Agreement with Dakota State University Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 101-101L**, Biology Survey I and Lab.....	3	or 3
CSC 105, Introduction to Computers.....	3	or 3
ECE 150-150L, Early Experience and Lab.....	2	or 2
ENGL 101*, Composition I.....	3	or 3
FCS 101, Family and Consumer Sciences: Professional Foundations.....	1	or 1
HIST 151, U.S. History to 1877 <b>or</b> HIST 152, U.S. History since 1877.....	3	or 3
POLS 100, American Government.....	3	or 3
PSYC 101*, General Psychology.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
WEL 100**, Wellness for Life.....	2	or 2
SOC 100, Introduction to Sociology (G).....	3	or 3
SGR Goal 5*: Mathematics.....	3	or 3

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ART 121*, Design I.....	3	or	3
ECE 227, Human Development and Personality I: Childhood.....	3		
ECE 228-228L, Observation and Participation in EC with Lab.....	3	or	3
EDFN 338, Foundations of American Education.....	2	or	2
EDFN 475, Human Relations.....	3	or	3
ENGL 201*, Composition II.....	3	or	3
GEOG 131-131L*, Physical Geography I and Lab.....	4	or	4
HDFS 210, Lifespan Development.....	3	or	3
HDFS 241, Family Relations.....	3	or	3
HLTH 250-250L, First Aid and Lab.....	2	or	2
ENGL 240, Juvenile Literature.....	3		

<b>Junior Year</b>		<b>F</b>	<b>S</b>
BIOL 103-103L**, Biology Survey II and Lab or.....	3	or	3
BOT 201-201L**, General Botany and Lab or.....	3	or	3
PHYS 101-101L, Survey of Physics and Lab or.....	4	or	4
CHEM 106-106L, Survey of Chemistry and Lab.....	4	or	4
ECE 361-361L†, Methods/Materials in Early Childhood Education (AW).....	5	or	5
ECE 362-362L†, Early Childhood Education Curriculum.....	5	or	5
ECE 364, Parent/Child Relationship in a Professional Context.....	3	or	3
ECE 371-371L, Infants and Toddlers: DAP.....	3	or	3
ECE 365-365L, Emergent Literacy Birth-8 and Lab.....	3	or	3
SPED 300, Children with Exceptionalities.....	3	or	3
MUS 351, Music Education I: Elementary Music (summer only).....	2		
PE 360, K-8 Physical Education Methods (summer only).....	2		
Electives.....	3	or	3

<b>Senior Year</b>		<b>F</b>	<b>S</b>
ANTH 421**, Indians of North America.....	3	or	3
ECE 400, Orientation to Cooperative Elementary Education Program.....			0
ECE 441, Professional Issues in Child/Family Studies.....	3		
ECE 465†, Introduction to Developmental Assessment of Young Children.....	3	or	3
ECE 488†, Student Teaching in ECE.....	6	or	6
ECE 492, Topics (via DDN).....	3	or	3
EDFN 365, Computer-Based Technology and Learning.....	2	or	2
EPSY 302, Educational and Adolescent Psychology.....	3	or	3
HLTH 420, K-12 Methods of Health Instruction.....	2	or	2
Elective.....	3	or	3

Courses taken at DSU to meet state elementary education certification will require at least 3 additional semesters. Enroll in ECE 400 (0 cr) while at DSU.

A pre-graduate check is required 2 semesters before going to DSU.

At beginning of graduation semester, a graduation application from SDSU must be completed.

Students are required to have an overall GPA of 2.6 and have a "C" or better in ENGL 101, SPCM 101, PSYC 101, EPSY 302, EDFN 338, MATH 102.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.

Students must meet all requirements for admission to Teacher Education Program at DSU and SDSU and successfully be admitted to ECE - PSIII.

Students must pass the PRAXIS content and Principles of Teaching and Learning Exams to be considered a Highly Qualified Teacher.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Early Childhood Education Major  
Cooperative Program with Northern State University  
Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ART 121*, Design I.....	3	or	3
BIOL 101-101L**, Biology Survey I and Lab.....	3	or	3
ECE 150-150L, Early Experience and Lab.....	2	or	2
ECE 227, Human Development and Personality I: Childhood.....	3	or	3
ENGL 101*, Composition I.....	3	or	3
FCS 101, Professional Foundations.....	1		
HDFS 210*, Lifespan Development.....	3	or	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
PSYC 101*, General Psychology.....	3	or	3
SPCM 101*, Fundamentals of Speech.....	3	or	3
WEL 100**, Wellness for Life.....	2	or	2

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ECE 228-228L, Observation and Participation in ECE with Lab.....	3	or	3
EPSY 302, Educational Psychology.....	3	or	3
ECE 220, Health, Safety and Nutrition.....	3	or	3
ENGL 201*, Composition II.....	3	or	3
ENGL 240, Juvenile Literature.....	3		
GEOG 131-131L, Physical Geography and Lab.....	4	or	4
GEOG 200*, Intro Human Geography or GEOG 210*, World Regional Geography (G).....	3	or	3
HDFS 241, Family Relations.....	3	or	3
MATH 141, Survey of Mathematics.....	3		
PHYS 101-101L, Survey of Physics and Lab or CHEM 106-106L, Chemistry Survey and Lab.....	4	or	4
POLS 100, American Government.....	3	or	3

<b>Junior Year</b>		<b>F</b>	<b>S</b>
ECE 361-361L†, Methods and Materials in Early Childhood Education (AW).....	5	or	5
ECE 362-362L†, Early Childhood Education Curriculum.....	5	or	5
ECE 364, Parent/Child Relationships.....	3	or	3
ECE 371-371L, Infants and Toddlers: Developmentally Appropriate Practices.....	3	or	3
ECE 365-365L, Emergent Literacy in Birth-8 and Lab.....	3	or	3
EDFN 338†, Foundations of American Education.....	2	or	2
EDFN 475†, Human Relations.....	3	or	3
MATH 342, Math Concepts.....	3	or	3
MUS 351, Music Ed I: Elementary Music (summer only).....	2		
PE 360, K-8 PE Methods (summer only).....	2		



<b>Senior Year</b>	<b>F</b>	<b>S</b>
ANTH 421**, Indians of North America .....	3	or 3
ECE 400, Orientation to Cooperative Elementary Education Program.....		0
ECE 441, Professional Issues in CFS .....	3	
ECE 465†, Intro Development Assessment of Young Children .....	3	
ECE 488†, Student Teaching in ECE.....	6	
ECE 492, Topics (via DDN) .....		3
EDFN 365, Computer-Based Technology and Learning .....	2	or 2
SPED 300, Students with Exceptionalities .....		3

Courses taken at NSU to meet state elementary education certification will require additional semesters. Enroll in ECE 400 (0 cr) while at NSU.

A pre-graduate check is required 2 semesters before going to NSU.

At beginning of graduation semester, a graduation application from SDSU must be completed.

Students are required to have an overall GPA of 2.6 and have a "C" or better in ENGL 101, SPCM 101, PSYC 101, EPSY 302, EDFN 338, MATH 102.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.

Students must meet all requirements for admission to Teacher Education Program at NSU and SDSU and successfully complete the PPST. Students must also be successfully admitted to ECE-PS III.

Students must pass the PRAXIS content and Principles of Teaching and Learning exams to be considered a Highly Qualified Teacher.

† Taken concurrently.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Early Childhood Education Major Cooperative Program with University of South Dakota Bachelor of Science in Family and Consumer Sciences

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ART 121*, Design I.....	3	or 3
BIOL 101-101L**, Biology Survey I and Lab .....	3	or 3
ECE 150-150L, Early Experience and Lab.....	2	or 2
ENGL 101*, Composition I .....	3	or 3
FCS 101, Professional Foundations .....	1	
GEOG 131-131L*, Physical Geography and Lab .....	4	or 4
HDFS 210*, Lifespan Development .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
PSYC 101*, General Psychology .....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
WEL 100**, Wellness for Life.....	2	or 2

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ECE 220, Health, Safety and Nutrition.....	3	or 3
ECE 227, Human Development and Personality I: Childhood.....	3	or 3
ECE 228-228L, Observation and Participation in EC with Lab .....	3	or 3
ENGL 201, Composition II.....	3	or 3
ENGL 240, Juvenile Literature .....	3	

HDFS 241, Family Relations .....	3	or 3
HIST 151, U.S. History to 1877 or HIST 152, U.S. History since 1877 .....	3	or 3
MATH 141, Survey of MATH .....	3	
PHYS 101-101L, Survey of Physics and Lab or CHEM 106-106L, Chemistry Survey and Lab .....	4	or 4
POLS 100, American Government.....	3	or 3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
ECE 361-361L†, Methods and Materials in ECE (AW).....	5	or 5
ECE 362-362L†, Early Childhood Education Curriculum .....	5	or 5
ECE 364, Parent/Child Relationships .....	3	or 3
ECE 371-371L, Infants and Toddlers: Developmentally Appropriate Practices .....	3	
EDFN 338†, Foundations of American Education .....	2	
EDFN 475†, Human Relations.....	3	or 3
EPSY 302, Educational Psychology .....	3	or 3
GEOG 210, World Regional Geography (G).....	3	or 3
MUS 351, Music Ed I: Elementary Music (summer only)....	2	
PE 360, K-8 PE Methods (summer only) .....	2	
MATH Elective (check with adviser).....	3	or 3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ANTH 421**, Indians of North America.....	3	or 3
ECE 400, Orientation to Cooperative Elementary Education Program.....		0
ECE 441, Professional Issues in CFS .....	3	
ECE 465†, Intro Development Assessment of Young Children .....	3	or 3
ECE 488†, Student Teaching in ECE.....	6	or 6
ECE 492, Topics in K-8 Reading .....	3	
EDFN 365, Computer-Based Technology and Learning .....	2	or 2
SPED 300, Students with Exceptionalities .....	3	or 3

Courses taken at USD to meet state elementary education certification will require additional semesters. Enroll in ECE 400 (0 cr) while at USD.

A pre-graduate check is required 2 semesters before going to USD.

At beginning of graduation semester, a graduation application from SDSU must be completed.

USD requires at least a grade of "C" or better for all courses required for teacher certification..

An overall cumulative GPA of 2.6 is also required.

A grade of "D" on courses in the major cannot be counted and course must be repeated. Any required course with an HDFS/ECE prefix is considered a course in the major.

Students must meet all requirements for admission to Teacher Education Program at USD and SDSU and be successfully admitted into ECE-PS III.

† Taken concurrently.

Students must pass the PRAXIS content and Principles of Teaching and Learning Exams to be considered a High Qualified Teacher.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Early Childhood Education Kindergarten Education Endorsement

Andrew Stremmel  
Department of Human Development, Consumer and Family  
Sciences  
SNF 369  
605-688-6418  
e-mail: Andrew.Stremmel@sdstate.edu

A Kindergarten Education Endorsement Program may be added to the Birth through Age 5 Specialization, Birth through Age 8 Specialization, or Cooperative Programs in the Early Childhood Education major.

**Requirements for the Kindergarten Education Endorsement Program:** Completion of 9 semester hours in early childhood education, including a course in kindergarten education, a practicum, internship, or student teaching in kindergarten. Verified teaching experience in kindergarten within the five-year period immediately preceding the application may be accepted in lieu of the above field experiences at the equivalency of one year's teaching experience for one semester hour credit for a maximum of three semester hours of the total credit hours required.

Required Coursework:  
ECE 492/ELED 412, Kindergarten Education.....3  
ECE 495, Practicum in Kindergarten.....1

Other required courses to total 9 credits.

# Economics (ECON) Major and Minor and Business Specialization

Richard Shane  
Department of Economics  
Scobey Hall 136  
605-688-4141  
e-mail: john.sonday@sdstate.edu  
website: <http://econnet.sdstate.edu/dept/index.asp>

**Requirements for Economics Major  
Bachelor of Science in Arts and Science**

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra .....	3	
SPCM 101*, Fundamentals of Speech and Lab.....	3	or 3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	3
Biological Science Electives* .....	3	3
General Electives.....	2	4
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I.....	3	
ACCT 211, Principles of Accounting II.....		3
CSC 105, Introduction to Computers or		
CSC 205 Advanced Computer Applications .....		3

ECON 201*, Principles of Microeconomics.....	3	or 3
ECON 202, Principles of Macroeconomics (G) .....	3	or 3
ENGL 201*, Composition II.....	3	
MATH 121-121L, Survey of Calculus and Lab or		
MATH 123, Calculus I.....	4-5	
SGR Goal 4*: Humanities and Arts .....	2	
Physical Sciences Elective**, p. 43 .....		3-4
General Electives .....	1-2	3-4

Junior Year	F	S
ECON 301, Intermediate Microeconomics .....	3	
ECON 302, Intermediate Macroeconomics .....		3
ECON 330, Money and Banking .....	3	or 3
ENGL 379, Technical Communications.....	3	
STAT 281, Introduction to Statistics .....	3	
One of the following: .....	3	or 3
SPCM 201, Interpersonal Communication		
SPCM 215, Public Speaking		
SPCM 222, Argumentation and Debate		
IGR Goal 1**: ECON 472 recommended .....		3
Business Economics Specialization Courses† or		
General Electives .....	7	4

Senior Year	F	S
One of the following: .....	3	or 3
ECON 404, History of Economic Thought		
ECON 405, Comparative Economic Systems		
ECON 440, Economics of the International Sector		
ECON 450, Industrial Organization		
ECON 460**, Economic Development: IGR Goal 3		
ECON 423, Statistics II.....	3	
ECON 428, Mathematical Economics .....	3	
ECON 433, Public Finance (AW).....	3	or 3
Electives in ACCT, AGECE, BADM, or ECON.....	3	6

Business Economics Specialization Courses† or		
General Electives .....	3	5-6

**Business Economics Specialization Courses:†**

Junior Year	F	S
BADM 310, Business Finance.....	3	
BADM 350, Legal Environment of Business .....	3	
BADM 360, Organization and Management.....	3	
ECON/BADM 370, Marketing.....	3	

Senior Year	F	S
BADM 424, Operations Research .....	3	
BADM 482, Business Policy and Strategy (AW).....	3	

Three of the specialization courses can be substituted for:

ECON 423, Statistics II .....	3	
ECON 428, Mathematical Economics.....	3	
One of the electives in ACCT, AGECE, BADM, or ECON..	3	

**Accelerated Master's Degree**

Outstanding students majoring in Agricultural Economics, Agricultural Business or Economics may complete their baccalaureate degree and Master of Science in Economics combined in five years. Students apply for admission to the combined program the Fall Semester of their junior year. Those admitted as graduate students take 400-500 level courses at the graduate level (500) their fourth (senior) year (see below). See the SDSU Graduate Catalog or the department graduate coordinator for complete details for the fifth year.

Adjustments to baccalaureate course requirements are as follows:

<b>Fourth Year (Replaces Senior Year Above)</b>		<b>F</b>	<b>S</b>
ECON 423, Statistics II	3		
ECON 428, Mathematical Economics	3		
ECON 433, Public Finance	3	or	3
Four of the following:	6		6
AGEC 521, Farming and Food Systems Economics			
AGEC 571, Advanced Farm and Ranch Management			
ECON 504, History of Economic Thought			
ECON 520, Economics of the Public Sector			
ECON 531, Managerial Economics			
ECON 540, Economics of the International Sector			
ECON 550, Industrial Organization			
ECON 560, Economic Development			
ECON 572, Resource and Environmental Economics			
Business Economics Specialization Courses† or			
General Electives	1-4		4-8

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Economics Major

#### Bachelor of Arts in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I	3	or	3
MATH 102*, College Algebra	3		
SPCM 101*, Fundamentals of Speech and Lab	3	or	3
IGR Goal 2**: Personal Wellness	2-3	or	2-3
SGR Goal 6*: Natural Sciences	3		3
SGR Goal 3*: Social Sciences			3
SGR Goal 4*: Humanities and Arts			3
General Electives and Arts and Science requirements, pp. 65-66	5		4

#### Sophomore Year

		<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I	3		
ACCT 211, Principles of Accounting II	3		
ECON 201*, Principles of Microeconomics	3	or	3
ECON 202, Principles of Macroeconomics (G)	3	or	3
ENGL 201*, Composition II	3		
Modern Language††	4		4
MATH 121-121L, Survey of Calculus and Lab or			
MATH 123, Calculus I	4-5		
SGR Goal 4*: Humanities and Arts and Arts and Science requirements, pp. 65-66	3		

#### Junior Year

		<b>F</b>	<b>S</b>
CSC 105, Introduction to Computers or			
CSC 205 Advanced Computer Applications	3		
ECON 301, Intermediate Microeconomics	3		
ECON 302, Intermediate Macroeconomics	3		
ECON 330, Money and Banking	3		
STAT 281, Introduction to Statistics	3		
Modern Language††	3-4		3-4

One of the following:	3		
SPCM 201, Interpersonal Communication			
SPCM 215, Public Speaking			
SPCM 222, Argumentation and Debate			
Elective in ACCT, BADM, AGECE, ECON	3		
IGR Goal 1**: ECON 472 recommended			3
Business Economics Specialization Course † or			
General Elective	3		3

#### Senior Year

		<b>F</b>	<b>S</b>
ECON 423, Statistics II	3		
ECON 428, Mathematical Economics	3		
ECON 433, Public Finance (AW)	3	or	3
One of the following:	3	or	3
ECON 404, History of Economic Thought			
ECON 405, Comparative Economic Systems			
ECON 440, Economics of the International Sector			
ECON 450, Industrial Organization			
ECON 460**, Economic Development: IGR Goal 3			
ENGL 379, Technical Communications	3		3
Electives in ACCT, BADM, AGECE, ECON	3		3
Business Economics Specialization Courses† or			
General Electives	4-5		4

#### Business Economics Specialization Courses:†

##### Junior Year

BADM 310, Business Finance	3
BADM 350, Legal Environment of Business	3
BADM 360, Organization and Management	3
ECON/BADM 370, Marketing	3

##### Senior Year

BADM 424, Operations Research	3
BADM 482, Business Policy and Strategy	3

Three of the specialization courses can be substituted for:

ECON 423, Statistics II	3
ECON 428, Mathematical Economics	3
One of the electives in ACCT, AGECE, BADM, or ECON	3

#### Accelerated Master's Degree

Outstanding students majoring in Agricultural Economics, Agricultural Business or Economics may complete their baccalaureate degree and Master of Science in Economics combined in five years. Students apply for admission to the combined program the fall semester of their junior year. Those admitted as graduate students take 400-500 level courses at the graduate level (500) their fourth (senior) year (see below). See the SDSU Graduate Catalog or the department graduate coordinator for complete details for the fifth year.

Adjustments to baccalaureate course requirements are as follows:

<b>Fourth Year (Replaces Senior Year Above)</b>		<b>F</b>	<b>S</b>
ECON 423, Statistics II	3		
ECON 428, Mathematical Economics	3		
ECON 433, Public Finance (AW)	3	or	3
ENGL 379, Technical Communications	3		3
Four of the following:	6		6
AGEC 521, Farming and Food Systems Economics			
AGEC 571, Advanced Farm and Ranch Management			
ECON 504, History of Economic Thought			
ECON 520, Economics of the Public Sector			
ECON 531, Managerial Economics			
ECON 540, Economics of the International Sector			
ECON 550, Industrial Organization			
ECON 560, Economic Development			

ECON 572, Resource and Environmental Economics Business Economics Specialization Courses† and General Electives .....	2-3	3
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†† Modern Language: 6-14 credits with completion of 201-202.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

#### Requirements for Economics Minor: 21-24 cr

ECON 201, Principles of Microeconomics .....	3
ECON 202, Principles of Macroeconomics.....	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, Probability and Statistics (3)	
STAT 281, Introduction to Statistics (3)	
Courses prefixed ACCT, AGECE, BADM, or ECON (3-4)	

**International Studies.** For the minor in global agriculture, refer to pages 189-190.

A Modern Language/Business-Economics Specialization is available for all students majoring or minoring in Agricultural Business, Agricultural and Resource Economics, Business or Economics. The specialization requires the following courses in addition to specified courses in the major or minor.

#### Core Courses:

Take B.A. Language requirement.....	14
Take Business French, German or Spanish .....	3
Minors take six additional hours approved .....	6
by the Economics Department Head	

**Business Area Studies.** Students preparing for various positions in management and business should consult the list of courses under Business Area Studies. Some of the courses listed there are offered by departments other than the Department of Economics and may be of specific interest to students in majors outside this department.

## Educational Administration (EDAD)

**Kenneth Rasmussen, Head**  
Department of Educational Leadership  
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website: <http://learn/sdstate.edu/edgrad/>

See Graduate Catalog for requirements.

# Electrical Engineering (EE) Major

**Dennis Helder, Department Head**  
**Steven Hietpas, Program Coordinator**  
Department of Electrical Engineering and Computer Science  
Harding Hall 201  
605-688-4526  
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website: <http://www3.sdstate.edu/Academics/CollegeOfEngineering/ElectricalEngineering/>

#### 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 112-112L*, General Chemistry I and Lab .....	4	
GE 121, Engineering Design Graphics I.....	1	
ENGL 101*, Composition I .....	3	
GE 101, Introduction to Engineering and Technology .....	1	
MATH 123*, Calculus I .....	4	
SGR Goal 3*: Social Sciences/Diversity .....	3	or 3
SGR Goal 4*: Humanities and Arts/Diversity .....	3	or 3
SPCM 101*, Fundamentals of Speech.....		3
MATH 125, Calculus II.....		4
PHYS 211-211L*, University Physics I and Lab .....		4
CSC 218, C, C++, Unix for Engineers.....		3

Sophomore Year	F	S
EE 220, Circuits I .....	3	
EE 220L, Circuits I Laboratory .....	1	
MATH 321, Differential Equations .....	3	
PHYS 213-213L, University Physics II and Lab.....	4	
ENGL 277*, Technical Writing in Engineering .....	3	
SGR Goal 3*: Social Sciences/Diversity .....	3	or 3
IGR Goal 1**: Land and Natural Resources .....	3	or 3
EE 221, Circuits II.....		3
EE 221L, Circuits II Laboratory .....		1
EE 245, Digital Systems.....		3
EE 245L, Digital Systems Laboratory .....		1
EE 260, Electronic Materials .....		3
MATH 331, Advanced Engineering Math .....		3

Junior Year	F	S
EE 316, Signals and Systems I .....	3	
EE 320, Electronics I.....	3	
EE 320L, Electronics I Laboratory .....	1	
EE 347, Microcontroller Systems Design.....	3	
EE 347L, Microcontroller Systems Design Laboratory.....	1	
EE 360, Electronic Devices.....	3	
MATH 225, Calculus III.....	4	
MATH 381, Introduction to Probability and Statistics .....		3
EE 315, Linear Control Systems.....		3
EE 317, Signals and Systems II .....		3
EE 321, Electronics II .....		3
EE 321L, Electronics II Laboratory .....		1
EE 385, Electromagnetics .....		4

<b>Senior Year</b>	<b>F</b>	<b>S</b>
EE 422, Engineering Economy .....	2	
EE 430, Energy Conversion .....	3	
EE 430L, Energy Laboratory .....	1	
EE 464, Senior Design I.....	2	
ME 314, Thermodynamics .....	3	
Approved EE Technical Elective .....	6	
SGR Goal 4*: Humanities and Arts/Diversity .....		3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....		3
EE 465, Senior Design II (AW) .....	2	
EM 216, Statistics and Dynamics .....	3	
IGR Goal 2***: Personal Wellness .....		2-3
Approved EE Technical Electives .....		4

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

All EE majors are strongly advised to select technical electives in a coherent manner to meet desired professional/employment goals. Some suggested areas of emphasis are listed below. Ten (10) approved EE technical elective credits are required to complete the program. Thus, students are not required to take all courses in an emphasis area. Following are some suggested areas and supporting courses.

**Biomedical Engineering Emphasis**

EE 420, Electronics III.....	3
EE 420L, Electronics Laboratory III .....	1
EE 450, Biomedical Signal Processing.....	3
EE 454, Biomedical Instrumentation and Electrical Safety .....	3
BIOL 221-221L, Human Anatomy and Lab .....	4
BIOL 325-325L, Physiology and Lab .....	4

**Communications and Advanced Electronics Emphasis**

CSC 474, Computer Networks .....	3
EE 416, Passive and Active Filters .....	3
EE 420, Electronics III.....	3
EE 420L, Electronics Laboratory III .....	1
EE 424, RF Electronics .....	3
EE 470, Communications Engineering.....	3
EE 471, Optical Fiber Communication.....	3
EE 471L, Optical Fiber Communication Lab.....	1
PHYS 361, Optics .....	3

**Computers-Digital Hardware Emphasis**

CSC 474, Computer Networks .....	3
EE 420, Electronics III.....	3
EE 420L, Electronics Laboratory III .....	1
EE 440-440L, VLSI Circuit Design and Studio .....	3
EE 492, Topics: Computer Organization and Design.....	3
MATH 373, Introduction to Numerical Analysis .....	3

**Electronic Devices and Materials Emphasis**

CHEM 342-342L, 344-344L, Physical Chemistry I, II and Lab .....	3, 6
EE 424, RF Electronics .....	3
EE 440-440L, VLSI Circuit Design and Studio .....	3

EE 460-460L, Sensor Theory and Design and Lab .....	3
EE 491, Independent Study: Microelectronic Device Fabrication Lab .....	1
EE 492, Topics: Surface Acoustic Wave Device Design .....	3
EE 492, Topics: Microelectronic Packaging .....	3
PHYS 331, Introduction to Modern Physics .....	3
PHYS 361, Optics .....	3
PHYS 439, Solid State Physics.....	3
PHYS 449, Science of Solids .....	3
PHYS 471, Quantum Mechanics .....	3

**Image Processing Emphasis**

EE 470, Communications Engineering.....	3
EE 475, Digital Image Processing .....	3
MATH 373, Introduction to Numerical Analysis .....	3
PHYS 361, Optics .....	3

**Power Systems Emphasis**

CEE 482, Engineering Administration.....	3
EE 434, Power Systems .....	3
EE 435, Seminar in Power Systems .....	1
EE 436-436L, Hybrid PV Power Systems and Lab.....	4
EE 470, Communications Engineering.....	3
EE 492, Topics: Power Electronics.....	3
EE 492, Topics: Power Technology Tour .....	1
MATH 315, Linear Algebra .....	3
MATH 373, Introduction to Numerical Analysis .....	3
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 497. A formal work plan must be approved by the Department of Electrical Engineering prior to the work experience. Further information can be found in the Department's Cooperative Education policy.

# Electronics Engineering Technology (EET) Major

Teresa Hall, Department Head

Byron Garry, Program Coordinator

Department of Engineering Technology and Management

Solberg Hall 212

605-688-6229

e-mail: byron.garry@sdstate.edu

**Requirements for Electronics Engineering Technology Major  
Bachelor of Science in Electronics Engineering Technology**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
EET 114-114L, DC Concepts and Lab .....	4	
EET 116-116L, AC Concepts and Lab.....		4
EET 122-122L, Introductory Circuits and Lab .....		4
ENGL 101*, Composition I .....	3	or 3
GE 101, Introduction to Engineering and Technology .....	1	
GE 121, Engineering Design Graphics I.....		1
MATH 115*, Precalculus .....	5	
MATH 121-121L, Survey of Calculus and Lab.....		5
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 4*: Humanities and Arts/Diversity .....	3	

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ECON 202*, Principles of Macroeconomics (G) .....		3
EET 220-220L, Advanced Circuits and Lab .....		4
EET 230-230L, Introductory Digital and Lab.....		4
EET 232-232L, Advanced Digital and Lab.....		4
ENGL 201*, Composition II <b>or</b>		
ENGL 277, Technical Writing in Engineering.....		3
GE 123, Computer Aided Drawing.....		1
PHYS 111-111L*, Introduction to Physics I and Lab.....		4
PHYS 113-113L*, Introduction to Physics II /Lab.....		4
SGR Goal 3*: Social Sciences/Diversity .....		3
SGR Goal 4*: Humanities and Arts/Diversity .....		3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
CSC 150, Computer Science I .....		3
CSC 105, Introduction to Computers <b>or</b>		
CSC 205, Advanced Computer Applications .....		3
EET 320-320L, Analog Devices and Lab .....		4
EET 330-330L, Microprocessors and Lab .....		4
EET 370-370L, Computer Systems and Lab .....		4
EET 380-380L, Prototyping Techniques and Lab.....		4
MNET 260, Principles of Production and Operations Management .....		3
STAT 281, Introduction to Statistics .....		3
IGR Goal 3*: Social Responsibility/Cultural and Aesthetic Awareness.....		3
Technical Emphasis Elective.....		3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
EET 472-472L, Networking I and Lab <b>and</b> .....		4
EET 474-474L, Networking II and Lab .....		4
<b>or</b>		
EET 451-451L, Industrial Electronics and Control and Lab <b>and</b> .....		3
EET 453-453L, Manufacturing Automation and Lab.....		3
<b>or</b>		
BADM 360, Organization and Management <b>and</b> .....		3
BADM 334, Small Business Management .....		3
MNET 462, Quality Management.....		3
EET 426-426L, Communication Systems and Lab.....		4
MNET 470-470L, Project Management and Lab (AW) .....		2
MNET 471-471L, Capstone Experience and Lab (AW).....		1
Technical Emphasis Elective.....		3
IGR Goal 1**: Land and Natural Resources .....		3
IGR Goal 2**: Personal Wellness .....		2
Non-technical Electives .....		Balance of the credits

You should select Technical Emphasis Elective courses in the Junior and Senior years to complement your chosen major emphasis. Following are some suggested courses.

**Computer Networking Emphasis**

- CSC 250, Computer Science II
- CSC 300, Data Structures
- CSC 325, Management Information Systems
- CSC 474, Computer Networks

**Manufacturing and Industrial Automation Emphasis**

- MNET 231-231L, Manufacturing Process I and Lab
- MNET 334-334L, CAM/CNC and Lab
- MNET 350-350L, Fluid Power Technology and Lab

**Business Minor**  
Choose additional courses needed to fulfill the requirements for the Business Minor offered through the Economics Department, p. 155.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Engineering Physics Major

**Oren Quist**  
**Department of Physics**  
**Crothers Engineering Hall 314**  
**605-688-5428**  
**website: [www.engineering.sdstate.edu/~physics/physics.htm](http://www.engineering.sdstate.edu/~physics/physics.htm)**

**Requirements for Engineering Physics Major**  
**Bachelor of Science in Engineering Physics**  
**Electrical Engineering Emphasis**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
CHEM 112-112L*, General Chemistry I and Lab .....		4
CHEM 114*, General Chemistry II .....		3
ENGL 101*, Composition I .....		3
GE 101, Introduction to Engineering.....		1
GE 121, Engineering Design Graphics I.....		1
GE 123, Computer Aided Drawing.....		1
MATH 123*, Calculus I.....		4
MATH 125, Calculus II.....		4
PHYS 211-211L, University Physics I and Lab .....		4
SPCM 101*, Fundamentals of Speech.....		3
SGR Goal 3*: Social Sciences (G) † .....		3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
CSC 150, CSC 213, or CSC 218 (a programming language)....		3
EE 220-220L, Circuits I and Lab .....		4
EE 221-221L, Circuits II and Lab.....		4
MATH 225, Calculus III.....		4
MATH 321, Differential Equations.....		3
PHYS 213-213L, University Physics II and Lab.....		4
PHYS 331, Introduction to Modern Physics.....		3
SGR Goal 4*: Humanities and Arts/Diversity (G) † .....		3
SGR Goal 3*: Social Sciences/Diversity † .....		3
IGR Goal 2**: Personal Wellness .....		2

<b>Junior Year</b>	<b>F</b>	<b>S</b>
EE 320-320L, Electronics I and Lab.....		4
EE 321-321L, Electronics II and Lab .....		4
ENGL 201*, Composition II <b>or</b>		
ENGL 277, Technical Writing in Engineering †† .....		3
MATH 331, Advanced Engineering Mathematics <b>or</b>		
MATH 327, Calculus of Several Variables .....		3
PHYS 316-316L, Measurement Theory and Experiment Design and Lab (AW) .....		2
PHYS 318, Advanced Laboratory I .....		1
PHYS 341, Thermodynamics .....		2
PHYS 343, Statistical Physics.....		2

PHYS 451, Classical Mechanics .....	4	
SGR Goal 4*: Humanities and Arts/Diversity † .....	3	
Technical Electives††† .....	2	
<b>Senior Year</b> .....	<b>F</b>	<b>S</b>
PHYS 361, Optics .....	3	
PHYS 418, Advanced Lab II.....	1	
PHYS 421, Electromagnetism.....	4	
PHYS 435, Introduction to Nuclear Engineering or PHYS 439, Solid State Physics.....	3	
PHYS 464, Senior Design I (or EE 464) .....	1	
PHYS 465, Senior Design II (or EE 465) .....	2	
PHYS 471, Quantum Mechanics .....	4	
PHYS 490, Seminar .....	1	
IGR Goal 1** : Land and Natural Resources .....	3	
IGR Goal 3** : Social Responsibility/Cultural and Aesthetic Awareness.....	3	
Technical Electives††† .....	5	2

† Check especially the six credits for SGR Goals 3 and 4 which require courses from two different disciplines.

†† The Engineering Physics-Electrical Engineering Emphasis major has received an exemption (see \* below) in that the second English course may be delayed until the junior year.

††† 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 carefully chosen so as to meet the minimum EAC/ABET "Engineering Topics" component. A complete list of departmentally approved technical electives is available in the Physics Department office. Any departures from this list must be approved by the Head of the Physics Department.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Engineering Physics Major  
Bachelor of Science in Engineering Physics  
Mechanical Engineering Emphasis**

<b>Freshman Year</b> .....	<b>F</b>	<b>S</b>
CHEM 112-112L*, General Chemistry I and Lab.....	4	
CHEM 114*, General Chemistry II .....	3	
ENGL 101*, Composition I .....	3	
GE 101, Introduction to Engineering .....	1	
GE 121, Engineering Design Graphics I.....	1	
GE 122, Engineering Design Graphics II .....	1	
MATH 123*, Calculus I .....	4	
MATH 125, Calculus II.....	4	
PHYS 211-211L, University Physics I and Lab .....	4	
SPCM 101*, Fundamentals of Speech.....	3	
SGR Goal 3*: Social Sciences/Diversity (G) † .....	3	

<b>Sophomore Year</b> .....	<b>F</b>	<b>S</b>
CSC 150, CSC 213, or CSC 218 (a programming language)....	3	
EE 220-220L, Circuits I and Lab .....	4	
EM 214, Statics .....	3	
GE 225, Survey of Machine Tool Applications .....	1	
MATH 225, Calculus III.....	4	
MATH 321, Differential Equations.....	3	

ME 240, Fundamentals of Mechanical Design .....	3
PHYS 213-213L, University Physics II and Lab.....	4
SGR Goal 3*: Social Sciences/Diversity † .....	3
SGR Goal 4*: Humanities and Arts/Diversity (G) † .....	3

<b>Junior Year</b> .....	<b>F</b>	<b>S</b>
EE 221-221L, Circuits II and Lab .....	4	
EM 331, Fluid Mechanics .....	3	
ENGL 201*, Composition II or ENGL 277, Technical Writing in Engineering †† .....	3	
MATH 331, Advanced Engineering Mathematics or MATH 327, Calculus of Several Variables.....	3	
PHYS 316-316L, Measurement Theory and Experiment Design and Lab (AW) .....	2	
PHYS 318, Advanced Laboratory I .....	1	
PHYS 331, Introduction to Modern Physics.....	3	
PHYS 341, Thermodynamics .....	2	
PHYS 343, Statistical Physics.....	2	
PHYS 451, Classical Mechanics .....	4	
IGR Goal 1** : Land and Natural Resources .....	3	
IGR Goal 3** : Social Responsibility/Cultural and Aesthetic Awareness.....	3	

<b>Senior Year</b> .....	<b>F</b>	<b>S</b>
PHYS 361, Optics .....	3	
PHYS 418, Advanced Lab II.....	1	
PHYS 421, Electromagnetism.....	4	
PHYS 435, Introduction to Nuclear Engineering or PHYS 439, Solid State Physics.....	3	
PHYS 464, Senior Design I (or ME 477) .....	1	
PHYS 465, Senior Design II (or ME 478).....	2	
PHYS 471, Quantum Mechanics .....	4	
PHYS 490, Seminar .....	1	
IGR Goal 2** : Personal Wellness .....	2	
Technical Electives† .....	6	3

† Check especially the six credits for SGR Goals 3 and 4 which require courses from two different disciplines. It is recommended that ECON 202 Macroeconomics be one of the elective Social Science courses.

†† The Engineering Physics-Mechanical Engineering Emphasis major has received an exemption (see \* below) in that the second English course may be delayed until the junior year.

††† 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 carefully chosen so as to meet the minimum EAC/ABET "Engineering Topics" component. A complete list of departmentally approved technical electives is available in the Physics Department office. Any departures from this list must be approved by the Head of the Physics Department.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# English (ENGL) Major and Minor

Kathleen Donovan

Department of English

Scobey Hall 014

605-688-5191

e-mail: kathleen.donovan@sdstate.edu

## Requirements for English Major Bachelor of Arts in Arts and Science

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
ENGL 151, Intro to English Studies .....	3	
HIST 121*, History of Western Civilization to 1650, (G) and HIST 122*, History of Western Civilization since 1650, (G).....	3	3
SPCM 101, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 4*: Humanities and Arts† (G) Modern Language .....	4	4
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences.....	3-4	3-4
IGR Goal 2**: Personal Wellness .....	2	or 2
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or 3
ENGL 221, British Literature I (G).....	3	
English or American Literature Courses .....	3	3
Modern Language*† (second year).....	3	3
SGR Goal 3*: Social Sciences .....	3	or 3
Electives.....	4	or 4
One course in Multi-Cultural/Minority Topics (Native American Literature, World Literature, Diverse Cultures; Women in Literature; Mythology and Literature).....	3	or 3
<b>Junior Year</b>	<b>F</b>	<b>S</b>
ENGL 241, American Literature I .....	3	
ENGL 379, Technical Communications or ENGL 383, Creative Writing .....	3	or 3
English or American Literature Courses .....	6	6
IGR Goal 1**: Land and Natural Resources .....	3	or 3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
One additional 300-400 level course in English Literature since 1660 <b>OR</b> one additional 300-400 level course in American Literature since 1860 is required. <i>See Note</i> .....	3	or 3
<b>Senior Year</b>	<b>F</b>	<b>S</b>
English or American Literature Courses .....	6	3
Linguistics Course (203, 425, 420, 443, 452).....	3	or 3
Electives .....	3-9	3-9
ENGL 479, Capstone Course and Writing in the Discipline (AW) .....		3

**NOTE:** English majors take three out of four Literature survey courses: ENGL 221 and 241 are required. Students elect either ENGL 222 or 242, and also take one 300-400 level course representing the survey not taken.

**NOTE:** A minimum grade of "C" is required in all English and Linguistics courses for them to count toward the English major and minor.

† Students need to take a Modern Language course with prefix of FREN, GER, LAKL, SPAN, or other languages upon consent.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Requirements for English Major – Education Specialization Bachelor of Arts in Arts and Science

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
ENGL 151, Intro. To English Studies .....	3	
HIST 121*, History of Western Civilization to 1650, (G) and HIST 122*, History of Western Civilization since 1650, (G).....	3	3
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 4*: Humanities and Arts† (G), Modern Language .....	4	4
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences.....	3-4	3-4
IGR Goal 2**: Personal Wellness .....	2	or 2
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or 3
ENGL 221*, British Literature I (G) and ENGL 222*, British 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
Modern Language*† (second year).....	3	3
Professional Semester I EDFN 338, Foundations of American Education and EDFN 375, Human Relations .....	5	or 5
EDFN 427, Middle School: Philosophy and Application.....	2	or 2
SPED 401, Students with Disabilities.....	1	or 1

Junior Year	F	S
ANTH 421, Indians of North America or HIST 368, History of American Indians.....	3	or 3
EDFN 365, Computer-Based Technology and Learning.....	2	or 2
ENGL 241, American Literature I and ENGL 242, American Literature II.....	3	3
ENGL 424, 7-12 Language Arts Methods (AW) .....	3	
ENGL 240, Literature for Young Readers.....		3
ENGL 445, American Indian Literature or ENGL 447, American Indian Literature of the Present....	3	or 3
Professional Semester II EPSY 302, Educational and Adolescent Psychology and SEED 314, Supervised Clinical/Field Experience and SEED 450, Teaching of Reading .....	6	or 6
IGR Goal 1**: Land and Natural Resources .....	3	or 3



<b>Senior Year</b>	<b>F</b>	<b>S</b>
Professional Semester III		
SEED 400, Curriculum and Instruction in Secondary School and		
SEED 410, Social Foundations, Management and Law and		
SEED 488, Supervised Teaching Internship.....14	or	14
ENGL 479, Capstone Course and Writing in the		
Discipline .....		3
English Elective.....3	or	3
Electives.....6	or	6

**NOTE:** A minimum grade of "C" is required in all English and Linguistics courses for them to count toward the English major and minor.

† Students need to take a Modern Language course with prefix of FREN, GER, LAKL, SPAN, or other languages upon consent.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for English Minor: 20 cr

(ENGL 101 and 201 do not apply)

Three courses in British Literature .....9

Two courses in American Literature .....6

One of the following courses:

ENGL 379, Technical Communication .....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

One elective .....2-3

**NOTE:** A minimum grade of "C" is required in all English and Linguistics courses for them to count toward the English major and minor.

## Entrepreneurial Studies (ENTR) Minor

**Barb Heller**

**Department of Academic Affairs**

**Administration 101**

**605-688-6522**

**e-mail: Barb.Heller@sdstate.edu**

**website: http://entr.sdstate.edu**

### Requirements for Entrepreneurial Studies Minor: 19 cr

ACCT 210, Accounting I (3) and ACCT 211, Accounting II (3) or

ACCT 406/506 Accounting for Entrepreneurs (3)

ENTR/BADM 336, Entrepreneurship I.....3

ENTR/BADM 438/538, Entrepreneurship II .....3

ECON 370, Marketing .....3

BADM 334, Small Business Management.....3

BADM 474, Personal Selling .....3  
ENTR/BADM 489, Business Plan Writing and Competition .....1

See page 155 for Business Minor requirements.

## Environmental Management (ENVM) Major

**Tom Cheesbrough**

**Department of Biology and Microbiology**

**Agricultural Hall 304**

**605-688-6141**

**e-mail: sdsu\_biomicro@abs.sdstate.edu**

**web site: biomicro.sdstate.edu**

### Requirements for Environmental Management Major

#### Bachelor of Science in Biological Science

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	
BIOL 151-151L, General Biology I and Lab.....4		
BIOL 153-153L, General Biology II and Lab .....		4
BIOL 280, Careers in Biology (ENVM section) .....		1
SPCM 101*, Fundamentals of Speech and Lab.....		3
SGR Goal 3*: Social Sciences .....	3	
SGR Goal 5*: Mathematics: choose a, b, or c.....		5-6
a. MATH 102, College Algebra and		
MATH 120, Trigonometry		
b. MATH 115, Precalculus		
c. MATH 121-121L, Survey of Calculus <sup>1</sup>		
SGR Goal 6*: Natural Sciences		
CHEM 112-112L, General Chemistry I and Lab.....4		
CHEM 114-114L, General Chemistry II and Lab .....		4
IGR Goal 3**: Social Responsibility/Cultural and		
Aesthetic Awareness.....	3	

#### Sophomore Year

<b>F</b>	<b>S</b>
ECON 202, Macroeconomics .....	3
ENGL 201*, Composition II.....	3
MICR 231-231L, General Microbiology and Lab .....	4
PS 213-213L, Soils and Lab.....	3
PS 243, Geology.....	3
SGR Goal 3*: Social Science.....	3
SGR Goal 4*: Humanities and Arts .....	3
IGR Goal 1**: ENVM 275, Introduction to Environmental	
Science <sup>2</sup> (G) .....	3
IGR Goal 2**: Personal Wellness, any course listed	
except BIOL 105 .....	2
Emphasis and Elective course (see list page 183) .....	3

#### Junior Year

<b>F</b>	<b>S</b>
BIOL 311**, Principles of Ecology .....	3
PHYS 111-111L, Introduction to Physics I and Lab .....	4
PHYS 113-113L, Introduction to Physics II and Lab .....	4
Organic Chemistry: choose a or b.....	4
a. CHEM 326-326L, Organic Chemistry I and Lab and	
CHEM 328-328L, Organic Chemistry II and Lab	
b. CHEM 326-326L Organic Chemistry and Lab	
and Chemistry Elective	
STAT 281, Introduction to Statistics .....	3
Emphasis and Elective Courses (see list page 183).....	5

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ABS 475-475L, Integrated Natural Resource Management and Lab <sup>2</sup> (AW) .....		3
BIOL 371, Genetics or BIOL 202-202L, Genetics and Organismal Biology .....		3
BIOL 490, Seminar† .....		1
ENVM 425-425L, Disturbance Ecology and Lab .....	4	
Emphasis and Elective Courses (see list below).....		12

1 This option is recommended for all Environmental Management majors.

2 Students interested in the Environmental Engineering emphasis should take ENVM 225, ENVM 460, and ENVM 461 instead of ENVM 275 and ABS 475.

† Senior Seminar may be elected in Animal Science and Range Science, Biology and Microbiology, Plant Science, or any other second major department.

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Environmental Management Majors are required to take 15 hours from the following list of approved electives:**

ABE 353-353L, Physical Climatology and Meteorology and Lab.....	3
ABE 434-434L, Soil and Water Engineering and Lab.....	4
AST 463, Agricultural Waste Management .....	3
BIOL 200-200L, Biological Diversity and Lab .....	4
BIOL 325-325L, Physiology and Lab.....	4
BIOL 373, Evolution .....	3
BIOL 383, Bioethics (G).....	4
BIOL 415-415L, Mycology and Lab .....	3
BIOL 440-440L, Restoration Ecology and Lab .....	3
BIOL 467, Environmental Toxicology and Contaminants.....	3
BOT 201-201L, General Botany and Lab.....	3
BOT 301-301L, Plant Systematics and Lab.....	4
BOT 405-405L, Grasses and Grasslike Plants and Lab.....	3
BOT 327-327L, Plant Physiology and Lab.....	4
BOT 415-415L, Plant Ecology and Lab (G).....	4
CEE 333-333L, Hydrology and Lab .....	3
CHEM 332-332L, Analytical Chemistry I and Lab.....	4
CHEM 342-342L, Elementary Physical Chemistry and Lab.....	5
CHEM 464-464L, Biochemistry and Lab .....	4
CHEM 482, Environmental Chemistry.....	4
CSC 300, Data Structures.....	3
CSC 484, Database Management Systems .....	3
ECON 423, Statistics II.....	3
GE 525, Occupational Safety and Health Management .....	2
GEOG 365, Land Use Planning .....	3
GEOG 464, Local and Regional Planning .....	3
GEOG 483, Air Photo Interpretation .....	3
GEOG 484, Remote Sensing.....	3
GEOG 487, Geographic Information Systems I.....	3
HLTH 440, Epidemiology.....	3
HLTH 443, Public Health Science .....	3
LA 231, Introduction to LandCADD .....	3
LA 322, Site Planning .....	3
LA 324-324L, Planning Public Grounds and Lab .....	3
LA 364, Planting Design and Specification .....	4
LA 424-424L, Recreational Facilities Design and Lab .....	4
MATH 121-121L, Survey of Calculus and Lab.....	5
MATH 123, Calculus I.....	4
MATH 125, Calculus II.....	4

MATH 225, Calculus III.....	4
ME 410, Environmental Engineering.....	3
MICR 310-310L, Environmental Microbiology and Lab .....	4
MICR 421-421L, Soil Microbiology and Lab .....	3
MICR 422, Immunology .....	3
POLS 320, Public Administration.....	3
PR 303, Forest Ecology and Management.....	3
ZOOL/PS 305-305L, Insect Biology and Lab .....	3
PS 362-362L, Environmental Soil Management and Lab .....	3
PS 412, Environmental Soil Chemistry .....	3
PS 475, Water Quality in Agriculture .....	3
SOC 362, Population Problems.....	3
STAT 441, Statistical Methods II .....	3
STAT 445, Nonparametric Statistics .....	3
WL 363-363L, Ornithology and Lab .....	4
WL 367-367L, Ichthyology and Lab.....	3
WL 370-370L, Limnology and Lab .....	3
WL 411-411L, Principles of Wildlife Management and Lab .....	4
WL 417-417L, Large Game Ecology and Management and Lab .....	3
WL 419-419L, Waterfowl Ecology and Management and Lab .....	3
WL 430-430L, Human Dimensions in Wildlife and Fisheries and Lab .....	3
ZOOL 355-355L, Mammalogy and Lab.....	3
ZOOL 467-467L, General Parasitology and Lab.....	3

Total Required Electives (from list above).....15

**Optional Elective Credits**

(select from any university course offerings, recommend courses from above list).....14

## Equine Studies Minor

**Robert Thaler, Interim**  
**Department of Animal and Range Sciences**  
**Animal Science Complex 103A**  
**605-688-5166**  
**e-mail: robert.thaler@sdstate.edu**

**Requirements for Equine Studies Minor: 18-20 cr**

AS 104, Introduction to Horse Management.....	2
AS 105, Light Saddle Horses.....	1
AS 220, Fundamental Equine Nutrition .....	3
AS 213, Equine Health and Diseases .....	3
AS 365, Horse Production .....	3
AS 370, Stable Management.....	2
or AS 420, Reproductive Management .....	3
AS 490, Equine Internship.....	1
<i>Choose one:</i>	
AGEC 271, Farm and Ranch Management.....	4
BADM 334, Small Business Management.....	3
ENTR 336, Entrepreneurship .....	3

## European Studies (EURS) Minor

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

**This minor appears in the transcripts of students. EURS minor may be taken with a major in Global Studies or combined with any other major.**

Requirements	Credits
<b>Required Courses</b>	
*Modern European language (other than English).....	8
*HIST 122 History of Western Civilization since 1650.....	3
EURS 300 and/or EURS 301.....	6
Minimum Sub Total.....	17

<b>Electives</b>	
Social science course from the list below.....	3
Humanities course from the list below.....	3
Minimum Sub Total.....	6
Total.....	23

<b>Social Science Electives</b>	
ECON 405, Comparative Economic Systems.....	3
ECON 440, Economics of International Sector.....	3
EURS 301, Topics in European Society†.....	3
EURS 321, European Studies – Social Sciences (when content is Europe).....	3
GEOG 320, Regional Geography (when content is Europe).....	3
*POLS 165, Political Ideologies.....	3
POLS 341, European Democratic Governments.....	3
POLS 352, European Union.....	3

<b>Humanities Electives</b>	
*ARTH 212, History of World Art II.....	3
EURS 300, Topics in European Culture†.....	3
EURS 320, European Studies – Humanities (when content is Europe).....	3
EURS 322, European Studies – Fine Arts (when content is Europe).....	3
ENGL 212, World Literature II.....	3
ENGL 439, Modern English Literature.....	3
ENGL 440, Contemporary English Literature.....	3
FREN 333, Topics in Francophone Culture.....	3
FREN 353, Exploring Literature in French.....	3
GER 453, German Literature I.....	3
GER 454, German Literature II.....	3
GER 433, German Civilization I.....	3
GER 434, German Civilization II.....	3
HIST 441, History of Modern Britain.....	3
HIST 420, Contemporary Europe.....	3
HIST 448, Nazi Germany.....	3
*MFL 101, 102, 134, 196 (when content is Europe or travel to Europe).....	3-4
*PHIL 215, Introduction to Soc/Political Philosophy.....	3
PHIL 424, Modern Political Philosophy.....	3
REL 402 (or HIST 402), History of Western Religious Thought II.....	3
SPAN 353, Spanish Literature I.....	3
SPAN 433, Spanish Civilization and Culture.....	3
SPAN 476, 19th and 20th Century Spanish Literature.....	3
Total number of hours required for major, minor, or specialization.....	23

† Must be in addition to the six required credits of EURS 300 and/or EURS 301. EURS 300 and 301 may be repeated if topic is different.

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Family and Consumer Sciences Education (FCSE) Major

**Andrew Stremmel**

**Department of Human Development, Consumer and Family Sciences**

**SNF 369**

**605-688-6418**

**e-mail: Andrew.Stremmel@sdstate.edu**

## Requirements for Family and Consumer Sciences Education Major Bachelor of Science in Family and Consumer Sciences

Freshman Year	F	S
ID 150-150L, Intro to Interior Design.....	4	
ENGL 101*, Composition I.....	3	or 3
FCS 101, Family and Consumer Sciences: Professional Foundations.....	1	
HDFS 227, Human Development and Personality I: Childhood.....		3
PSYC 101*, General Psychology.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Science.....	3	
SGR Goal 4*: Humanities and Arts.....	3	or 3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences.....	3-4	3-4
IGR Goal 2**: Personal Wellness.....	2	or 2
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
CA 289, Consumers and the Market.....	3	
CTE 295, Practicum.....	1	
CTE 405, Philosophy of Career and Technical Education.....	2	
ECE 228-228L, Observation and Participation in Early Childhood.....	3	or 3
EDFN 475, Human Relations.....	3	or 3
ENGL 201*, Composition II.....	3	or 3
IGR Goal 1**: NFS 111, Food, People and the Environment.....	3	
NFS 141-141L, Food Principles and Lab.....	4	or 4
NFS 221, Survey of Nutrition.....	3	or 3
SGR Goal 3*: Social Sciences (G).....	3	or 3
SGR Goal 4*: Humanities and Arts (G).....	3	or 3
ECE 220, Health, Safety and Nutrition for Young Children.....	3	or 3
<b>Junior Year</b>	<b>F</b>	<b>S</b>
AM 231, Ready to Wear Analysis.....	3	
EDFN 365, Computer-Based Technology and Learning.....	2	or 2
EPSY 302, Educational Psychology.....	2	or 2
FCSE 331, Workforce Preparation.....	2	
HDFS 241, Family Relations.....	3	or 3
ID 490, Seminar †.....		1
SEED 314, Supervised Clinical/Field Experience.....	1	or 1
SPED 401, Introduction to Educating Secondary Students with Disabilities.....	1	or 1
SEED 450, 7-12 Teaching Reading in Content Area.....	3	or 3
HDFS/ECE Elective.....	3	or 3
Electives.....	1	or 4-5
<b>Senior Year</b>	<b>F</b>	<b>S</b>
IGR Goal 3**: ANTH 421, Indians of North America.....	3	
CA 345, Management Personal and Family Living.....	3	
CA 442, Family Resource Management Lab.....	3	
EDFN 427, Middle School: Philosophy and Application.....	2	
FCSE 411, Philosophy and Methods (AW).....	4	
FCSE 412, Preparation for Student Teaching.....		5

FCSE 473, Supervised Student Teaching in FCSE.....	10
Elective .....	2

**NOTE:** Students must receive a grade of “C” or better in SPCM 101, ENGL 101 and MATH 102 and have a cumulative GPA of 2.5 or above in order to be admitted to the College of Education and Counseling for teacher certification.

A grade of “D” on courses in the major cannot be counted and course must be repeated.

Students must pass the PRAXIS content area exam before student teaching.

† Course offered only Spring of even numbered years.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Food Science Specialization

C.Y. Wang

Department of Nutrition, Food Science and Hospitality

SNF 425

605-688-5161

e-mail: cy.wang@sdstate.edu

### Requirements for Food Science Specialization

#### Nutrition and Food Science Major

See the requirements under Nutrition and Food Science Major.

## French Studies (FREN) Major and Minor

Maria Ramos

Department of Modern Languages

SNF 121

605-688-5101

e-mail: maria.ramos@sdstate.edu

The major in French Studies requires a minimum of 37 credit hours in French. French 101 does not count towards the major or minor. All French Majors will take or exempt the following courses:

FREN 102, Introductory French II .....	4
FREN 201-202, Intermediate French I-II.....	8
FREN 310, French Language Skills .....	3
FREN 333, Topics in Francophone Culture .....	3

In addition, French Majors taking the Business Specialization are required to take:

FREN 350, Business Communications in French.....	3
FREN 450, Business French II.....	3

Regardless of the Specialization chosen, French Majors will take at least nine hours of electives from the following:

FREN 385, Travel Studies Abroad Francophone.....	1-6
FREN 491, Independent Study.....	1-3
(may be repeated )	

FREN 492, Topics .....	3-9
(may be repeated )	
FREN 493, Workshop.....	1-6
FREN 498, Undergraduate Research/Scholarship.....	3

### Requirements for French Major

#### Bachelor of Arts in Arts and Science

##### Freshman Year

ENGL 101*, Composition I .....	3
FREN 101-102†, Introductory French I-II .....	8
SPCM 101*, Fundamentals of Speech .....	3
SGR Goal 3*: Social Sciences.....	3
SGR Goal 5*: Mathematics .....	3
IGR Goal 2**: Personal Wellness.....	2
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3
Electives	

##### Sophomore Year

ENGL 201*, Composition II.....	3
FREN 201-202, Intermediate French I-II .....	8
Electives in French.....	8
SGR Goal 3*: Social Sciences.....	3
SGR Goal 6*: Natural Sciences.....	6
B.A. Core: Humanities (IGR Goal 3-option 2, not in Modern Languages Department).....	3
Electives	

##### Junior Year††

French coursework (300-400 level, including FREN 310 and 333).....	6-12
B.A. Core: Humanities (IGR Goal 3-option 2).....	2
IGR Goal 1**: Land and Natural Resources .....	3
Electives	

##### Senior Year

French coursework (300-400 level).....	6-12
Electives	

### Requirements for the French Minor: 22 cr

FREN 102, Introductory French II .....	4
FREN 201-202, Intermediate French I-II .....	8
French electives, 300 and above.....	10

**NOTE:** A minimum grade of “C” is required of all French classes for them to count for the French major or minor.

† Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of “C” or better, and the payment of the established fee to the Academic Evaluation and Assessment Office.

†† Junior year course selections which fulfill the Institutional Graduation Requirements (IGRs) must be different from those taken to fulfill the System Graduation Requirements (SGRs).

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# General Agriculture Major

Don Marshall

College of Agriculture and Biological Sciences

Agricultural Hall 156

605-688-5133

e-mail: academic.programs@abs.sdstate.edu

## Requirements for Associate of Science in Agriculture

The two-year program is designed for the student who does not find it advisable or possible to enter a regular four-year college program. A typical student in this situation could be one who desires some education but not necessarily four years before entering the work force or returning to the farm or ranch. The core requirements are as follows:

Course	Credits
Mathematics (minimum level: MATH 102 or 104).....	3
WEL 101 or GS 143 .....	2
ENGL 101 .....	3
SPCM 101 .....	3
SGR Goal 3*: Social Science .....	3
SGR Goal 4*: Humanities and Arts .....	3
SGR Goal 6*: Natural Science .....	3
Major field of concentration .....	16
General electives .....	28
<b>Total</b>	<b>64</b>

Students must take the proficiency examination after completing 32 credits. ENGL 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Requirements for General Agriculture Major Bachelor of Science in Agriculture

Freshman Year	F	S
ABS 100, Exploring Ag and the FoodSystem, or AS 100, Opportunities in Animal Science, or PS 101, Opportunities in Plant Science .....	1	
AS 101-101L, Introduction to Animal Science and Lab or DS 130-130L, Introduction to Dairy Science and Lab.....		3
BIOL 101-101L*, Biology Survey I and Lab.....		3
BIOL 103-103L*, Biology Survey II and Lab.....		3
CHEM 106-106L*, Chemistry Survey and Lab .....		4
ENGL 101*, Composition I .....	3	
MATH 102*, College Algebra .....	3	
PS 103-103L, Crop Production and Lab.....	3	
SGR Goal 3*: Social Sciences .....	3	
SPCM 101*, Fundamentals of Speech.....		3
SGR Goal 4*: Humanities and Arts .....		3
IGR Goal 2**: Personal Wellness.....		2

Sophomore Year	F	S
AGEC 271-271L, Farm and Ranch Management and Lab ....		4
CHEM 120-120L, Elementary Organic Chemistry and Lab or CHEM 108-108L, Organic and Biochemistry and Lab.....	4-5	
ECON 202*, Principles of Macroeconomics (G) or ECON 201*, Principles of Microeconomics .....	3	
ENGL 201*, Composition II.....		3
PHYS 101-101L, Survey of Physics I and Lab or MICR 231-231L, General Microbiology and Lab.....	4	
PS 213-213L, Soils and Lab .....		3
SGR Goal 4*: Humanities and Arts .....		3
IGR Goal 1***: Land and Natural Resources .....		3
Elective .....		2

Junior Year	F	S
AGEC 354, Ag Marketing and Prices.....	3	
AS 233-233L, Applied Animal Nutrition and Lab.....	4	
BIOL 371, Genetics or PS 383-383L, Principles of Crop Improvement and Lab ...		3
Agriculture Electives†† .....	6	
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....		3
Program Concentration Electives.....	3	6-7
ACCT 210, Principles of Accounting or STAT 281, Introductory Statistics.....	3	
Communications Elective† (AW).....	3	
Ag Product Elective ††† .....		2-4

Senior Year	F	S
Program concentration or general electives .....	16	13
(credits must total 128; at least 25 credits must be 300 level or above courses excluding Internships, Cooperative Education, or Field Experience courses)		
Capstone Requirement (select one of the following): ABS 475-475L, AGECE 421, AS 474-474L, AS 477-477L, AS 478-478L, AST 303-303L, DS 412-412L, PS 440-440L, RANG 485-485L.....		
		3

† Communications Elective to be selected from the following: ABS 475-475L, ENGL 379, or PS 383-383L. Also meets General Education Advanced Writing Requirement.

†† Agriculture Electives, at least six credits to be selected from the following: PS 223/223L, PS 307/307L, any course(s) with following prefix(es): ABE, ABS, AST, DS, HO, LA, PR, PRM, RANG, or VET.

††† Select one of: AS 241, AS 285-285L, AST 443-443L, PS 303-303L, PS 308-308L, PS 312, DS 231.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## General Studies (Associate of Arts)

Christy Osborne

College of General Studies and Outreach Programs

Medary Commons 121

605-688-4153

e-mail: christy.osborne@sdstate.edu

### Requirements for Associate of Arts in General Studies

Course	Credits
ENGL 101, Composition I.....	3
ENGL 201, Composition II.....	3
SPCM 101, Fundamentals of Speech .....	3
SGR Goal 3*: Social Sciences.....	6
SGR Goal 4*: Humanities .....	6
SGR Goal 5*: Mathematics .....	3
SGR Goal 6*: Natural Sciences.....	6
International/Global Diversity Requirements .....	6
Selected Electives.....	34
<b>Total</b>	<b>64</b>

# Geographic Information Sciences (GIS) Major and Minor

Roger Sandness  
Department of Geography  
Scobey Hall 232  
605-688-4511  
e-mail: roger.sandness@sdstate.edu

## Bachelor of Science in Geographic Information Sciences Curriculum for Undergraduate

Freshman Year	F	S
ENGL 101*, Freshman Composition.....	3	or 3
GEOG 131-131L*, Physical Geography I and Lab.....	4	
GEOG 132-132L*, Physical Geography II and Lab.....		4
GEOG 200*, Human Geography (G).....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 4*: Humanities and Arts.....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
Geography Electives.....	3	3

### Sophomore Year

ENGL 201*, Advanced Composition.....		3
GEOG 210**, Regional Geography (G).....	3	
GEOG 382, Research Methods (AW).....		3
GEOG 383, Cartography.....	3	
GEOG 487, Geographic Information Systems I.....		3
Humanities and Arts, Arts and Science Requirement.....	3	
SGR Goal 3*: Social Science (not GEOG).....	3	
IGR Goal 2**: Personal Wellness.....	2	or 2
Biological Science Electives (Arts and Science Core, pp. 65-66).....	3	3
Geography Electives (upper division).....		3

### Junior Year

Junior Year	F	S
GEOG 488, Geographic Information Systems II.....	3	
GEOG 489, Geographic Information Systems III.....		3
MATH 120, Trigonometry.....	3	
STAT 281, Introduction to Statistics.....	3	
IGR Goal 1**: Land and Natural Resources.....	3	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (not GEOG).....	3	
Free Electives.....	6-8	7

### Senior Year

Senior Year	F	S
Geography/Other Electives.....	16	16

Total 128 credits, 35 credits in Geography, minimum 18 upper division credits. GEOG 382 meets the Advanced Writing Requirement.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

Requirements for Geographic Information Sciences Major: 41 cr	
GEOG 131-131L, Physical Geography I and Lab.....	4
GEOG 132-132L, Physical Geography II and Lab.....	4
GEOG 200, Intro to Human Geography.....	3
GEOG 210, World Regional Geography.....	3
GEOG 382, Geographic Research Methods.....	3
GEOG 383, Cartography.....	3
GEOG 484, Remote Sensing.....	3
GEOG 487, Geographic Information Systems I.....	3
GEOG 488, Geographic Information Systems II.....	3
GEOG 489, Geographic Information Systems III.....	3
GEOG Upper Division.....	3
MATH 120, Trigonometry.....	3
STAT 281, Introduction to Statistics.....	3

## Requirements for Geographic Information Sciences Minor: 18 cr (Three out of the four)

GEOG 487, Geographic Information Systems I.....	3
GEOG 488, Geographic Information Systems II.....	3
GEOG 489, Geographic Information Systems III.....	3
CEE 304, Land Surveying.....	3
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  
e-mail: roger.sandness@sdstate.edu

## Requirements for Geography Major Bachelor of Science in Arts and Science

Freshman Year	F	S
ENGL 101*, Composition I.....	3	or 3
GEOG 131-131L*, Physical Geography I and Lab.....	4	
GEOG 132-132L*, Physical Geography II and Lab.....		4
GEOG 200*, Introduction to Human Geography, (G).....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 4*: Humanities and Arts.....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
Geography Electives.....	3	3

### Sophomore Year

Sophomore Year	F	S
ENGL 201*, Composition II.....		3
GEOG 210**, World Regional Geography, (G).....	3	
GEOG 382, Geographic Research Methods (AW).....		3
Biological Science (Arts and Science Core, pp. 65-66).....	3	3
Humanities and Arts (Arts and Science Core, pp. 65-66).....	3	
SGR Goal 3*: Social Science (not GEOG).....	3	
IGR Goal 2**: Personal Wellness.....	2	or 2
Geography Electives (upper division).....	3	3

### Junior Year

Junior Year	F	S
GEOG 487 Geographic Information Systems I.....		3
IGR Goal 1**: Land and Natural Resources.....		3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (not GEOG).....	3	
Geography Electives (upper division).....	3	3
Free Electives.....	8-10	9

<b>Senior Year</b>	<b>F</b>	<b>S</b>
Geography/Other Electives .....	16	15

Total of 128 credits, 35 credits in Geography, minimum 18 upper division credits. GEOG 382 meets the Advanced Writing Requirement.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Technical Geography – Science Emphasis

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 488, Geographic Information Systems II .....	3
GEOG 489, Geographic Information Systems III.....	3
<b>Total</b>	<b>21</b>

### Environmental Planning and Management Emphasis

It is strongly suggested that environmental geographers choose a minor from the list of recommended minors available in the Geography Department. The upper division credits within the department should be selected from the following:

GEOG 310-310L, Soil Geography and Land Use Interpretation and Studio .....	3
GEOG 337, Atmospheric Sciences .....	3
GEOG 339, The Earth's Landforms .....	2
GEOG 343, Natural Disasters and 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 488, Geographic Information Systems II .....	3
GEOG 489, Geographic Information Systems III .....	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 488, Geographic Information Systems II .....	3
GEOG 489, Geographic Information Systems III .....	3

Recommended electives outside of the Department:

PLAN 471, Principles of State, Regional and Community Planning .....	3
PLAN 472, Techniques of State, Regional and Community Planning .....	3

### Requirements for Geography Major: 35 cr

GEOG 131-131L, Physical Geography I and Lab.....	4
GEOG 132-132L, Physical Geography II and Lab .....	4
GEOG 200, Intro to Human Geography.....	3
GEOG 210, World Regional Geography .....	3
GEOG 382, Geographic Research Methods .....	3
GEOG 487, Geographic Information Systems I.....	3
Upper division courses.....	15

### Requirements for Geography Minor: 20 cr

GEOG 131-131L, Physical Geography I and Lab.....	4
GEOG 132-132L, Physical Geography II and Lab .....	4
GEOG 200, Introduction to Human Geography.....	3
GEOG 210, World Regional Methods .....	3
Upper-division courses or substitutions approved by the Department.....	6

## German (GER) Major and Minor

**Maria Ramos**  
**Department of Modern Languages**  
**SNF 121**  
**605-688-5101**  
**e-mail: maria.ramos@sdstate.edu**

The major in German requires a minimum of 36 credit hours in German. The coursework should include 101, 102, 201, 202, 311, 312, and an additional 18 credit hours of upper-division (300-400) classes. It is recommended that upper-division coursework include a minimum of 4 credit hours in literature, 3 credit hours in civilization and culture, and 2 credit hours in advanced language study.

The following schedules are very general. Please contact a German adviser for more specific information.

### Requirements for German Major Bachelor of Arts in Arts and Science

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
GER 101-102†, Introductory German I-II .....	4	and 4
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 5*: Mathematics.....	3	or 3
IGR Goal 2**: Personal Wellness .....	2	or 2
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
Electives		

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or 3
GER 201-202, Intermediate German I-II.....	3	and 3
Electives in German .....	4	4
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	3
B.A. Core: Humanities (IGR Goal 3-option 2, not in Modern Languages Department) .....	3	or 3
Electives		

<b>Junior Year††</b>	<b>F</b>	<b>S</b>
German coursework (300-400 level, including GER 311 and 312) .....	3-6	and 3-6
B.A. Core: Humanities (IGR Goal 3-option 2, not in Modern Languages Department) .....	3	or 3
IGR Goal 1***: Land and Natural Resources .....	3	or 3
Electives		

<b>Senior Year</b>	<b>F</b>	<b>S</b>
German coursework (300-400 level).....	3-6	& 3-6
Electives		

**NOTE:** A minimum grade of "C" is required in all German classes for them to count towards the major or minor.

† Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Academic Evaluation and Assessment Office.

†† Junior year course selections which fulfill the Institutional Graduation Requirements (IGRs) must be different from those taken to fulfill the System Graduation Requirements (SGRs).

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for German Minor: 20 cr**

GER 101-102, Introductory German I-II.....	8
GER 201-202, Intermediate German I-II.....	6
GER 300-400 level Electives.....	6

## Gerontology (GERO) Minor

**Renee Oscarson, Coordinator**  
**Department of Human Development, Consumer and Family Sciences**  
**SNF 369**  
**605-688-6418**  
**e-mail: renee.oscarson@sdstate.edu**

**Requirements for Gerontology Minor: 18 cr**

Choose 11 credits from the following Level One (Aging) courses:

BIOL 425, Biology of Aging .....	3
CA 442, Family Resource Management Lab .....	3
GERO 201, Introduction to Gerontology (required for minor).....	3
GERO 491, Independent Study (by permission).....	1-4
GERO 492, Topics.....	1-3
HDFS 347, Human Development and Personality III: Adulthood .....	3
NURS 201, Medical Terminology .....	1
PSYC 324, Psychology of Aging .....	3
SOC 490, Seminar .....	3

Seminar, Topics, or Independent Study approved by the Gerontology Coordinator. The topic and credits vary by semester.

Choose 7 credits from list of Levels Two and Three courses:

A portion of Level Two courses is aging-related.

Level Three courses are those which cover the study of biological, psychological, or social aspects of humans.

Students who plan to complete a gerontology minor need to contact the Gerontology Coordinator, Renee Oscarson, for a list of courses which meet Level Two and Three requirements. (Renee.Oscarson@sdstate.edu)

**NOTE:** A grade of "C" or better is required in all courses in the minor.

## Global Agriculture Minor

**Diane Rickerl**  
**College of Agriculture and Biological Sciences**  
**Agricultural Hall 138**  
**605-688-5541**  
**e-mail: diane.rickerl@sdstate.edu**

**Minor in Global Agriculture**

**Minimum total required: 22 credits**

**Required courses: 5 credits**

ABS 203, Global Food Systems, 3 credits

ABS 482, International Experience, 2 credits

**Elective Courses: minimum 17 credits**

Must take at least 1 but no more than 2 courses from the Group A Electives list and the remainder from the Group B Electives list. No more than 9 credits may have the same prefix. At least 9 credits must be 300 level or higher.

*Group A Electives*

- ABE 353-353L, Physical Climatology and Meteorology, 3
- AGEC 354, Agricultural Marketing and Prices, 3
- AST 333-333L, Soil and Water Mechanics, 3
- BIOL/PS 475, Water Quality in Agriculture, 3
- DS 452, Environmental Management of Dairy Systems, 2
- ENVM 275, Introduction to Environmental Science, 3
- LA 241, History of Landscape Architecture, 3
- PS 446, Agroecology, 3
- WL 110, Environmental Conservation, 3

*Group B Electives*

- Any modern foreign language course (prefixes include FREN, GER, MFL, RUSS, or SPAN) numbered 102 or higher.
- AGEC 454, Economics of Grain and Livestock Marketing, 3
- ANTH 210, Cultural Anthropology, 3
- ECON 101, Global Economy, 3
- ECON 405, Comparative Economic Systems, 2-3
- ECON 440, Economics of the International Sector, 3
- ECON 460, Economic Development, 3
- EURS 300, Topics in European Culture, 3
- EURS 301, Topics in European Society, 3
- GEOG 200, Introduction to Human Geography, 3
- GEOG 210, World Regional Geography, 3
- GEOG/PS 310-310L, Soil Geography, 3
- GEOG 320, Regional Geography, 3
- GEOG 415, Environmental Geography, 3
- GEOG 425, Population Geography, 3



GLST 201, Introduction to Global Studies, 3  
 HIST 122, Western Civilization II, 3  
 HIST 112, World Civilization II, 3  
 HIST 345, History of Russia, 3  
 HIST 418, History of Latin America, 3  
 HIST 469, American Foreign Relations, 3  
 LAS 301, Latin American Cultures, 3  
 LAS 302, Latin American Societies, 3  
 NFS 111, Food, People and the Environment, 3  
 POLS 253, Current World Problems, 3  
 POLS 341, European Democratic Government, 3  
 POLS 343, Russian Politics, 3  
 POLS 445, Canada, 3  
 POLS 347, Latin American Politics, 3  
 POLS 350, International Relations, 3  
 POLS 352, European Union, 3  
 POLS 454, International Law and Organization, 3  
 REL 250, World Religions, 3  
 SOC 462, Population Studies, 3

PHIL 215\*, \*\*, Introduction to Social-Political Philosophy  
 REL 250\*, \*\*, World Religions  
 POLS 253\*, \*\*, Current World Problems.....3  
 Electives .....3-5 or 3-5

**Junior Year** **F** **S**  
 Modern Language .....2-3 2-3  
 FREN 310, 333 or  
 GER 311, 312 or  
 SPAN 211, 212  
 IGR Goal 1\*\* : Land and Natural Resources (elective) .....3 or 3  
 Upper Division Culture – 6 credits from the following.....3 3  
 EURS 300, Topics in European Cultures  
 LAS 301\*\*, Latin American Cultures  
 FREN 333, Topics in Francophone Culture  
 GER 433, German Civilization I (AW)  
 GER 434, German Civilization II (AW)  
 SPAN 433, Spanish Culture and Civilization I (AW)  
 SPAN 435, Latin American Civilization and Culture  
 HIST 418, History of Latin American Culture & Civilization I  
 HIST 420, Contemporary Europe  
 POLS 462/PHIL 424, Modern Political Philosophy (AW)  
 Upper Division Globalization – 3 credits from the following: .....3 or 3  
 ECON 405, Comparative Economic Systems  
 ECON 440, Economics of International Sector  
 ECON 460 \*\*, Economic Development (G)  
 POLS 350, International Relations  
 Cross Cultural Experience †† .....3 or 3  
 Electives .....4-5 4-5

## Global Studies (GLST) Major and Minor

Nels Granholm

Academic Affairs

Administration Building 101A

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website: <http://www3.sdstate.edu/Academics/>

[CollegeOfArtsAndScience/GlobalStudies/Index.cfm](http://www3.sdstate.edu/Academics/CollegeOfArtsAndScience/GlobalStudies/Index.cfm)

### Requirements for Global Studies Major

#### Bachelor of Arts in Arts and Science

Freshman Year	F	S
ENGL 101*, Composition (SGR Goal 1).....3	or	3
SGR Goal 2*: Oral Communication .....3	or	3
SGR Goal 5*: Mathematics .....3	or	3
FREN, GER, or SPAN 101 & 102* †.....4		4
Introductory French I-II or		
Introductory German I-II or		
Introductory Spanish I-II		
HIST 112*, World Civilization II or		
HIST 122*, Western Civilization II.....3	or	3
GLST 201**, Introduction to Global Studies (G).....		3
IGR Goal 2** : Personal Wellness.....2-3	or	2-3
Electives .....3-4		3-4

#### Sophomore Year

FREN, GER, or SPAN 201 & 202.....3-4	F	S
Intermediate French I-II or		
Intermediate German I-II or		
Intermediate Spanish I-II		
SGR Goal 1*: Written Communication .....3	or	3
SGR Goal 6*: Natural Sciences .....3		3
Lower Division Societies: 6 credits from the following:.....3		3
GEOG 210*, **, World Regional Geography		
ECON 101*, Global Economy (G)		
POLS 165*, **, Political Ideologies		
ABS 203**, Global Food Systems (G)		
Lower Division Culture: 3 credits from the following: .....3	or	3
ANTH 210*, **, Cultural Anthropology		
ENGL 212*, **, World Literature II		

Senior Year	F	S
Modern Language		
one 3-credit course at 300 or 400 level .....3	or	3
GLST 401, Global Studies II.....		1
Upper Division Societies – Select 6 credits from at least.....3		3
two disciplines from the following:		
EURS 301, Topics in European Society		
LAS 302**, Latin American Societies		
POLS 454, International Law and Organization		
GEOG 400, Cultural Geography		
GEOG 415, Environmental Geography		
GEOG 425, Population Geography		
Advanced Writing Requirement, Select one course from:.....3	or	3
ENGL 410, Mythology and Literature (AW)		
POLS 462/PHIL 424, Modern Political Philosophy (AW)		
Electives .....7-10		6-9

† Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Academic Evaluation and Assessment Office.

†† Global Studies majors are required to complete a cross-cultural experience outside the United States that includes at least 3 credits of coursework. Examples are:

1. Full time study abroad for one semester at a university outside the United States.
2. A one-semester, paid or unpaid, internship or volunteer service learning project outside the United States.
3. One intense language immersion program for at least 3 hours of credit at an institution of higher education outside the United States.
4. Study abroad seminar or travel experience outside the United States that includes pre-and post-travel/study orientation and carries 3 hours of credit.

(In special cases for international students attending SDSU, an individualized plan of study will be developed for the major.)

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Global Studies Major  
Bachelor of Science in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition (SGR Goal 1) .....	3	3
SGR Goal 2*: Oral Communication .....	3	3
SGR Goal 5*: Mathematics .....	3	3
FREN, GER, or SPAN 101 & 102* † .....	4	4
Introductory French I-II or		
Introductory German I-II or		
Introductory Spanish I-II		
HIST 112*, World Civilization II or		
HIST 122*, Western Civilization II .....	3	3
GLST 201**, Introduction to Global Studies (G).....		3
IGR Goal 2**: Personal Wellness.....	2-3	2-3
Electives .....	3-4	3-4

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
FREN, GER, or SPAN 201 & 202.....	3-4	3-4
Intermediate French I-II or		
Intermediate German I-II or		
Intermediate Spanish I-II		
SGR Goal 1*: Written Communication .....	3	3
SGR Goal 6*: Natural Sciences.....	3-4	3-4
Lower Division Societies – 6 credits from the following:.....		3
GEOG 210*, **, World Regional Geography		
ECON 101*, Global Economy (G)		
POLS 165*, **, Political Ideologies		
ABS 203**, Global Food Systems (G)		
Lower Division Culture: 3 credits from the following: .....	3	3
ANTH 210*, **, Cultural Anthropology		
ENGL 212*, **, World Literature II		
PHIL 215*, **, Introduction to Social-Political Philosophy		
REL 250*, **, World Religions		
POLS 253*, **, Current World Problems.....	3	
Electives .....	1-4	1-4

<b>Junior Year</b>	<b>F</b>	<b>S</b>
Natural Sciences, Arts and Science requirements, pp. 65-66 .....	3-4	3-4
IGR Goal 1**: Land and Natural Resources (elective) .....	3	3
Upper Division Culture – 6 credits from the following.....	3	3
EURS 300, Topics in European Cultures		
LAS 301**, Latin American Cultures		
FREN 333, Topics in Francophone Culture		
GER 434, German Civilization II (AW)		
SPAN 433, Spanish Culture and Civilization I		
HIST 418, History of Latin American Culture & Civilization I		
HIST 420, Contemporary Europe		
POLS 462/PHIL 424, Modern Political Philosophy (AW)		
Upper Division Globalization - 3 credits from the following: .....	3	3
ECON 405, Comparative Economic Systems		
ECON 440, Economics of International Sector		
ECON 460, Economic Development		
POLS 350, International Relations		
Cross Cultural Experience ††.....	3	3
Electives .....	0-11	0-11

<b>Senior Year</b>	<b>F</b>	<b>S</b>
GLST 401, Global Studies II.....		1
Upper Division Societies - Select 6 credits from at least .....	3	3
two disciplines from the following:		
EURS 301, Topics in European Society		
LAS 302**, Latin American Societies		
POLS 454, International Law and Organization		
GEOG 400, Cultural Geography		
GEOG 415, Environmental Geography		
GEOG 425, Population Geography		
Advanced Writing Requirement, Select one course from:.....	3	3
ENGL 410, Mythology and Literature (AW)		
POLS 462/PHIL 424, Modern Political Philosophy (AW)		
Electives .....	7-10	6-9

† Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Academic Evaluation and Assessment Office.

†† Global Studies majors are required to complete a cross-cultural experience outside the United States that includes at least 3 credits of coursework. Examples are:  
 1. Full time study abroad for one semester at a university outside the United States.  
 2. A one-semester, paid or unpaid, internship or volunteer service learning project outside the United States.  
 3. One intense language immersion program for at least 3 hours of credit at an institution of higher education outside the United States.  
 4. Study abroad seminar or travel experience outside the United States that includes pre-and post-travel/study orientation and carries 3 hours of credit.  
 (In special cases for international students attending SDSU, an individualized plan of study will be developed for the major.)

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Global Studies Minor**

GLST 201, Global Studies I.....	3
HIST 112, World Civilizations II or	
HIST 122, Western Civilizations .....	
HIST 122, Western Civilizations .....	3
GEOG 200, Introduction to Human Geography .....	3
POLS 253, Current World Problems.....	3
ECON 101, Global Economy.....	3
REL 250, World Religion.....	3

Three credits selected from the following:

POLS 350, International Relations.....	3
POLS 454, International Law and Organization.....	3
GEOG 414, Environmental Geography .....	3
GEOG 424, Population Geography.....	3
EURS 300, Topics in European Culture .....	3
EURS 301, Topics in European Society .....	3
LAS 301, Latin American Cultures.....	3
LAS 302, Latin American Societies.....	3
ABS 381, International Multicultural Agricultural/ Biological Sciences Experience or Other travel/study experience outside the United States .....	3

# Graphic Design (ARTD) Major

Norman Gambill  
 Department of Visual Arts  
 Grove Hall 101  
 605-688-4103  
 fax: 605-688-6769  
 e-mail: sdsu.artdept@sdsu.edu  
 website: [http://coldfusion.sdsu.edu/users/norman\\_gambill/HTML/Visual\\_Arts\\_Department1024.html](http://coldfusion.sdsu.edu/users/norman_gambill/HTML/Visual_Arts_Department1024.html)

Art history courses may be used for the humanities sequence, but Graphic Design students are required to take at least three hours in humanities outside the department. Modern Languages are required for the B.A. Graphic Design Majors may take the Art Minor, p. 150.

## Requirements for Graphic Design Major Bachelor of Science in Arts and Science

Freshman Year	F	S
ART 110, First Review.....	0	0
ARTH 100*, Art Appreciation, (G).....	3	or 3
ENGL 101*, Composition I.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 4*: Natural Science, Biological.....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
Visual Arts Studio Core, p. 124.....	6	3

Sophomore Year	F	S
ART 200, Progress Review.....	0	or 0
ARTD 201, Graphic Design I.....	3	or 3
ARTD 202, Computer Graphics I.....	3	or 3
ARTH 211*, World Art I, (G).....	3	
ARTH 212*, World Art II, (G).....		3
ENGL 201*, Composition II.....	3	or 3
MCOM 160-160L, Basic Photography and Studio.....	2	or 2
SGR Goal 3*: Social Sciences.....	3	3
SGR Goal 4*: Humanities and Arts.....	3	or 3
Visual Arts Studio Core, p. 124.....	3	or 3
Electives.....	2	or 2

Junior Year	F	S
ARTD 301, Graphic Design II.....	3	
ARTD 302, Computer Graphics II.....	3	
ARTD 351, Visual Communications I: Advanced Graphic Design.....		3
ARTD 352, Design Media I.....		3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....		3
IGR Goal 1**: Land and Natural Resources.....	3	or 3
Art History Advanced Writing Requirement (AW).....	3	or 3
Visual Arts Studio Core (finish it).....	3	or
Electives (complete 300-400 level rule, can be ART/ARTD/ARTH courses)		

Senior Year	F	S
ART 400, Senior Review.....	0	or 0
ARTD 451, Visual Communications II: Senior Portfolio.....	3	
ARTD 452, Design Media II.....	3	
Art Electives.....	3	4
Electives (complete 300-400 level rule, can be ART/ARTD/ARTH courses)		

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Requirements for Graphic Design Major Bachelor of Arts in Arts and Science

Freshman Year	F	S
ART 110, First Review.....	0	0
ARTH 100*, Art Appreciation, (G).....	3	or 3
ENGL 101*, Composition I.....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Science, Biological.....	4	4
Visual Arts Studio Core, p. 124.....	6	6

Sophomore Year	F	S
ART 200, Progress Review.....	0	or 0
ARTD 201, Graphic Design I.....	3	or 3
ARTD 202, Computer Graphics I.....	3	or 3
ARTH 211*, World Art I, (G).....	3	
ARTH 212*, World Art II, (G).....	3	
ENGL 201*, Composition II.....	3	or 3
MCOM 160-160L, Basic Photography and Studio.....	2	or 2
Modern Language.....	4	4
SGR Goal 3*: Social Sciences.....	3	3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3

Junior Year	F	S
ARTD 301, Graphic Design II.....	3	
ARTD 302, Computer Graphics II.....	3	
ARTD 351, Visual Communications I: Advanced Graphic Design.....		3
ARTD 352, Design Media I.....		3
Modern Language.....	3	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
Art History Advanced Writing Requirement (AW).....	3	or 3
Visual Arts Studio Core (finish it).....	6	or 6
Electives (complete 300-400 level rule, can be ART/ARTD/ARTH courses)		

Senior Year	F	S
ART 400, Senior Review.....	0	or 0
ARTD 451, Visual Communications II: Senior Portfolio.....	3	
ARTD 452, Design Media II.....	3	
IGR Goal 1**: Land and Natural Resources.....	3	or 3
Art Electives.....	3	4
Electives (complete 300-400 level rule, can be ART/ARTD/ARTH courses)		

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Health Education (HLTH) Minor

Patty Hacker

Department of Health, Physical Education and Recreation

Physical Education Center 269

605-688-5218

e-mail: patty.hacker@sdstate.edu

A Health Education minor is an interdisciplinary minor offered to any student at South Dakota State University; it may be of particular interest to those pursuing a teaching degree. The minor can be obtained by completing a required core and set of elective courses offered across several disciplines. One purpose of the Health Education minor is to enable those with a teaching degree to teach health education in schools in South Dakota; it also prepares students to pursue a major in health education in other states. All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of "C" is required in each course taken in the minor.

## Requirements for Health Education Minor: 21 cr (minimum)

### Required Courses (18 credits)

EPSY 302, Educational Psychology or	
PSYC 324, Psychology of Aging or	
PSYC 327, Child Psychology	2 or 3
HDFS 210, Lifespan Development	3
HDFS 250, Development of Human Sexuality	3
HLTH 212, Contemporary Health or	
HLTH 120, Community Health	2
HLTH 250, Pre-Professional First Aid and CPR or	
HLTH 251, First Aid and CPR	2 or 1
HLTH 420, K-12 Methods of Health Instruction	3
NFS 221, Survey of Nutrition	3

### Elective Courses (3-5 credits for total 21-23)

CA 289, Consumers and the Market	2
HDFS 141, Individual and the Family	2
HDFS 241, Family Relations	3
HLTH 440, Epidemiology	3
HSC 302, Wellness and the Family	2
NURS 201, Medical Terminology	1
PE 354, Prevention and Care of Athletic Injuries	2
PHA 201, Medication and the Consumer	2
PSYC 417, Health Psychology	3
SOC 250, Marriage	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: patty.hacker@sdstate.edu

The intent of the HPER 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, but may pursue a specialization in teaching physical education. Students may also wish to obtain a minor in Public Recreation, Health Education, or other area. A minimum grade of "C" is required in each course in the major.

## Required courses for the HPER Major Bachelor of Science in Arts and Science

Freshman Year	F	S
DANC 130*, Dance Fundamentals	1	or 1
ENGL 101*, Composition I	3	or 3
HLTH 120, Community Health or		
HLTH 212, Contemporary Health Problems	2	or 2
PE 170, Fundamental Movement	1	or 1
PE 180, Foundations of HPER	2	or 2
SPCM 101*, Fundamentals of Speech	3	or 3
SGR Goal 3*: Social Sciences/Diversity	3	3
SGR Goal 4*: Humanities and Arts/Diversity	3	or 3
SGR Goal 5*: Mathematics	3	or 3
SGR Goal 6*: Natural Sciences	3	3
IGR Goal 2**: WEL 100, Wellness for Life	2	or 2
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness		3
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
BIOL 221-221L, Human Anatomy and Lab	4	or 4
CHEM 106, Chemistry Survey I	4	or 4
ENGL 201*, Composition II	3	or 3
HLTH 250-250L, Pre-Professional First Aid or	2	or 2
HLTH 251, First Aid and CPR	1	or 1
HLTH course to meet requirements of major	2	or 2
PE 252-252L, Motor Learning and Performance		2
PE course to meet requirements of major	3	or 3
RECR course to meet requirements of major	2	or 2
SGR Goal 3*: Social Sciences/Diversity	3	or 3
SGR Goal 4*: Humanities and Arts/Diversity	3	or 3
IGR Goal 1**: Land and Natural Resources		3
<b>Junior Year</b>	<b>F</b>	<b>S</b>
BIOL 325-325L, Physiology		4
CHEM 108, Organic Chemistry	4	
DANC course to meet requirements of major	1-2	or 1-2
PE 320, Lifeguard Training and		
PE 322, Lifeguard Instructor or	2	
PE 321, Water Safety Instructor		2
PE 454, Biomechanics	3	or 3
PE 354-354L, Prevention and Care of Athletic Injuries and Lab	2	or 2
PE course to meet requirements of major	2	or 2
RECR 342, Rec. Sports Programming and Administration	3	
Electives (Dept. courses or SDSU Core courses)	6	8
<b>Senior Year</b>	<b>F</b>	<b>S</b>
HLTH/HSC course to meet requirements of major	2	or 2
PE 350, Exercise Physiology	3	
PE 490, Seminar (AW)		2
PE course to meet requirements of major	2	or 2
Electives or SDSU Core courses	12	9

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(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for HPER Major – Teaching Specialization

Application for admission into the Physical Education teaching specialization is required and can begin during the Spring Semester of the freshman year, providing PE 180, ENGL 101 and SPCM 101 have been completed (with a minimum grade of “C”) or are in progress during the time of application. Additional admission requirements are available from the Physical Education Teacher Education (PETE) Coordinator. All HPER teaching specialization students are strongly encouraged to obtain a health education minor (21-23 hours). Information on courses that fulfill the health education minor is in this catalog. A minimum final grade of “C” is required in each course in the major and specialization area. All teacher education students are required to take the PRAXIS II Physical Education content test, as well as the PRAXIS II Principles of Learning and Teaching test. A minimum score must be achieved on the Praxis II Physical Education content test to be eligible to enroll in Professional Semester III. Students must maintain a 2.8 GPA in Education courses and a 2.9 GPA in HPER/PETE courses to remain in good standing in the program.

### Requirements for HPER Major – Teaching Specialization Bachelor of Science in Arts and Science

Freshman Year	F	S
BIOL 101-101L*, Survey of Biology .....	3	
CHEM 106-106L, Chemistry Survey and Lab .....		4
ENGL 101*, Composition I .....	3	or 3
DANC 130**, Dance Fundamentals .....	1	or 1
MATH 102*, College Algebra .....	3	or 3
PE 170, Fundamental Movement .....	1	or 1
PE 180, Foundations of HPER .....	2	or 2
PSYC 101*, Introduction to Psychology .....	3	or 3
SOC 100*, Introduction to Sociology (G) .....	3	or 3
SPCM 101*, Fundamentals of Speech .....	3	or 3
WEL 100**, Wellness for Life .....	2	or 2
SGR Goal 4*: Humanities and Arts/Diversity .....	3	or 3

Sophomore Year	F	S
BIOL 221-221L*, Human Anatomy and Lab .....	4	or 4
CHEM 108-108L, Organic Chemistry and Lab .....	5	or 5
DANC 240**, Multicultural Dance or .....		1
DANC 241, Creative Dance Children .....		2
EDFN 338 Introduction to American Education .....		2
EDFN 475 Human Relations .....		3
ENGL 201*, Composition II .....	3	or 3
HLTH 250-250L, Pre-Professional First Aid and CPR .....	2	or 2
PE 252-252L, Fundamentals of Motor Learning and Development and Lab .....		2
PE 200, Professional Preparation: Fitness .....		1
PE 201, Professional Preparation: Gymnastics .....		1
PE 202, Professional Preparation: Individual/Dual Activities .....		1
PE 203, Professional Preparation: Team Sport Activities .....		1
PE 204, Professional Preparation: Rhythms .....		1
PE 360-360L, K-8 Physical Education Methods and Lab .....		2
RECR 260, Fundamentals of Recreational Leadership .....		3
IGR Goal 1**: HIST 368, History and Culture of the American Indian .....		3
SGR Goal 4*: Humanities and Arts/Diversity .....		3

Junior Year	F	S
BIOL 325-325L, Physiology and Lab .....		4
EDFN 365, Computer Based Technology and Learning .....	2	or 2
HLTH 120, Community Health or HLTH 212, Contemporary Health Problems .....	2	or 2
NFS 221*, Survey of Nutrition .....	3	

PE 335, Assisting Teaching I .....		1
PE 341, Curriculum Programming and Evaluation in Physical Education .....	2	
PE 352, Adapted Physical Education .....		2
PE 354-354L, Prevention and Care of Athletic Injuries and Lab .....		2
PE 440, Organization and Administration of HPER/A .....		2
RECR 342, Recreational Sports Programming and Administration .....	3	
SPED 401, Teaching Special Needs Students .....	1	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3

Senior Year	F	S
EDFN 427, Middle School Applications and Philosophy .....	2	
EPSY 302, Educational Psychology .....		3
HLTH 420, Methods of Teaching Health .....		2
PE 320, Lifeguard Training and PE 322, Lifeguard Instructor or .....	2	
PE 321, Water Safety Instructor .....		2
PE 350, Exercise Physiology .....	3	
PE 451, Tests and Measurement .....		2
PE 454, Biomechanics .....	3	
PE 480-480L, K-12 Methods of Teaching Physical Education and Lab .....	3	
PE 490, Seminar (AW) .....		2
SEED 314, Supervised Field Experience .....		1
SEED 450, Teaching Reading in the Content Area .....		2
SEED 400, Curriculum and Instruction in Middle and Secondary Schools .....	4	
SEED 410, Social Foundations, Management and Law .....	2	
SEED 488, 7-12 Student Teaching .....	4	
ELED 488, K-8 Student Teaching .....	4	
EDFN 489, Professional Issues in Education .....	1	

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(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Health Promotion Major

September Kirby  
Department of HPER  
Physical Education Center 119  
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Individuals graduating with a Health Promotion degree will be prepared to enhance awareness, modify behavior and create environments that promote positive health practices/behaviors for the individuals that they work with. This program is designed to prepare students for employment in wellness centers, rehabilitation centers, hospitals, and strength and conditioning programs. In addition it prepares students for graduate work in cardiac rehabilitation, physical therapy and exercise physiology. A minimum final grade of “C” is required for each course in the major.

**Requirements for Health Promotion Major  
Bachelor of Science in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 101-102*, Biology Survey I and Lab.....	3	
CHEM 106-106L*, Chemistry Survey and Lab .....	4	or 4
ENGL 101*, Composition I .....	3	or 3
HLTH 120, Community Health <b>or</b>		
HLTH 212, Contemporary Health Problems .....	2	or 2
PE 180, Foundations of HPER.....	2	or 2
MATH 102*, College Algebra .....	3	or 3
SPCM 101*, Fundamentals of Speech and Lab.....	3	or 3
SGR Goal 3*: PSYC 101, General Psychology.....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	3
IGR Goal 1**: NFS 111, Food, People and the Environment .....	3	
IGR Goal 2**: WEL 100, Wellness for Life .....	2	or 2

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
CHEM 108-108L, Organic and Biochemistry and Lab.....	5	
ENGL 201*, Composition II.....	3	or 3
HDFS 210, Lifespan Development.....	3	
HLTH 364, Emergency Medical Technician <b>or</b> .....	4	
HLTH 250-250L, Pre-professional First Aid and CPR and Lab.....	2	or 2
NURS 201, Medical Terminology.....	1	or 1
SOC 100, Introduction to Sociology (G) <b>or</b> .....	3	or 3
SOC 150*, Social Problems, (G).....	3	or 3
BIOL 221-221L, Anatomy and Lab .....	4	
BIOL 325-325L, Physiology and Lab.....	4	
SGR Goal 3*: Social Sciences (G).....	3	3
SGR Goal 4*: Humanities and Arts .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	2	or 2

<b>Junior Year</b>	<b>F</b>	<b>S</b>
HLTH 479-479L, Health Promotion Program and Evaluation.....	2	
HSC 494, Internship <b>or</b>		
PE 367 Practicum: Fitness Management .....	2	or 2
HSC 302, Wellness and the Family <b>or</b> .....	2	or 2
HSC 200, Complementary and Alternative Health Care..	3	or 3
NFS 321, Human Nutrition .....	3	or 3
NURS 323, Pathophysiology .....	3	3
PE 350, Exercise Physiology .....	3	
PE 354-354L, Prevention and Care of Athletic Injuries and Lab.....	2	or 2
PE 400-400L, Exercise Testing and Prescription and Lab.....	3	
PSYC 358, Behavior Modification .....	3	
IGR Goal 3**: HLTH 443, Public Health Science .....	3	or 3
Career Orientation Electives .....	3	or 3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
HLTH 445, Epidemiology.....	3	or 3
HSC 490, Seminar (AW).....	2	
HSC 496, Field Experience .....		1-6
HSC 494, Internship <b>or</b>		
PE 367 Practicum: Fitness Management .....	2	or 2
PE 454 Biomechanics .....	2-3	or 2-3
PE 450, Clinical Exercise Physiology.....	3	
PSYC 417, Health Psychology.....	3	
Career Orientation Electives .....	9	or 9

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Allied Health Specialization**

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

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

**Required Courses for Allied Health†:**

BIOL 221, Anatomy.....	3	or 3
BIOL 325, Physiology.....	4	or 4
HDFS 210, Lifespan Development.....	3	or 3
HLTH 120, Community Health <b>or</b>		
HSC 212, Contemporary Health Problems.....	2	or 2
HLTH 250, First Aid <b>or</b>		
HLTH 364, Emergency Medical Technician .....	2	or 4
HLTH 442, Epidemiology .....	3	or 3
HSC 490, Seminar .....	2	or 2
HSC 200, Complementary and Alternative Health Care .....	3	or 3
NFS 321, Human Nutrition .....	3	or 3
NURS 201, Medical Terminology.....	1	or 1
PE 350, Exercise Physiology .....	3	or 3
PSYC 417, Health Psychology.....	3	
HLTH 295†, Allied Health Technical Training.....		20-48
Gen Ed Core Requirements.....		38-39
Electives.....		16-33

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

**Health Science (HSC) Minor**

**Janet E. Lord**  
College of Nursing, Undergraduate Nursing Department  
SNF 327  
605-688-6153 or 1-888-216-9806 ext. 2  
e-mail: janet.lord@sdstate.edu

**Requirements for Health Science Minor: 24 cr**

Biological Science courses (6 credits):  
These courses do not need to be sequence courses, but must include science courses with the following prefixes: BIOL, MICR, ZOOL.

All of the following courses (12 credits):

HDFS 210, Lifespan Development .....	3
HSC 212, Contemporary Health.....	2
HSC 445, Epidemiology.....	3
IGR Goal 3**: HSC 443, Public Health Science (G) .....	3
NURS 201, Medical Terminology.....	1

Elective credits from the following courses (6 credits) †:

HDFS 227, Human Development and Personality I: Childhood .....	3
HDFS 241, Family Relations.....	3
HDFS 250, Development of Human Sexuality .....	3
HDFS 272, Helping Relationships .....	3

HLTH 251, First Aid or .....	2
HLTH 364, Emergency Medical Technician.....	4
HDFS 337, Human Development and Personality II: Adolescence.....	3
HDFS 347, Human Development and Personality III: Adulthood .....	3
HSC 120, Community Health.....	2
HSC 200, Complementary and Alternative Health Care.....	3
HSC 302, Wellness and the Family.....	2
HSC 420, Methods of Health Instruction.....	2
HSC 433-533, Industrial Health.....	3
PSYC 414, Drugs and Behavior.....	3
SOC 250, Marriage.....	3
STAT 281, Introduction to Statistics.....	3

† Any changes/additions to elective credits must receive prior approval from the Department Head of Undergraduate Nursing.

## History (HIST) Major and Minor

April Brooks, Acting  
Department of History  
Scobey Hall 322  
605-688-4311  
e-mail: april.brooks@sdstate.edu

### Requirements for History Major: 36 cr

HIST 111, World Civilization I, or HIST 121, Western Civilization I* .....	3
HIST 112, World Civilization II, or HIST 122, Western Civilization II* .....	3
*Students seeking certification to teach are urged to take the World Civilization sequence	
HIST 151, U.S. History I.....	3
HIST 152, U.S. History II.....	3
Upper level credits, including HIST 480, Historical Methods and Historiography 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

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
HIST 111*, World Civilization I or HIST 112*, World Civilization II or HIST 121*, Western Civilization I or HIST 122*, Western Civilization II (G) or HIST 151*, U.S. History I or HIST 152*, U.S. History II.....	3	3
SPCM 101*, Fundamentals of Speech or approved Gen Ed alternative.....	3	or 3
Modern Language*, 101 and 102 (B.A. only).....	4	4
SGR Goal 3*: Social Sciences (not History).....	3	or 3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences (Physical Science: CHEM, GEOG, PHYS, or PS) (B.S. only).....	4	4
SGR Goal 6*: Natural Sciences (B.A. only).....	3	3
IGR Goal 2**: Personal Wellness.....	2	or 2

#### Sophomore Year

ENGL 201*, Composition II.....	3	or 3
HIST 111*, World Civilization I or HIST 112*, World Civilization II or HIST 121*, Western Civilization I or		

HIST 122*, Western Civilization II (G) or HIST 151*, U.S. History I or HIST 152*, U.S. History II.....	3	3
Modern Language, 201 and 202 (B.A. only).....	3	3
SGR Goal 4*: Humanities and Arts (B.S. only) (not History).....	3	or 3
SGR Goal 6*: Natural Sciences (B.S. only).....	3	3
SGR Goal 6*: Natural Sciences (B.A. only).....	2	or 2
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (B.S. only) (not History).....	3	or 3
Electives (consider education specialization, second major or minor).....	3	3

#### Junior Year

HIST 300-400 level (to include HIST 480 (G)).....	6-12	6-9
Electives (consider education specialization, second major, or minor) .....	3-9	3-9

#### Senior Year

HIST 300-400 level.....	6-12	6-9
IGR Goal 1**: Land and Natural Resources.....	3	or 3
Electives, 100-400 level (consider education specialization, second major, or minor) .....	0-9	6-16

**PLEASE NOTE:** No more than 6 credits in Independent Study (HIST 491) and Internship (HIST 494) 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.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for History Minor: 18 cr

HIST 111, World Civilization I or HIST 121, Western Civilization I.....	3
HIST 112, World Civilization II or HIST 122, Western Civilization II.....	3
HIST 151, U.S. History I.....	3
HIST 152, U.S. History II.....	3
Additional 6 credits of upper level courses .....	6

## Honors College (HON)

Robert Burns  
Dean of Honors College  
Administration 315  
605-688-4860  
e-mail: robert.burns@sdstate.edu

### Sample Curriculum†

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
HON 100, Honors Orientation (recommended).....	1	
ENGL 101, Composition I (Honors).....	3	or 3
SPCM 101, Fundamentals of Speech (Honors) or SPCM 222, Argumentation and Debate (Honors).....	3	or 3

SGR Goal 3*: Social Science (Honors) or .....	3	or	3
SGR Goal 5*: Mathematics (Honors) MATH 123 .....	4	or	4
Major and Other Requirements.....	10-12		10-12

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
SGR Goal 3*: Social Science (Honors) .....	3	or 3
SGR Goal 4*: Humanities and Arts (Honors).....	3	or 3
SGR Goal 6*: Natural Science (Honors).....	3-4	or 3-4
Major and Other Requirements.....	10-12	10-12

<b>Junior Year</b>	<b>F</b>	<b>S</b>
Honors Contract Courses (6 credits allowable) .....	3	&/or 3
Honors Colloquium (minimum 3 credits required).....	3	&/or 3
Major and Other Requirements.....	10-12	10-12

<b>Senior Year</b>	<b>F</b>	<b>S</b>
Honors Independent Study (minimum of 3 credits) .....	3	&/or 3
Major and Other Requirements .....	10-12	10-12

† Requirements for graduation with Honors College Distinction include 15 credit hours of System General Education Honors, 3 credit hours of Honors Colloquium, 3 credit hours of Honors Directed Study and 6 credit hours of Honors contract courses or, in lieu of contract credits, students can choose to complete 3 additional credit hours of Honors Colloquium and 3 additional credits of Honors Directed Studies. Honors Orientation is recommended for first semesters Honors students. Students must earn a minimum cumulative 3.5 GPA.

## Horticulture (HO) Major

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

### Requirements for Horticulture Major – Production Specialization Bachelor of Science in Agriculture

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 101-101L*, Biology Survey I and Lab .....	3	or 3
CHEM 106-106L*, Chemistry Survey and Lab .....	4	or 4
ENGL 101*, Composition I .....	3	or 3
HO 111-111L, Introduction to Horticulture and Lab .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
SOC 100*, Introduction to Sociology or		
SOC 150*, Social Problems or		
SOC 240*, Sociology of Rural America or		
ANTH 210*, Cultural Anthropology .....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	3
IGR Goal 2**: Personal Wellness .....	2	or 2
Elective .....	3	or 3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
BOT 201-201L, General Botany and Lab.....	3	or 3
ECON 202*, Principles of Macroeconomics (G) .....	3	or 3
ENGL 201*, Composition II.....	3	or 3
HO 220-220L, Landscape Maintenance and Lab .....	3	3
HO 230-230L, Greenhouse and Nursery Crops and Lab.....	3	3
HO 240-240L, Vegetable Crops and Lab.....	3	3
HO 250-250L, Woody Plants: Trees and Lab .....	3	3
HO 260, Woody Plants: Shrubs and Vines.....	2	2
PS 213-213L**, Soils and Lab .....	3	or 3
PS 223-223L, Principles of Plant Pathology and Lab .....	3	3

IGR Goal 3**: Social Responsibility/Cultural and		
Aesthetic Awareness.....	3	or 3

### Summer Term

HO 494, Internship or		
HO 496, Field Experience.....	1	

### Junior and Senior Years

<b>BADM 360, Organization and Management or</b>	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I.....	3	or 3
<b>BIOL 371, Genetics or</b>		
HO 383-383L, Principles of Crop Improvement		
and Lab.....	3	or 3
<b>BOT 327-327L, Plant Physiology and Lab.....</b>		4
<b>ENGL 379, Technical Communications (AW) .....</b>	3	or 3
<b>HO 311-311L, Herbaceous Plants and Lab.....</b>	3	
<b>HO 312-312L, Plant Propagation and Lab.....</b>		3
<b>HO 490, Seminar .....</b>		1
<b>PHYS 101-101L, Survey of Physics and Lab.....</b>	4	or 4
<b>PS 305-305L, Insect Biology and Lab .....</b>	3	
<b>PS 334-334L, Diseases of Horticultural Crops and Lab.....</b>	3	
<b>Electives.....</b>	6	3
<b>Technical Electives† .....</b>	3	5

Choose 15 credits from the following:

HO 314-314L, Turf Management and Lab .....	3	
HO 411, Fruit Crop Production Systems .....		3
HO 412-412L, Greenhouse Management and Lab.....		3
HO 413-413L, Arboriculture and Lab .....		3
HO 415, Nursery Management .....	3	
HO 416, Advanced Turfgrass Science .....		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.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Horticulture Major – Business Specialization Bachelor of Science in Agriculture

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 101-101L*, Biology Survey I and Lab .....	3	or 3
CHEM 106-106L*, Chemistry Survey and Lab .....	4	or 4
ENGL 101*, Composition I .....	3	or 3
HO 111-111L, Introduction to Horticulture and Lab .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
SOC 100*, Introduction to Sociology or		
SOC 150*, Social Problems or		
SOC 240*, Sociology of Rural America or		
ANTH 210*, Cultural Anthropology .....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	3
IGR Goal 2**: Personal Wellness .....	2	or 2
IGR Goal 3**: Social Responsibility/Cultural and		
Aesthetic Awareness.....	3	or 3



<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting .....	3	or	3
BOT 201-201L, General Botany and Lab .....	3	or	3
ECON 202*, Principles of Macroeconomics (G) .....	3	or	3
ENGL 201*, Composition II .....	3	or	3
HO 220-220L, Landscape Maintenance and Lab .....	3		3
HO 230-230L, Greenhouse and Nursery Crops and Lab.....	3		3
HO 240-240L, Vegetable Crops and Lab.....	3		3
HO 250-250L, Woody Plants: Trees and Lab .....	3		3
HO 260, Woody Plants: Shrubs and Vines.....	2		3
PS 213-213L**, Soils and Lab .....	3	or	3
PS 223-223L, Principles of Plant Pathology and Lab .....	3		3

**Summer Term**

HO 494, Internship or			
HO 496, Field Experience.....	1		

**Junior and Senior Years**

		<b>F</b>	<b>S</b>
BADM 360, Organization and Management .....	3	or	3
BIOL 371, Genetics or			
HO 383-383L, Principles of Crop Improvement and Lab.....	3	or	3
BOT 327-327L, Plant Physiology and Lab.....	3	or	4
ECON 201*, Principles of MicroEconomics .....	3	or	3
ENGL 379, Technical Communications (AW) .....	3	or	3
HO 312-312L, Plant Propagation and Lab.....	3		3
HO 490, Seminar .....	1		3
PHYS 101-101L, Survey of Physics and Lab.....	4	or	4
PS 305-305L, Insect Biology and Lab .....	3		4
PS 334-334L, Diseases of Horticultural Crops and Lab.....	3		4
Electives.....	4		4

Choose 15 credits from the following:

HO 311-311L, Herbaceous Plants and Lab .....	3		
HO 314-314L, Turf Management and Lab.....	3		
HO 411, Fruit Crop Production Systems .....	3		
HO 412-412L, Greenhouse Management and Lab.....	3		
HO 413-413L, Arboriculture and Lab .....	3		
HO 415, Nursery Management .....	3		
HO 416, Advanced Turfgrass Science .....	3		
LA 201, Introduction to Landscape Design .....	3	or	3

Choose 9 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 334, Small Business Management.....	3		3
BADM 350, Legal Environment of Business and 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 281, Introduction to Statistics .....	3	or	3

† Students seeking a Business Minor must take either ECON 370, BADM 310, BADM 334, or BADM 350. STAT 281 does not meet the Business Minor requirement.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Horticulture Major – Science Specialization Bachelor of Science in Agriculture**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
BIOL 151-151L*, General Biology I and Lab.....	4		
CHEM 112-112L*, General Chemistry I and Lab .....	4		
CHEM 114-114L*, General Chemistry II and Lab.....	4		4
ENGL 101*, Composition I .....	3	or	3
HO 111-111L, Introduction to Horticulture and Lab .....	3	or	3
MATH 102*, College Algebra .....	3	or	3
SOC 100*, Introduction to Sociology or			
SOC 150*, Social Problems or			
SOC 240*, Sociology of Rural America or			
ANTH 210*, Cultural Anthropology .....	3	or	3
SPCM 101*, Fundamentals of Speech.....	3	or	3
SGR Goal 4*: Humanities and Arts .....	3		3
IGR Goal 2**: Personal Wellness .....	2	or	2

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
BOT 201-201L, General Botany and Lab.....	3	or	3
ECON 202*, Principles of Macroeconomics (G) .....	3	or	3
ENGL 201*, Composition II .....	3	or	3
HO 220-220L, Landscape Maintenance and Lab .....	3		3
HO 230-230L, Greenhouse and Nursery Crops and Lab.....	3		3
HO 240-240L, Vegetable Crops and Lab.....	3		3
HO 250-250L, Woody Plants: Trees and Lab .....	3		3
HO 260, Woody Plants: Shrubs and Vines.....	2		3
MATH 120, Trigonometry.....	3	or	3
PS 213-213L**, Soils and Lab .....	3	or	3
PS 223-223L, Principles of Plant Pathology and Lab .....	3		3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3

**Summer Term**

HO 494, Internship or			
HO 496, Field Experience.....	1		

<b>Junior and Senior Years</b>		<b>F</b>	<b>S</b>
BIOL 371-372, Genetics .....	3	or	3
BOT 327-327L, Plant Physiology and Lab.....	4		4
CHEM 326-326L, Organic Chemistry I and Lab .....	4	or	4
CHEM 464-464L, Biochemistry I and Lab .....	4	or	4
ENGL 379, Technical Communications (AW) .....	3	or	3
HO 311-311L, Herbaceous Plants and Lab.....	3		3
HO 312-312L, Plant Propagation and Lab.....	3		3
HO 490, Seminar .....	1		3
PHYS 101-101L, Survey of Physics and Lab .....	4	or	4
PS 305-305L, Insect Biology and Lab .....	3		4
PS 334-334L, Diseases of Horticultural Crops and Lab.....	3		4
STAT 281, Introduction to Statistics .....	3	or	3
Electives.....	3	or	3

Choose 15 credits from the following:

HO 314-314L, Turf Management and Lab .....	3		
HO 411, Fruit Crop Production Systems .....	3		
HO 412-412L, Greenhouse Management and Lab.....	3		
HO 413-413L, Arboriculture and Lab .....	3		
HO 415, Nursery Management.....	3		
HO 416, Advanced Turfgrass Science .....	3		
LA 201, Introduction to Landscape Design .....	3	or	3

Choose one course from the following:

BOT 301-301L, Plant Systematics and Lab .....	4
BOT 419-419L, Plant Ecology and Lab .....	4
BOT 421-421L, Plant Anatomy and Lab.....	3
HO 480, Environmental Stress Physiology .....	3
HO 491, Independent Study .....	1-2
HO 492, Topics .....	1-4
HO 498, Undergraduate Research/Scholarship .....	1-3
HO 592, Topics .....	1-3

If necessary, choose elective credits to bring total to 128 required for graduation.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Hotel and Foodservice Management (HFM) Major and Minor

C.Y. Wang  
 Department of Nutrition, Food Science and Hospitality  
 SNF 425  
 605-688-5161  
 e-mail: cy.wang@sdstate.edu

## Requirements for Hotel and Foodservice Management Major Foodservice Management Specialization Bachelor of Science in Family and Consumer Sciences

Freshman Year	F	S
CSC 105, Introduction to Computers.....		3
ENGL 101*, Composition I .....	3	
FCS 101, Family and Consumer Sciences: Professional Foundations .....	1	
MATH 102*, College Algebra .....		3
NFS 141-141L, Food Principles and Lab .....	4	
HFM 171, Introduction to the Hospitality Industry .....	3	
PSYC 101**, General Psychology.....	3	
SPCM 101*, Fundamentals of Speech.....		3
SGR Goal 6*: Natural Sciences .....	3	
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
Elective .....		3
<b>Sophomore Year</b>		
ACCT 210, Principles of Accounting I.....	3	
ACCT 211, Principles of Accounting II.....		3
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 201*, Composition II.....		3
HFM 251, Foodservice Sanitation .....	1	
HFM 261, Hospitality Technology.....		3
NFS 110, Perspectives in Nutrition.....	3	
SGR Goal 4*: Humanities and Arts .....	3	3
SGR Goal 6*: Natural Sciences .....	3	
Elective .....		3

Summer	F	S
HFM 295, Practicum (summer only).....		2

Junior Year	F	S
BADM 350, Legal Environment of Business .....	3	
ECON 201*, Principles of Microeconomics.....		3
HFM 361, Hospitality Industry Law.....		2
HFM 381-381L, Quantity Food Production and Service and Lab.....		3
HFM 482, Hospitality Marketing .....		3
BADM 360, Organization and Management .....	3	
NFS 490, Seminar in NFSH.....	1	
HFM 489-489L, Responsible Beverage Management and Lab.....		3
HFM 380, Foodservice Operations and Purchasing .....	3	
IGR Goal 1**: Land and Natural Resources .....	3	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....		3

Summer	F	S
HFM 495, Practicum (summer only).....		2

Senior Year	F	S
AS 241, Meat: Production to Consumption.....	3	
BADM 474, Personal Selling or MCOM 370, Principles of Advertising.....	3	
HDFS 241, Family Relations .....	3	
HFM 372, Hospitality Facilities Management and Design .....		3
HFM 465, Cost Controls in Hospitality Industry.....		3
HFM 412-412L, Fine Dining and Catering Management and Lab.....		3
HFM 481, Food Science, Dietetics, and Hospitality Human Resource Management (Capstone) .....	3	
Business Elective.....		3
Electives.....	5	2

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Requirements for Hotel and Foodservice Management Major Hotel and Hospitality Management Specialization Bachelor of Science in Family and Consumer Sciences

Freshman Year	F	S
CSC 105, Introduction to Computers.....		3
ENGL 101*, Composition I .....	3	
FCS 101, Family and Consumer Sciences: Professional Foundations .....	1	
HFM 171, Introduction to the Hospitality Industry .....	3	
MATH 102*, College Algebra .....		3
NFS 141-141L, Food Principles and Lab .....	4	
PSYC 101**, General Psychology.....	3	
SPCM 101*, Fundamentals of Speech.....		3
SGR Goal 6*: Natural Sciences .....	3	
IGR Goal 2**: Personal Wellness.....	2-3	
Elective .....		3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I.....	3	
ACCT 211, Principles of Accounting II.....	3	
ECON 202*, Principles of Macroeconomics (G).....	3	
ENGL 201*, Composition II.....	3	
HFM 251, Foodservice Sanitation.....	1	
HFM 261, Hospitality Technology.....	3	
IGR Goal 1**: Land and Natural Resources.....	3	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	
SGR Goal 4*: Humanities and Arts.....	3	
SGR Goal 6*: Natural Sciences.....	3	

<b>Summer</b>		
HFM 295, Practicum (summer only).....	2	

<b>Junior Year</b>	<b>F</b>	<b>S</b>
BADM 334, Small Business Management or ENTR/BADM 336 Entrepreneurship I.....	3	
BADM 350, Legal Environment of Business.....	3	
BADM 360, Organization and Management.....	3	
ECON 201*, Principles of Microeconomics.....	3	
HDFS 241, Family Relations.....	3	
HFM 361, Hospitality Industry Law.....	2	
HFM 370-370L, Lodging Operations and Purchasing Management.....	3	
HFM 380, Foodservice Operations and Purchasing Management.....	3	
HFM 482, Hospitality Marketing.....	3	
HFM 489-489L, Responsible Beverage Management and Lab.....	3	
Elective.....	3	

<b>Summer</b>		
HFM 495, Practicum (summer only).....	2	

<b>Senior Year</b>	<b>F</b>	<b>S</b>
BADM 474, Personal Selling or MCOM 370, Principles of Advertising.....	3	
HFM 371-371L, Leisure Activities Management and Lab.....	3	
HFM 372, Hospitality Facilities Management and Design.....	3	
HFM 455, Meeting and Convention Management.....	3	
HFM 465, Cost Controls in Hospitality Industry.....	3	
HFM 481, Food Science, Dietetics, and Hospitality Human Resource Management (Capstone).....	3	
NFS 490, Seminar (AW).....	1	or 1
Electives.....		6

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

<b>Requirements for Hotel and Foodservice Management Minor: 18 cr</b>	
HFM 171, Introduction to the Hospitality Industry.....	3
HFM 251, Foodservice Sanitation.....	1
HFM 370, Lodging Operations and Purchasing Management.....	3
or HFM 380, Foodservice Operations and Purchasing Management.....	3
HFM 482, Hospitality Marketing.....	3

Plus 8 additional credits from:

NFS 141/141L, Food Principles.....	4
HFM 371/371L, Leisure Activities Management.....	3
HFM 261, Hospitality Technology.....	3
HFM 295, Professional Practicum.....	2
HFM 361, Hospitality Industry Law.....	2
HFM 372, Hospitality Facilities Management and Design.....	3
HFM 381/381L, Quantity Food Production Service.....	3
HFM 489/489L, Responsible Beverage Management.....	3
HFM 412/412L, Fine Dining and Catering.....	3
HFM 455, Meeting and Convention Management.....	3
HFM 465, Cost Controls in the Hospitality Industry.....	3
HFM 481, Food Science, Dietetics & Hospitality Human Resource Management.....	3

## Human Development and Family Studies (HDFS) Major

**Andrew Stremmel**  
**Department of Human Development, Consumer and Family Sciences**  
**SNF 369**  
**605-688-6418**  
**e-mail: Andrew.Stremmel@sdstate.edu**

### Requirements for Human Development and Family Studies Major Bachelor of Science in Family and Consumer Sciences

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I.....	3	or 3
FCS 101, Professional Foundations.....	1	
HDFS 141, Individual and the Family.....	3	or 3
HDFS 150-150L, Early Experience and Lab.....	2	
HDFS/ECE 227, Human Development and Personality I: Childhood.....	3	or 3
PSYC 101**, General Psychology.....	3	or 3
SOC 100, Introduction to Sociology (G).....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 4*: Humanities and Arts (G).....	3	or 3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: BIOL 101-101L, Biology Survey I and Lab.....	3	3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or 3
HDFS 241, Family Relations.....	3	or 3
HDFS 250, The Development of Human Sexuality.....		3
HDFS 337, Human Development and Personality II: Adolescence.....	3	
HDFS 347, Human Development and Personality III: Adulthood.....		3
POLS 100, American Government or ECON 201*, Microeconomics or ECON 202, Macroeconomics.....	3	or 3
SGR Goal 4*: Humanities and Arts/Electives.....	3	

SGR Goal 6*: Natural Science.....	3	or	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
<b>Junior Year</b>	<b>F</b>	<b>S</b>	
FCSE 421, Experience in Adult Education.....	3	or	3
HDFS 341, Family Theories .....	3		
HDFS 272, The Helping Relationship .....	3	or	3
HDFS 355, Prevention Programs in Human Development and Family.....			3
HDFS 364, Parent-Child Relations in a Professional Context .....			3
SOC 400, Social Policy.....	3		
IGR Goal 1**: Land and Natural Resources .....	3	or	3
Electives/Emphasis Area.....	3-5		3-5

<b>Senior Year</b>	<b>F</b>	<b>S</b>	
CA 442, Family Resource Management .....	3	or	3
ENGL 379, Technical Communications (AW) .....	3	or	3
HDFS 441, Professional Issues in Child and Family Studies.....	3		
HDFS 457, Family Assessment.....			3
HDFS 487, Orientation to HDFS Practicum (Take Fall Semester before HDFS 495, Practicum).....	1		
HDFS 495, Practicum (or Summer Session).....	8-12	or	8-12
STAT 281, Introduction to Statistics or SOC 308, Research Methods II .....	3	or	3
Electives/Emphasis Area .....	3	or	3

A pre-graduation check is required 1 semester before graduation semester. A Graduation Application must be completed at beginning of graduation semester.

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.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Human Development, Child and Family Studies (HDFS) Minor

**Andrew Stremmel**  
**Department of Human Development, Consumer and Family Sciences**  
**SNF 369**  
**605-688-6418**  
**e-mail: Andrew.Stremmel@sdstate.edu**

### 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):

HDFS 141, Individual and the Family .....	3
HDFS 210, Lifespan Development .....	3

HDFS 241, Family Relations.....	3
HDFS 250, The Development of Human Sexuality .....	3
HDFS 227, Human Development and Personality I: Childhood .....	3
HDFS 272, The Helping Relationship.....	3
HDFS 337, Human Development and Personality II: Adolescence.....	3
HDFS 347, Human Development and Personality III: Adulthood.....	3

## Industrial Management (IM) Major

**Teresa Hall, Department Head**  
**Carrie Steinlicht, Program Coordinator**  
**Department of Engineering Technology and Management**  
**Solberg Hall 115**  
**605-688-6583**  
**e-mail: Carrie.Steinlicht@sdstate.edu**

### Requirements for Industrial Management Major Bachelor of Science in Industrial Management

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
CHEM 106-106L*, Chemistry Survey and Lab .....	4	
CSC 105, Introduction to Computers.....		3
ECON 201, Principles of Microeconomics.....		3
ENGL 101*, Composition I .....	3	
GE 101, Introduction to Engineering and Technology .....	1	
GE 120-120L, Engineering Drawing/CAD and Lab or .....	3	
GE121 and GE122 Engineering Design Graphics I and II and GE123 Computer Aided Drawing.....		2
MATH 115*, Pre-Calculus .....	5	
PHIL 220*, Introduction to Ethics .....		3
SPCM 101*, Fundamentals of Speech.....		3
IGR Goal 2**: Personal Wellness .....		2
Electives.....	3	

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting .....	3	
ECON 202*, Principles of Macroeconomics (G) .....		3
ENGL 277, Technical Writing in Engineering .....		3
MNET 231-231L, Manufacturing Processes I and Lab.....	3	
MNET 260, Production and Operations Management.....		3
PHYS 101-101L*, Introduction to Physics I and Lab .....	4	
STAT 281, Introduction to Statistics .....		3
SGR Goal 4*: Humanities and Arts .....		3
SOC 100*, Introduction to Sociology (SGR Goal 3) .....	3	

<b>Junior Year</b>	<b>F</b>	<b>S</b>
BADM 334, Small Business Management .....		3
BADM 350, Legal Environment of Business Contracts.....	3	
BADM 360, Organization and Management .....		3
CSC 325, Management Information Systems.....	3	
MNET 365, Occupational Safety and Health .....	3	
MNET 367, Plant Layout and Material Handling.....		3
SOC 353, Sociology of Work.....	3	
PSYC 101*, General Psychology (IGR Goal 3).....	3	
IGR Goal 1**: Land and Natural Resources.....	3	
Electives.....	3	4

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ECON 467, Labor, Law and Economics.....	3	3
MNET 460, Manufacturing Cost Analysis.....	3	3
MNET 462, Quality Management.....	3	
MNET 463, Production and Inventory Management.....	3	
MNET 470-470L, Project Management and Lab (AW) .....	2	
MNET 471-471L, Capstone Experience and Lab (AW).....	1	1
MNET 492, Topics .....	3	
MNET 494, Internship .....	3	3
Technical Electives .....	6	3

**Industrial Management – Industrial Sales Specialization**

The courses for the Bachelor of Science in Industrial Management – Industrial Sales Specialization are the same as the Industrial Management degree (see above) for the Freshman and Sophomore years with the exception of ACCT 210, Principles of Accounting (students should substitute 3 hours of electives during fall of the sophomore year). The following represents the program of study students should follow to satisfy the requirements for the Industrial Sales Specialization during the Junior and Senior years.

<b>Junior Year</b>	<b>F</b>	<b>S</b>
BADM 350, Legal Environment of Business Contracts.....	3	
ECON 370, Marketing .....	3	
MNET 251-251L, Electricity and Electronics I and Lab.....	3	
MNET 252-252L, Electricity and Electronics II and Lab .....	3	3
MNET 334-334L, CAM/CNC and Lab .....	3	
MNET 365, Occupational Safety and Health .....	3	
MNET 367, Plant Layout and Material Handling.....	3	3
PSYC 101*, General Psychology (IGR Goal 3).....	3	
IGR Goal 1** : Land and Natural Resources .....	3	
Electives.....	1	3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
BADM 474, Personal Selling.....	3	3
ECON 476, Marketing Research.....	3	3
MNET 451-451L, Industrial Electronics and Control .....	3	
MNET 460, Manufacturing Cost Analysis.....	3	3
MNET 462, Quality Management.....	3	
MNET 463, Production and Inventory Management.....	3	
MNET 470-470L, Project Management and Lab (AW) .....	2	
MNET 471-471L, Capstone Experience and Lab (AW).....	1	1
MNET 492, Topics .....	3	
MNET 494, Internship .....	3	3
Technical Electives .....	3	3

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Interior Design (ID)

## Major and Minor

**Jane E. Hegland**  
**Department of Apparel Merchandising and Interior Design**  
**SNF 229**  
**605-688-5196**  
**e-mail: jane.hegland@sdsstate.edu**

**Requirements for Interior Design Major**

**Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ART 121, Design I.....	3	or 3
ENGL 101*, Composition I .....	3	or 3
FCS 101, Professional Foundations .....	1	
ID 150-150L, Introduction to Interior Design I and Lab.....	4	
ID 151-151L, Introduction to Interior Design II and Lab.....	4	4
PSYC 101*, General Psychology (recommended) .....	3	or 3
SOC 100*, Introduction to Sociology (recommended) (G)...	3	or 3
SPCM 101*, Fundamentals of Speech or.....		
SPCM 222, Augmentation and Debate .....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ARTH 100**, Art Appreciation (G) (required).....	3	or 3
AM 242-242L, Textiles I and Lab.....	3	
ENGL 201*, Composition II .....	3	or 3
HIST 122*, History of Western Civilization since 1650, (G) (recommended).....	3	or 3
ID 215-215L, Materials and Studio .....	3	3
ID 222, Interior Design Studio I .....	3	
ID 223, Interior Design Studio II.....		3
ID 224, History of Interiors I .....		4
ID 231, Computer Aided Design.....		2
ID 480, Travel Studies.....	1	
MATH 102*, College Algebra (or higher) .....	3	or 3
IGR Goal 2** : Personal Wellness.....	2-3	or 2-3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
GE 123, Computer-Aided Design .....	1	
HDFS 241, Family Relations .....	3	or 3
ID 317, Professional Practices in Interior Design.....	2	
ID 319-319L, Building Systems I and Lab .....	2	
ID 320-320L, Lighting and Acoustics and Lab .....	2	
ID 322, Interior Design Studio III (AW).....	4	
ID 323, Interior Design Studio IV .....	4	4
ID 329-329L, Building Systems II and Lab.....	2	2
IGR Goal 3** : Social Responsibility/Cultural and Aesthetic Awareness (AM 381, Professional Behavior at Work recommended) .....	3	
Elective .....	3	6

**Summer School either Junior or Senior Year**

ID 495, Practicum.....	7
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<b>Senior Year</b>	<b>F</b>	<b>S</b>
ID 422, Interior Design Studio V.....	4	
ID 423, Interior Design Studio VI.....		4
ID 477-477L, Portfolio and Senior Exhibit .....	2	
IGR Goal 1** : Land and Natural Resources.....	3	or 3

Electives in ECON, ACCT, AM, BADM, ENTR/BADM, ID.....	3	or	3
Electives.....	3-4		6

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Interior Design Minor: 18 cr

ID 150-150L, Introduction to Interior Design I and Studio.....	4
ID 151-151L, Introduction to Interior Design II and Studio.....	4
Interior Design Electives.....	10

## Journalism (MCOM)

### Major and Minor

Mary Arnold

Department of Journalism and Mass Communication

Yeager Hall 211

605-688-4171

e-mail: mary.arnold@sdstate.edu

#### Requirements for Journalism Major – Advertising Bachelor of Arts in Arts and Science

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
MCOM 151, Introduction to Mass Communication (recommended).....	2	or 2
MCOM 155, Information Gathering .....	2	or 2
Modern Language*, 101 and 102, (G).....	4	4
SPCM 101, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences.....	3-4	3-4

Sophomore Year	F	S
ECON 201*, Principles of Microeconomics.....	3	or 3
ENGL 201*, Composition II .....	3	or 3
MCOM 210-210L, Basic Newswriting and Studio .....	3	or 3
MCOM 220-220L, Introduction to Digital Media and Studio.....	2	or 2
MCOM 225-225L, Introduction to Digital Delivery and Studio.....	2	or 2
Modern Language, 201 and 202.....	3	3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
IGR Goal 3-option 1**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
Humanities Elective.....	2	or 2
Electives.....	3	3

Junior Year	F	S
ECON 370, Marketing .....	3	or 3
MCOM 370, Advertising Principles.....	3	3
MCOM 371-371L, Advertising Copy and Layout and Studio (AW) .....	3	or 3

MCOM 372-372L, Advertising Media Strategies and Studio .....	3	or 3
MCOM Elective .....	3	or 3
IGR Goal 1**: Land and Natural Resources .....	3	or 3
Social Science Electives.....	4	6
MCOM 494, Internship (also offered Summer).....	2	or 2

Senior Year	F	S
MCOM 430, Media Law .....	3	or 3
MCOM 417, History of Journalism or MCOM 416, Mass Media in Society (G) .....	3	or 3
MCOM 442-442L, Integrated Marketing Communications Campaigns and Studio .....	3	or 3
MCOM Electives.....	3	3
Electives.....	6	10

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

#### Requirements for Journalism Major – Advertising Bachelor of Science in Arts and Science

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
MCOM 151, Introduction to Mass Communication (recommended).....	2	or 2
MCOM 155, Information Gathering .....	2	or 2
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	3
SGR Goal 4*: Humanities and Arts (G) .....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Science (Physical) .....	4	4

Sophomore Year	F	S
ECON 201*, Principles of Microeconomics.....	3	or 3
ENGL 201*, Composition II .....	3	or 3
MCOM 210-210L, Basic Newswriting and Studio .....	3	or 3
MCOM 220-220L, Introduction to Digital Media and Studio.....	2	or 2
MCOM 225-225L, Introduction to Digital Delivery and Studio.....	2	or 2
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
IGR Goal 3-option 1**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
Humanities Elective.....	2	or 2
Electives.....	3	3

Junior Year	F	S
ECON 370, Marketing .....	3	or 3
MCOM 370, Advertising Principles.....	3	or 3
MCOM 371-371L, Advertising Copy and Layout and Studio (AW) .....	3	or 3
MCOM 372-372L, Advertising Media Strategies and Studio .....	3	3
IGR Goal 1**: Land and Natural Resources .....	3	or 3
MCOM Elective .....	3	or 3
Social Science Electives.....	3	6
MCOM 494, Internship (also offered Summer).....	2	or 2

<b>Senior Year</b>		<b>F</b>	<b>S</b>
MCOM 430, Media Law.....	3	or	3
MCOM 417, History of Journalism or MCOM 416, Mass Media in Society (G).....	3	or	3
MCOM 442-442L, Integrated Marketing Communication Campaigns and Studio.....	3	or	3
MCOM Electives.....	3		3
SDSU Core: Goal 3**, Human Spirit, p. 42.....	3		3
Electives.....	4		7

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Journalism Major – Broadcast Journalism Bachelor of Arts in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I.....	3	or	3
MCOM 151, Introduction to Mass Communication (recommended).....	2	or	2
MCOM 155, Information Gathering.....	2	or	2
Modern Language*, 101 and 102, (G).....	4		4
SPCM 101*, Fundamentals of Speech.....	3	or	3
SGR Goal 3*: Social Sciences.....	3		3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Sciences.....	3-4		3-4

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or	3
MCOM 210-210L, Basic Newswriting and Studio.....	3	or	3
MCOM 220-220L, Introduction to Digital Media and Studio.....	2	or	2
MCOM 225-225L, Introduction to Digital Delivery and Studio.....	2	or	2
Modern Language, 201 and 202.....	3		3
POLS 210*, State and Local Government.....	3	or	3
IGR Goal 2**: Personal Wellness.....	2-3	or	2-3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
Humanities Elective.....	2	or	2
Electives.....	6		2

<b>Junior Year</b>		<b>F</b>	<b>S</b>
MCOM 438-438L, Public Affairs Reporting and Studio (recommended).....	3	or	3
MCOM 331-331L, Video Production and Studio.....	3	or	3
MCOM 332-332L, Broadcast Writing and Reporting and Studio.....	3		3
MCOM 333-333L, Television News Reporting and Studio....	3		3
IGR Goal 1**: Land and Natural Resources.....	3	or	3
Social Science Electives.....	4		6
MCOM 336-336L, Broadcast Announcement and and Performance and Studio.....	3	or	3
MCOM 494, Internship (also offered Summer).....	2	or	2

<b>Senior Year</b>		<b>F</b>	<b>S</b>
MCOM 430, Media Law.....	3	or	3

MCOM 417, History of Journalism or MCOM 416, Mass Media in Society (G).....	3	or	3
MCOM 433-433L, Advanced Television News Reporting and Studio (AW).....	3		3
MCOM Electives.....	3		3
Electives.....	6		10

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Journalism Major – Broadcast Journalism Bachelor of Science in Arts and Science

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I.....	3	or	3
MCOM 151, Introduction to Mass Communication (recommended).....	2	or	2
MCOM 155, Information Gathering.....	2	or	2
SPCM 101*, Fundamentals of Speech.....	3	or	3
SGR Goal 3*: Social Sciences.....	3		3
SGR Goal 4*: Humanities and Arts.....	3		3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Science (Physical).....	4		4

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or	3
MCOM 210-210L, Basic Newswriting and Studio.....	3	or	3
MCOM 220-220L, Introduction to Digital Media and Studio.....	2	or	2
MCOM 225-225L, Introduction to Digital Delivery and Studio.....	2	or	2
POLS 210*, State and Local Government.....	3	or	3
IGR Goal 2**: Personal Wellness.....	2-3	or	2-3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or	3
Humanities Elective.....	2	or	2
Electives.....	6		2

<b>Junior Year</b>		<b>F</b>	<b>S</b>
MCOM 438-438L, Public Affairs Reporting and Studio (recommended).....	3	or	3
MCOM 331-331L, Video Production and Studio.....	3	or	3
MCOM 332-332L, Broadcast Writing and Reporting and Studio.....	3		3
MCOM 333-333L, Television News Reporting and Studio....	3		3
MCOM 336-336L, Broadcast Announcing and Performance and Studio.....	3	or	3
MCOM Elective.....	3	or	3
IGR Goal 1**: Land and Natural Resources.....	3	or	3
Social Science Electives.....	4		6
MCOM 494, Internship (also offered Summer).....	2	or	2

<b>Senior Year</b>		<b>F</b>	<b>S</b>
MCOM 430, Media Law.....	3	or	3
MCOM 417, History of Journalism or MCOM 416, Mass Media in Society (G).....	3	or	3
MCOM 433-433L, Advanced Television News Reporting and Studio (AW).....	3		3
Electives.....	6		10

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Journalism Major – News-Editorial Bachelor of Arts in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
MCOM 151, Introduction to Mass Communication (recommended).....	2	or 2
MCOM 155, Information Gathering .....	2	or 2
Modern Language*, 101 and 102, (G).....	4	4
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences.....	3-4	3-4

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or 3
MCOM 265-265L, Basic Photography and Studio.....	2	or 2
MCOM 210-210L, Basic Newswriting and Studio .....	3	or 3
MCOM 220-220L, Introduction to Digital Media and Studio.....	2	or 2
MCOM 225-225L, Introduction to Digital Delivery and Studio.....	2	or 2
Modern Language, 201 and 202.....	3	3
POLS 210*, State and Local Government .....	3	or 3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
Humanities Elective.....	2	or 2
Electives.....	3	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
MCOM 311-311L, News Editing and Studio .....	3	or 3
MCOM 370, Advertising Principles.....	3	or 3
MCOM 438-438L, Public Affairs Reporting and Studio (AW) .....	3	or 3
MCOM Elective .....	3	3
IGR Goal 1**: Land and Natural Resources .....	3	or 3
Social Science Electives.....	4	6
MCOM 494, Internship (also offered Summer).....	2	or 2

<b>Senior Year</b>	<b>F</b>	<b>S</b>
MCOM 430, Media Law .....	3	or 3
MCOM 417, History of Journalism or MCOM 416, Mass Media in Society (G) .....	3	or 3
MCOM 490, Seminar .....	1	or 1
MCOM Electives.....	3	3
Electives.....	6	10

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Journalism Major – News-Editorial Bachelor of Science in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
MCOM 151, Introduction to Mass Communication (recommended).....	2	or 2
MCOM 155, Information Gathering .....	2	or 2
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	3
SGR Goal 4*: Humanities and Arts (G).....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Science (Physical) .....	4	4

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II.....	3	or 3
MCOM 265-265L, Basic Photography and Studio.....	2	or 2
MCOM 210-210L, Basic Newswriting and Studio .....	3	or 3
MCOM 220-220L, Introduction to Digital Media and Studio.....	2	or 2
MCOM 225-225L, Introduction to Digital Delivery and Studio.....	2	or 2
POLS 210*, State and Local Government .....	3	or 3
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
Humanities Elective.....	2	or 2
Electives.....	3	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
MCOM 311-311L, News Editing and Studio .....	3	or 3
MCOM 370, Advertising Principles.....	3	or 3
MCOM 438-438L, Public Affairs Reporting and Studio.....	3	or 3
IGR Goal 1**: Land and Natural Resources.....	3	or 3
MCOM Elective .....	3	3
Social Science Electives.....	4	6
MCOM 494, Internship (also offered Summer).....	2	or 2

<b>Senior Year</b>	<b>F</b>	<b>S</b>
MCOM 430, Media Law .....	3	or 3
MCOM 417, History of Journalism or MCOM 416, Mass Media in Society (G) .....	3	or 3
MCOM 490, Seminar .....	1	or 1
MCOM Electives.....	3	3
Electives.....	6	10

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Journalism Minor: 16 cr**

To include:

MCOM 210-210L, Basic Newswriting and Studio (3)



# Landscape Architecture (LA)

## Major

Peter Schaefer

Department of Horticulture, Forestry, Landscape and Parks

Northern Plains Biostress Laboratory 201A

605-688-5136

e-mail: peter.schaefer@sdstate.edu

### Requirements for Landscape Architecture Major

#### Bachelor of Science in Agriculture

##### Freshman Year

BIOL-101-101L*, Biology Survey I and Lab or BIOL 151-151L, General Biology I and Lab .....	3-4		
ENGL 101*, Composition I .....	3	or	3
LA 120, Fundamentals of Landscape Graphics .....	2		
LA 201, Introduction to Landscape Design .....	3		
SGR Goal 3*: Social Sciences .....	3		
MATH 115*, Precalculus, or MATH 102, College Algebra and MATH 120, Trigonometry .....	3-5	or	3-5
HO 111-111L, Introduction to Horticulture and Lab .....	3		
SPCM 101*, Fundamentals of Speech .....	3	or	3
SGR Goal 4*: Humanities and Arts .....	3		
LA 284, Graphics and Theory of Design .....	4		
GE 123, Computer Aided Design and Graphics .....	1		

##### Sophomore Year

ENGL 201*, Composition II .....	3		
HO 250-250L, Woody Plants: Trees and Lab .....	3		
LA 241, History of Landscape Architecture .....	3		
LA 314, Landscape Design Studio .....	4		
SGR Goal 4*: Humanities and Arts .....	3		
ECON 202*, Principles of Macroeconomics (G) .....	3		
HO 260, Woody Plants: Shrubs and Vines .....	2		
LA 231, Computer Applications of Landscape Architecture ...	3		
LA 364, Planting Design and Specification .....	4		
CHEM 106-106L*, Chemistry Survey and Lab or BOT 201-201L, General Botany and Lab .....	4 or 3		

##### Junior Year

BOT 201-201L, General Botany and Lab or CHEM 106-106L, Chemistry Survey and Lab .....	3-4		
HO 311-311L, Herbaceous Plants and Lab .....	3		
CM 210, Construction Surveying or CEE 106, Elementary Surveying .....	3-4		
LA 324-324L, Planning Public Grounds and Lab .....	3		
LA 323, Landscape Construction .....	3		
LA 322 Landscape Site Engineering .....	3		
LA 421-421L, City Planning and Lab .....	3		
Technical Elective (LA Program Requirement) .....	3		
PS 213-213L**, Soils and Lab .....	3		
IGR Goal 2**: Personal Wellness .....	2		

##### Senior Year

LA 424-424L, Recreational Facilities Design and Lab .....	3		
Technical Electives (LA Program Requirement) .....	6		
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or	3
ENGL 379, Technical Communications (AW) .....	3		
LA 464, Landscape Professional Practice Studio .....	4		
AST 333, Soil and Water Mechanics .....	3		
Technical Electives (LA Program Requirement) .....	6		

### Technical Electives

15 credits must be selected from one of the following emphasis areas:  
**Design/Build Emphases (15 credits)**

Students wishing to complete a Business Minor should take ECON 201 and additional 15 credits from ACCT and BADM below.

ACCT 210, Principles of Accounting I .....	3
ACCT 211, Principles of Accounting II .....	3
BADM 280, Personal Finance .....	3
BADM 310, Business Finance .....	3
BADM 334, Small Business Management .....	3
BADM 350, Legal Environments of Business .....	3
BADM 360, Organization and Management .....	3
BADM 474, Principles of Selling .....	3
ECON 201, Principles of Microeconomics .....	3
HO 220, Landscape Maintenance .....	3
HO 312, Plant Propagation† .....	3
HO 314, Turf Management† .....	3
HO 412, Green House Management† .....	3
HO 415, Nursery Management† .....	3
HO 416, Advanced Turfgrass Science† .....	3
PS 305, Insect Biology .....	3
PS 334, Diseases of Hort Crops† .....	3

### Professional Practice Emphasis (15 credits)

ART 111, 121, 123 .....	3
BIOL 311, Principles of Ecology† .....	3
BOT 415, Plant Ecology† .....	3
GEOG 487, GIS I .....	3
GEOG 488, GIS II .....	3
GEOG 489, GIS III .....	3
LA 440, Restoration Ecology† .....	3
LA 560, Landscape Ecology† .....	3
PHIL 220, Introduction to Philosophy .....	3
PHIL 320, Professional Ethics .....	3
PS 243, Geology .....	3
RANG 210, Range Plant Identification .....	3
SOC 240, Rural Sociology .....	3
SOC 440, Urban Sociology .....	3

† Course requires completion of one or more prerequisites.

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Latin American Studies (LAS) Minor

María Ramos, Coordinator  
College of Arts and Science  
SNF 107  
605-688-4277  
e-mail: maria.ramos@sdstate.edu

LAS minor may be taken with a major in Global Studies or combined with any other major.

Section A – Language requirement (at least 8 hours selected from the following:)	Credits
SPAN 101-102, Introductory Spanish I-II .....	4-4
SPAN 201-202, Intermediate Spanish I-II.....	3-3
SPAN 211-212, Spanish Composition and Conversation I-II .....	2-2
Minimum Sub Total .....	8

NOTE: although the minimum requirement is 8 credits, additional language classes are strongly recommended.

Fifteen credits from the following sections are required. A minimum of 3 credits must be selected from Social Science electives and a minimum of 3 credits must be selected from Humanities Electives. The remaining 6 credits may come from any of the three groups of electives.

Social Science Electives – minimum 3 credits	
GEOG 320, Regional Geography: Latin America .....	3
HIST 418, History of Latin America .....	3
POLS 347, Latin American Politics.....	3
LAS 302, Latin American Societies (Topical).....	3

Humanities Electives – minimum 3 credits	
SPAN 355, Introduction to Latin-American Literature I.....	3-3
SPAN 435, Spanish American Culture and Civilization I.....	3-3
SPAN 484, 20th Century Spanish American Literature.....	3
LAS 301, Latin American Cultures (Topical).....	3

Latin American Electives	
SPAN 491, Independent Study .....	1-6
SPAN 492, Topics .....	1-3
HIST 492, Topics .....	1-4
LAS 491, Independent Study.....	1-3
MFL 396, Field Experience.....	1-6

Minimum Sub Total from Social Science, Humanities, and Latin American Electives .....	15
<b>Total .....</b>	<b>23</b>

# Leadership and Management of Nonprofit Organizations (LMNO) Minor

Cindi Penor Ceglian, Coordinator  
Department of Human Development, Consumer and Family  
Sciences  
SNF 369  
605-688-6418  
e-mail: cindi.penor-ceglian@sdstate.edu

Requirements for Leadership and Management of Nonprofit Organizations Minor: 18 cr	
HDFS 210, Lifespan Development .....	3
(or HDFS majors take HDFS 227, 337, 347)	
HDFS 355, Prevention Programs in HDFS.....	3
HDFS 441, Professional Issues in Child and Family Studies (or Capstone Course in Student's Major) .....	3
LMNO 201, Introduction to Leadership and Management of Nonprofit Organizations .....	3
SOC 353, Sociology of Work or PSYC 331, Business and Industrial Psychology .....	3
BADM 334, Small Business Management or POLS 320, Public Administration or BADM 360, Organization and Management .....	3

# Liberal Studies Major

Gail Dobbs Tidemann  
College of General Studies and Outreach Programs  
Medary Commons 121  
605-688-4153  
e-mail: gail.tidemann@sdstate.edu

Requirements for Liberal Studies Major			
Bachelor of Science in Liberal Studies			
Freshman Year	F	S	
ENGL 101*, Composition I .....	3	or 3	
SPCM 101*, Fundamentals of Speech.....	3	or 3	
SGR Goal 3*: Social Sciences .....	3		3
SGR Goal 4*: Humanities and Arts .....	3		3
SGR Goal 5*: Mathematics.....	3	or 3	
SGR Goal 6*: Natural Sciences .....	3		3
IGR Goal 1**: Land and Natural Resources .....	3	or 3	
Electives.....	3		
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>	
ENGL 201*, Composition II.....	3	or 3	
IGR Goal 2**: Personal Wellness .....	2	or 2	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3	
Approved Program of Study Courses and/or electives...10-12			10-12
<b>Junior and Senior Years</b>	<b>F</b>	<b>S</b>	
ENGL 379, Technical Communication (AW).....	3	or 3	
Globalization Requirement .....	1-4		
Complete 40 credits Approved Program of Study .....	20	and 20	
Electives and/or minor.....	12	and 12	

All students must demonstrate advanced Information Technology Literacy (ITL). Numerous courses fulfill this requirement.

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Manufacturing Engineering Technology (MNET) Major

Teresa Hall, Department Head

Carrie Steinlicht, Program Coordinator

Department of Engineering Technology and Management

Solberg Hall 115

605-688-6583

e-mail: Carrie.Steinlicht@sdstate.edu

### Requirements for Manufacturing Engineering Technology Major Bachelor of Science in Manufacturing Engineering Technology

Freshman Year		F	S
CHEM 106-106L*, Chemistry Survey and Lab .....	4		
ECON 202*, Principles of Macroeconomics (G) .....	3		
ENGL 101*, Composition I .....	3		
GE 101, Introduction to Engineering and Technology .....	1		
GE 120-120L, Engineering Drawing/CAD and Lab .....	3		
or			
GE 121, Engineering Design Graphics I and			
GE 122, Engineering Design Graphics II and			
GE 123, Computer Aided Drawing.....	1		2
MATH 115*, Pre-Calculus .....	5		
MATH 121, Survey of Calculus and Lab.....	5		
MNET 231-231L, Manufacturing Processes I and Lab.....	3		
SPCM 101*, Fundamentals of Speech.....	3		
SGR Goal 3*: Social Sciences .....	3		
IGR Goal 2**: Personal Wellness.....	2		
Sophomore Year		F	S
ENGL 277, Technical Writing in Engineering.....	3		
MNET 243-243L, Introduction to Materials Science and Lab	3		
MNET 251-251L, Electricity and Electronics I and Lab.....	3		
MNET 252-252L, Electricity and Electronics II and Lab .....	3		
MNET 260, Production and Operations Management.....	3		
PHYS 111-111L*, Introduction to Physics I and Lab.....	4		
PHYS 113-113L, Introduction to Physics II and Lab .....	4		
STAT 281, Introduction to Statistics .....	3		
SGR Goal 4*: Humanities and Arts .....	3		
Junior Year		F	S
MNET 241, Applied Mechanics.....	3		
MNET 320-320L, Computer Aided Design/Drawing and			
Lab.....	3		
MNET 334-334L, CAM/CNC and Lab .....	3		
MNET 350-350L, Fluid Power Technology and Lab .....	3		
MNET 365, Occupational Safety and Health .....	3		
MNET 367, Plant Layout and Material Handling.....	3		
IGR Goal 1**: Land and Natural Resources .....	3		
IGR Goal 3**: Social Responsibility/Cultural and			
Aesthetic Awareness.....	3		

Departmentally approved computer programming course.....	3
Electives.....	4

Senior Year		F	S
MNET 436-436L, Production Tooling Methods and			
Measurement .....	3		
MNET 451-451L, Industrial Electronics and Control			
and Lab.....	3		
MNET 453-453L, Manufacturing Automation and Lab .....	3		
MNET 460, Manufacturing Cost Analysis.....	3		
MNET 462, Quality Management.....	3		
MNET 463, Production and Inventory Management.....	3		
MNET 470-470L, Project Management and Lab (AW) .....	2		
MNET 471-471L, Capstone Experience and Lab (AW).....	1		
MNET 494, Internship .....	3		
Technical Electives .....	3		3

† System General Education Core requires a total of 6 credits to meet Goal #7, International/Global Diversity. One of these 3 classes does not have to meet Goal #7 criteria, but must meet the guidelines for Goal #3, Social Sciences or Goal #4, Humanities and Arts.

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Mathematics (MATH) Major and Minor

Kurt Cogswell, Head

Department of Mathematics and Statistics

Harding Hall 101

605-688-6196

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website: <http://www3.sdstate.edu/Academics/CollegeOfEngineering/MathematicsandStatistics>

### Requirements for Mathematics Major Bachelor of Science in the College of Engineering

Freshman Year		F	S
MATH 123*, Calculus I .....	4		
CSC 150, Computer Science I .....	3		
SPCM 101*, Fundamentals of Speech.....	3		
SGR Goal 4*: Humanities and Arts .....	3		
Electives.....	3		
MATH 125, Calculus II.....			4
MATH 271, Mathematical Applications with Computers .....			2
ECON 202*, Principles of Macroeconomics (G) .....			3
ENGL 101*, Composition I .....			3
IGR Goal 1**: Land and Natural Resources .....			3
GE 121, Engineering Design Graphics I.....			1
Sophomore Year		F	S
MATH 215, Matrix Algebra .....	2		
MATH 225, Calculus III.....	4		
MATH 253, Elementary Logic and Sets .....	3		
ENGL 201*, Composition II.....	3		

PHYS 211-211L, University Physics I and Lab .....	4
MATH 315, Linear Algebra .....	3
MATH 321, Differential Equations .....	3
PHYS 213-213L, University Physics II and Lab or	
CHEM 106-106L*, Chemistry Survey and Lab or	
CHEM 112-112L*, General Chemistry I and Lab .....	4
SGR Goal 3*: Social Sciences/Diversity (not ECON) .....	3
SGR Goal 4*: Humanities and Arts/ Diversity .....	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
MATH/STAT 381, Introduction to Probability and Statistics.....	3	
MATH 413, Abstract Algebra I or		
MATH 425, Real Analysis I.....	3	
IGR Goal 2**: Personal Wellness .....	2	
Electives (consider Emphasis Area or Minor courses) .....	8	
Mathematics or Statistics Electives (300 level or above) .....	6	
IGR Goal 3**: Option 1, Social Responsibility or		
IGR Goal 3**: Option 2, Cultural and Aesthetic Awareness.....	3	
Electives (consider Emphasis Area or Minor courses) .....	7	

<b>Senior Year</b>	<b>F</b>	<b>S</b>
MATH 401, Senior Capstone and Advanced Writing (AW)..	1	
MATH 425, Real Analysis I or		
MATH 413, Abstract Algebra I.....	3	
Mathematics or Statistics Electives (300 level or above) .....	3	
Electives (consider Emphasis Area or Minor courses) .....	9	
MATH 401, Senior Capstone and Advanced Writing (AW)....	1	
Mathematics or Statistics Electives (300 level or above) .....	3	
Electives (consider Emphasis Area or Minor courses) .....	12	

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(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**NOTES:**

1. A grade of "C" or above is required in all Math courses.
2. Two sequences must be completed. Possible sequences include: MATH 413/414, MATH 425/426, MATH 253/316, MATH 261/361, STAT 381/482, MATH 355-355L/492 (Teaching Capstone), or other sequences approved by the department.
3. Mathematics Majors who are not pursuing an Education Specialization are encouraged to choose an Emphasis Area as early as possible. Possible Emphasis Areas are Actuarial, Applied Mathematics, Mathematical Biology, Pure Mathematics, and Statistics. Associated with each Emphasis Area is a group of courses defined below:

**Actuarial Emphasis**

MATH 492, Mathematics of Finance.....	3
STAT 445, Nonparametric Statistics .....	3
STAT 482, Statistics for the Physical Sciences.....	3
ACCT 210, Principles of Accounting I.....	3
ACCT 211, Principles of Accounting II.....	3
BADM 310, Business Finance .....	3
ECON 201, Microeconomics .....	3
ECON 453, Risk Management.....	3

**Applied Mathematics Emphasis**

MATH 316, Discrete Mathematics.....	3
MATH 430, Fractals and Chaos .....	3
MATH 471, Numerical Analysis.....	3
MATH 492, Mathematical Modeling.....	3
MATH 492, Special Topics (topic approved by adviser).....	3

**Mathematical Biology Emphasis**

MATH 492, Mathematical Models in Biology I.....	3
MATH 492, Introduction to Bioinformatics.....	3

Choose two from:

MATH 492, Mathematical Models in Biology II or	
STAT 441, Statistical Methods II or	
MATH 492, Partial Differential Equations.....	3
BIOL 101-101L, Biology Survey I or	
BIOL 151-151L, General Biology I.....	3

Choose two from:

BIOL 202-202L, Genetics and Organismal Biology .....	4
BIOL 204-204L, Genetics and Cellular Biology .....	4
BIOL 311, Principles of Ecology.....	3
BIOL 371, Genetics .....	3
CHEM 464-464L, Biochemistry I.....	4

**Pure Mathematics Emphasis**

MATH 426, Real Analysis II.....	3
MATH 414, Abstract Algebra II.....	3

Choose two from:

MATH 361, Modern Geometry.....	3
MATH 411, Theory of Numbers.....	3
MATH 461, Introduction to Topology .....	3
MATH 492, Special Topics (topic approved by adviser)....	3

**Statistics Emphasis**

STAT 410, Programming Using SAS.....	2
STAT 482, Statistics for Physical Science .....	3

Choose two from:

STAT 445, Nonparametric Statistics .....	3
STAT 460, Time Series Analysis .....	3
STAT 486, Design of Surveys.....	3

**Requirements for Teacher Education in Mathematics Specialization Bachelor of Science in the College of Engineering**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
MATH 123*, Calculus I .....	4	
CSC 150, Computer Science I .....	3	
SPCM 101*, Fundamental of Speech .....	3	
SGR Goal 4*: Humanities and Arts .....	3	
PSYC 101*, General Psychology or		
SOC 100*, Introduction to Sociology or		
SOC 150*, Social Problems.....	3	
MATH 125, Calculus II.....		4
MATH 271, Mathematical Application with Computers .....		2
ECON 202*, Principles of Macroeconomics (G) .....		3
ENGL 101*, Freshman Composition .....		3
GE 121, Engineering Design Graphics I.....		1
SGR Goal 4*: Humanities and Arts/Diversity .....		3

**Sophomore Year**

	<b>F</b>	<b>S</b>
MATH 215, Matrix Algebra.....	2	
MATH 225, Calculus III.....	4	
MATH 253, Elementary Logic and Sets .....	3	
ENGL 201*, Composition II.....	3	
EDFN 365, Computer-Based Technology and Learning .....	2	
EDFN 427, Middle School: Philosophy and Application.....	2	

MATH 315, Linear Algebra .....	3	MATH 315, Linear Algebra .....	3
MATH 321, Differential Equations .....	3	MATH 321, Differential Equations .....	3
ANTH 210**, Cultural Anthropology or HIST 368**, History and Culture of the American Indian .....	3	PHYS 213-213L, University Physics II and Lab or CHEM 106-106L*, Chemistry Survey and Lab or CHEM 112-112L*, General Chemistry I and Lab .....	4
EDFN 338, Foundations of American Education .....	2	SGR Goal 3*: Social Sciences/Diversity (not ECON) .....	3
EDFN 475, Human Relations.....	3	SGR Goal 4*: Humanities and Arts/ Diversity .....	3
Electives.....	2		

<b>Junior Year</b> .....	<b>F</b>	<b>S</b>
MATH 316, Discrete Mathematics.....	3	
MATH 413, Abstract Algebra I or MATH 425, Real Analysis I.....	3	
PHYS 211-211L*, University Physics I and Lab .....	4	
IGR Goal 1**: Land and Natural Resources .....	3	
Electives.....	3	
MATH 261, Geometry for Teachers.....	3	
MATH 381, Introduction to Probability and Statistics. ....	3	
MATH 401, Senior Capstone and Advanced Writing (AW)....	1	
MATH 492, Education Capstone .....	3	
PHYS 213-213L*, University Physics II and Lab or CHEM 106-106L*, Chemistry Survey and Lab .....	4	
IGR Goal 2**: Personal Wellness.....	2	

<b>Senior Year</b> .....	<b>F</b>	<b>S</b>
MATH 401, Senior Capstone and Advanced Writing (AW)..1		
MATH 425, Real Analysis I or MATH 413, Abstract Algebra I.....	3	
MATH 355-355L, Methods of Teaching Mathematics and Lab .....	3	
EPSY 302, Educational Psychology .....	3	
SEED 314, Supervised Clinical/Field Trial .....	1	
SPED 401, Introduction to Educating Secondary Students with Disabilities .....	1	
SEED 450, 7-12 Teaching Reading in Content Area.....	2	
Electives.....	3	
EDFN 489, Professional Issues in Education .....	1	
SEED 400, Curriculum and Instruction in Middle and Secondary Schools.....	4	
SEED 410, Social Foundations, Management, and Law .....	2	
SEED 488, 7-12 Student Teaching.....	8	

**Requirements for Mathematics Major  
Bachelor of Science in Arts and Science**

<b>Freshman Year</b> .....	<b>F</b>	<b>S</b>
MATH 123*, Calculus I.....	4	
CSC 150, Computer Science I .....	3	
SPCM 101*, Fundamentals of Speech.....	3	
SGR Goal 4*: Humanities and Arts .....	3	
SGR Goal 3*, Social Sciences/Diversity or IGR Goal 3**: Option 1, Social Responsibility .....	3	
MATH 125, Calculus II.....	4	
MATH 271, Mathematical Applications with Computers .....	2	
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 101*, Composition I .....	3	
IGR Goal 1**: Land and Natural Resources .....	3	
GE 121, Engineering Design Graphics I.....	1	

<b>Sophomore Year</b> .....	<b>F</b>	<b>S</b>
MATH 215, Matrix Algebra.....	2	
MATH 225, Calculus III.....	4	
MATH 253, Elementary Logic and Sets .....	3	
ENGL 201*, Composition II.....	3	
PHYS 211-211L, University Physics I and Lab .....	4	

<b>Junior Year</b> .....	<b>F</b>	<b>S</b>
MATH/STAT 381, Introduction to Probability and Statistics.....	3	
MATH 413, Abstract Algebra I or MATH 425, Real Analysis I.....	3	
Arts and Science Biological Science.....	3	
IGR Goal 2**: Personal Wellness .....	2	
Electives (consider Emphasis Area or Minor courses) .....	5	
Mathematics or Statistics Electives (300 level or above) .....	6	
Arts and Science Biological Science.....	3	
IGR Goal 3**: Option 1, Social Responsibility or IGR Goal 3**: Option 2, Cultural and Aesthetic Awareness.....	3	
Electives (consider Emphasis Area or Minor courses) .....	4	

<b>Senior Year</b> .....	<b>F</b>	<b>S</b>
MATH 401, Senior Capstone and Advanced Writing (AW)..1		
MATH 425, Real Analysis I or MATH 413, Abstract Algebra I.....	3	
Mathematics or Statistics Electives (300 level or above).....	3	
Electives (consider Emphasis Area or Minor courses) .....	9	
MATH 401, Senior Capstone and Advanced Writing (AW)....	1	
Mathematics or Statistics Electives (300 level or above).....	3	
Electives (consider Emphasis Area or Minor courses) .....	12	

**NOTES:**

1. A grade of "C" or above is required in all Math courses.
2. Two sequences must be completed. Possible sequences include: MATH 413/414, MATH 425/426, MATH 253/316, MATH 261/361, STAT 381/482, MATH 355-355L/492 (Teaching Capstone), or other sequences approved by the department.
3. Mathematics Majors who are not pursuing an Education Specialization are encouraged to choose an Emphasis Area as early as possible. Possible Emphasis Areas are Actuarial, Applied Mathematics, Mathematical Biology, Pure Mathematics, and Statistics. Associated with each Emphasis Area is a group of courses defined below the listing of Requirements for the Mathematics Major in the College of Engineering.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Teacher Education in Mathematics Specialization  
Bachelor of Science in the College of Arts & Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
MATH 123*, Calculus I.....	4	
CSC 150, Computer Science I.....	3	
SPCM 101*, Fundamental of Speech.....	3	
SGR Goal 4*: Humanities and Arts.....	3	
PSYC 101*, General Psychology or		
SOC 100*, Introduction to Sociology or		
SOC 150*, Social Problems.....	3	
MATH 125, Calculus II.....	4	
MATH 271, Mathematical Application with Computers.....	2	
ECON 202*, Principles of Macroeconomics (G).....	3	
ENGL 101*, Freshman Composition.....	3	
GE 121, Engineering Design Graphics I.....	1	
SGR Goal 4*: Humanities and Arts/Diversity.....	3	
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
MATH 215, Matrix Algebra.....	2	
MATH 225, Calculus III.....	4	
MATH 253, Elementary Logic and Sets.....	3	
ENGL 201*, Composition II.....	3	
EDFN 365, Computer-Based Technology and Learning.....	2	
EDFN 427, Middle School: Philosophy and Application.....	2	
Arts and Science Biological Science.....	3	
MATH 315, Linear Algebra.....	3	
MATH 321, Differential Equations.....	3	
EDFN 338, Foundations of American Education.....	2	
EDFN 475, Human Relations.....	3	
SGR Goal 4*: Humanities and Arts/Diversity or		
IGR Goal 3**: Option 2, Cultural and Aesthetic		
Awareness.....	3	
Arts and Science Biological Science.....	3	
<b>Junior Year</b>	<b>F</b>	<b>S</b>
MATH 316, Discrete Mathematics.....	3	
MATH 413, Abstract Algebra I or		
MATH 425, Real Analysis I.....	3	
PHYS 211-211L*, University Physics I and Lab.....	4	
IGR Goal 1**: Land and Natural Resources.....	3	
SGR Goal 3*: Social Sciences or		
IGR Goal 3**: Option 1, Social Responsibility.....	3	
MATH 261, Geometry for Teachers.....	3	
MATH 381, Introduction to Probability and Statistics.....	3	
MATH 401, Senior Capstone and Advanced Writing (AW)....	1	
MATH 492, Education Capstone.....	3	
PHYS 213-213L*, University Physics II and Lab or		
CHEM 106-106L*, Chemistry Survey and Lab.....	4	
IGR Goal 2**: Personal Wellness.....	2	
<b>Senior Year</b>	<b>F</b>	<b>S</b>
MATH 401, Senior Capstone and Advanced Writing (AW)..1		
MATH 425, Real Analysis I or		
MATH 413, Abstract Algebra I.....	3	
MATH 355-355L, Methods of Teaching Mathematics		
and Lab.....	3	
EPSY 302, Educational Psychology.....	3	
SEED 314, Supervised Clinical/Field Trial.....	1	
SPED 401, Introduction to Educating Secondary Students		
with Disabilities.....	1	
SEED 450, 7-12 Teaching Reading in Content Area.....	2	
ANTH 210, Cultural Anthropology or		
HIST 368, History and Culture of the American Indian ..3		
EDFN 489, Professional Issues in Education.....	1	
SEED 400, Curriculum and Instruction in Middle and		
Secondary Schools.....	4	

SEED 410, Social Foundations, Management, and Law.....	2
SEED 488, 7-12 Student Teaching.....	8

**Requirements for Mathematics Minor: 23 credits**

MATH 123, Calculus I.....	4
MATH 125, Calculus II.....	4
MATH 253, Elementary Logic and Set Theory.....	3
Mathematics courses at the 200 level or above.....	12

**Required for Minors in the Teacher Education Program:**

MATH 123, Calculus I.....	4
MATH 125, Calculus II.....	4
MATH 253, Elementary Logic and Set Theory.....	3
MATH 261, Geometry for Teachers.....	3
MATH 355, Methods of Teaching Mathematics.....	3
Two of the following:	
MATH 413, Abstract Algebra I.....	3
MATH 315, Linear Algebra.....	3
MATH 316, Discrete Mathematics.....	3
MATH 381, Introduction to Probability and Statistics.....	3

NOTE: An average of "C" is required in the minor courses.

**Mechanical Engineering (ME)  
Major**

**Don Froehlich**  
**Department of Mechanical Engineering**  
**Crothers Engineering Hall 216**  
**605-688-5426**  
**e-mail: don.froehlich@sdstate.edu**  
**website: <http://www3.sdstate.edu/Academics/CollegeOfEngineering/MechanicalEngineering>**

**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)

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
CHEM 112-112L*, General Chemistry I and Lab.....	4	
CSC 150, Computer Science I or		3
CSC 218, Intro to C/C++/UNIX for Engineering or		
3-credit technical elective		
ENGL 101*, Composition I.....	3	
GE 101, Introduction to Engineering.....	1	
GE 121, Engineering Design Graphics I and		
GE 122, Engineering Design Graphics II.....	1	1
MATH 123*, Calculus I and		
MATH 125, Calculus II.....	4	4
PHYS 211-211L*, University Physics I and Lab.....		4
SPCM 101, Fundamentals of Speech.....		3
SGR Goal 3*: Social Sciences.....	3	
SGR Goal 4*: Humanities and Arts.....		3
<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ECON 202*, Principles of Macroeconomics (G).....		3
EM 214, Statics.....	3	
EM 215, Dynamics.....		3
EM 321, Mechanics of Materials.....		3
GE 123, Computer Aided Drawing.....	1	
GE 225, Survey of Machine Tool Applications.....	1	

MATH 225, Calculus III.....	4
MATH 321, Differential Equations.....	3
ME 240, Introduction to Mechanical Design.....	3
ME 241, Engineering Materials.....	3
ME 311, Thermodynamics I.....	3
PHYS 213-213L, University Physics II and Lab.....	4
SGR Goal 4*: Humanities and Arts.....	3

**Junior Year**

EE 300-301, Basic Electrical Engineering I and Lab and EE 302-303, Basic Electrical Engineering II and Lab.....	3
ENGL 277, Technical Writing in Engineering.....	3
EM 331, Fluid Mechanics.....	3
MATH 331, Advanced Engineering Math or MATH 471, Numerical Analysis.....	3
MATH 381, Introduction to Probability and Statistics.....	3
ME 312, Thermodynamics II.....	3
ME 321, Fundamentals of Machine Design.....	3
ME 376-376L, Measurements and Instrumentation and Lab.....	2
ME 415, Heat Transfer.....	3
IGR Goal 1**: Land and Natural Resources.....	3
IGR Goal 2**: Personal Wellness.....	2

**Senior Year**

ME 323, Vibrations.....	3
ME 439-439L, 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 452, Dynamic Systems Lab.....	1
ME 476, Thermo-Fluids Lab.....	1
ME 478, Mechanical Systems Design I.....	1
ME 479, Mechanical Systems Design II (AW).....	2
ME 480, Inspection Trip.....	0
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3
Technical Electives.....	4-6

**Technical Electives**

The 11-14 credits of technical electives may be chosen from the following list. At least one course must be in design. **Design courses are identified by a (D).**

ME 315, Analytical Thermodynamics.....	3
ME 341, Metallurgy.....	3
ME 362, Industrial Engineering.....	3
ME 381, Mechanical Equipment for Buildings.....	3
ME 410, Environmental Engineering.....	3
ME 412, Internal Combustion Engines (D).....	3
ME 413, Turbomachinery (D).....	3
ME 414, Air Pollution Control (D).....	3
ME 417-417L, Computer Aided Engineering and Lab (D).....	3
ME 418, Design of Thermal Systems (D).....	3
ME 439-439L, Heating and Air Conditioning Design and Lab (D).....	3
ME 437, Gas Dynamics I.....	3
ME 438-438L, Machine Design- Case Studies and Lab (D).....	3
ME 431, Aerodynamics (D).....	3
ME 440, Computer Aided Design (D).....	3
ME 461, Analysis and Design of Industrial Systems (D).....	3

ME 491, Independent Study (D).....	1-5
ME 492, Topics (D).....	1-5
ME 494, Internship (D).....	1-3
ME 497, Cooperative Education (D).....	1-3

Courses from other departments or disciplines accepted as technical electives on approval from the ME department.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## (Pre-) Medicine

**Carol Wake**  
**Department of Biology and Microbiology**  
**Ag Hall 337**  
**605-688-5756**  
**e-mail: carol.wake@sdstate.edu**

**Suggested Pre-Medicine Coursework**

**See your Pre-Medicine Adviser for a complete listing**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 151-151L*, General Biology I and Lab and BIOL 153-153L*, General Biology II and Lab.....	4	4
CHEM 112-112L*, General Chemistry I and Lab and CHEM 114-114L*, General Chemistry II and Lab.....	4	4
MATH 102*, College Algebra, or MATH 115*, Precalculus or Placement in Calculus.....	3-5	
MATH 121-121L, Survey of Calculus or MATH 123*, Calculus I.....		4-5
MICR 231-231L, General Microbiology.....		4

**Sophomore Year**

CHEM 326-326L, Organic Chemistry I and Lab and CHEM 328-328L, Organic Chemistry II and Lab.....	4	4
BIOL 202-202L, Genetics and Organismal Biology and BIOL 204-204L, Genetics and Cellular Biology.....	4	4
BIOL 221-221L, Human Anatomy.....	4	
BIOL 325-325L, Physiology.....		4

**Junior Year**

CHEM 464-464L, Biochemistry and Lab.....	4	
STAT 281, Introduction to Statistics or MATH 125, Calculus II.....	3-4	or 3-4
PHYS 111-111L*, Introduction to Physics I and Lab and PHYS 113-113L*, Introduction to Physics II and Lab.....	4	4

**Senior Year**

**Complete Major Requirements**

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Microbiology (MICR)

## Major and Minor

Tom Cheesbrough  
 Department of Biology and Microbiology  
 Agricultural Hall 304  
 605-688-6141  
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 website: biomicro.sdstate.edu

### Requirements for Microbiology Major Bachelor of Science

Majors must complete the core curriculum and one of the specializations for their B.S.

#### Core Curriculum:

Freshman Year	F	S
ENGL 101*, Composition I .....	3	
SPCM 101*, Fundamentals of Speech.....		3
BIOL 151-151L, General Biology I and Lab.....	4	
BIOL 153-153L, General Biology II and Lab .....		4
SGR Goal 3*: Social Sciences .....		3
SGR Goal 5*: Mathematics: choose a, b, c, or d <sup>1</sup> .....	3-5	3-4
a. MATH 102, College Algebra and MATH 120, Trigonometry		
b. MATH 115, Precalculus		
c. MATH 121-121L, Survey of Calculus and Lab		
d. MATH 123-123L, Calculus I and Lab		
SGR Goal 6*: Natural Sciences		
CHEM 112-112L, General Chemistry I and Lab and .....	4	
CHEM 114-114L, General Chemistry II and Lab .....		4
IGR Goal 2**: Personal Wellness, any course listed except BIOL 105 .....		2

Sophomore Year	F	S
BIOL 202-202L, Genetics and Organismal Biology and Lab.....	4	
BIOL 204-204L, Genetics and Cellular Biology and Lab .....		4
BIOL 290 or MICR 390, Careers Seminar .....	1	
ENGL 201*, Composition II .....	3	
MICR 231-231L, General Microbiology and Lab .....		4
MICR 280, Careers in Microbiology .....		1
Organic Chemistry: choose a or b <sup>3</sup> .....		4
a. CHEM 326-326L, Organic Chemistry I and Lab and CHEM 328-328L, Organic Chemistry II and Lab		
b. CHEM 326-326L, Organic Chemistry I and Lab and CHEM 464-464L, Biochemistry and Lab <sup>2</sup>		
SGR Goal 3*: Social Sciences .....	3	
SGR Goal 4*: Humanities and Arts .....		3

Junior Year	F	S
Physics: choose a or b <sup>4</sup> .....	4	4
a. PHYS 111-111L, Intro Physics I and Lab and PHYS 113-113L, Intro Physics II and Lab		
b. PHYS 101-101L, Survey of Physics and Lab <sup>3</sup>		
STAT 281, Statistical Methods, or MATH 125, Calculus II <sup>3</sup> ...		3-4
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....		3
IGR Goal 1**: Land and Natural Resources .....	3-4	
a. BIOL 311, Ecology <sup>5</sup>		
b. BIOL 383, Bioethics (G) <sup>6</sup>		
c. ENVM 275, Introduction to Environmental Science <sup>7</sup>		
Specialization courses/electives .....		9

Senior Year	F	S
Research and communications skills (select a or b) <sup>8</sup>		
a. MICR 490, Seminar (AW)		
b. MICR 496, Field Experience		
ENGL 379, Technical Communication (AW) .....	3	
Specialization course/electives .....	13	15

- 1 Students in the Preprofessional Specialization, Biology-Ecology Specialization, or planning to attend graduate school should take Math 121, or 123 and 125.
- 2 Students in all specializations except Biology-Ecology Specialization and Environmental Management are required to take this series. Biology-Ecology Specialization and Environmental Management students must take either Bio 202 or Bio 371; they are not required to take the other courses in this series.
- 3 Pro-professional students should talk to their adviser before selecting this option.
- 4 Phys 101/101L is not sufficient for students planning to enter professional schools, graduate degree programs, or those in the Environmental Management major.
- 5 Required for Biology-Organismal and Biology Ecology specializations. Recommended for other Microbiology and Biology specializations, except Pre-professional.
- 6 Recommended for Biology-Pre-professional specialization.
- 7 Required for Environmental Management majors.
- 8 Consult with the 490 instructor before selecting 496 or 498.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

#### Specializations

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

##### Molecular Biology Specialization

Required Courses	F	S
CHEM 464-464L, Biochemistry and Lab.....	4	
MICR 332, Microbial Physiology Lecture.....		2
MICR 332L, Microbial Physiology Lab .....		2
MICR 439, Medical and Veterinary Immunology .....	3	
MICR 436, Molecular Microbial Genetics .....	4	
MICR 438, Molecular Microbial Genetics Lab .....		2

##### Supporting Courses

(choose a minimum of 10 credits)

BIOL 325-325L, Physiology and Lab .....	4	
BIOL 373, Evolution.....	3	
BOT 327-327L, Plant Physiology and Lab .....		4
CHEM 465, Biochemistry II.....		3
MICR 424, Medical and Veterinary Virology.....		3
MICR 491, Independent Study .....	1-2	

##### Microbiology Electives

(choose a minimum of 1 course)

MICR 310-310L, Environmental Microbiology and Lab...	4	
MICR 311-311L, Food Microbiology .....	4	
MICR 414-414L, Anaerobic Microbiology and Lab.....	3	
MICR 421-421L, Soil Microbiology and Lab .....		4

##### Suggested General Electives

(choose courses from this list, as well as above lists to complete 128-credits)

CHEM 332-332L, Analytical Chemistry and Lab† .....	4	
CHEM 342-342L, Physical Chemistry I and Lab .....	4	
CHEM 344-344L, Physical Chemistry II and Lab .....	4	
DS 301-301L, Dairy Microbiology and Lab .....		3



MICR 491, Independent Study .....1-3  
 MICR 494-497, Internship/Cooperative Education.....1-3

MICR 491, Independent Study .....1-2  
 ZOOL 467-467L, Parasitology Lecture and Lab .....3

† Recommended as a General Elective

**Microbiology Specialization**

*Required Courses*

CHEM 464-464L, Biochemistry and Lab.....4  
 MICR 332, Microbial Physiology Lecture<sup>1</sup> ..... 2  
 MICR 332L, Microbial Physiology Lab<sup>1</sup>..... 2  
 MICR 436, Molecular Microbial Genetics .....4  
 MICR 439, Medical and Veterinary Immunology .....3

*Areas of Study*

**Section 1 Applied and Environmental**

(Choose at least two courses from this section)

MICR 310-310L, Environmental Microbiology and Lab ..... 4  
 MICR 311-311L, Food Microbiology and Lab.....3  
 MICR 414-414L, Anaerobic Microbiology and Lab .....3  
 MICR 421-421L, Soil Microbiology and Lab ..... 3  
 MICR 499, Biotechnology .....3

**Section 2 Infectious Disease**

(Choose at least two courses from this section)

MICR 424, Medical and Veterinary Virology ..... 3  
 MICR 433, Medical Microbiology Lecture ..... 3  
 MICR 440, Infectious Disease Lab..... 3  
 PS 333-333L, Diseases of Field Crops ..... 3  
 PS 334-334L, Diseases of Horticultural Crops .....3  
 ZOOL 467-467L, Parasitology and Lab .....3

*Suggested General Electives*

(choose courses from this list, as well as above lists, to complete 128 credits)

CHEM 332-332L, Analytical Chemistry and Lab<sup>2</sup> .....1-3  
 CHEM 465, Biochemistry II..... 3  
 DS 301-301L, Dairy Microbiology and Lab ..... 3  
 MICR 491, Independent Study .....1-3  
 MICR 494, Internship.....1-3  
 MICR 498, Undergraduate Research..... 2-3

1 Take these courses in Junior year if possible  
 2 Recommended as a General Elective

**Applied and Environmental Specialization**

*Required Courses*

CHEM 464-464L, Biochemistry and Lab.....4  
 MICR 310-310L, Environmental Microbiology and Lab..... 4  
 MICR 332, Microbial Physiology Lecture..... 2  
 MICR 332L, Microbial Physiology Lab ..... 2  
 MICR 436, Molecular Microbial Genetics .....4  
 MICR 438, Molecular Microbial Genetics Lab .....2  
 MICR 439, Medical and Veterinary Immunology .....3

*Supporting Courses*

(choose a minimum of 8 credits)

CHEM 465, Biochemistry II..... 3  
 DS 301-301L, Dairy Microbiology and Lab .....3  
 MICR 311-311L, Food Microbiology..... 4  
 MICR 414-414L, Anaerobic Microbiology and Lab.....3  
 MICR 421-421L, Soil Microbiology and Lab ..... 3  
 MICR 491, Independent Study .....1-2

*Biology-Microbiology Electives*

(choose a minimum of 1 course)

MICR 433, Medical Microbiology Lecture ..... 3  
 MICR 433L, Medical Microbiology Lab ..... 1  
 MICR 424, Medical and Veterinary Virology..... 3  
 MICR 423, Pathogenesis..... 3

*Suggested General Electives*

(choose courses from this list as well as above lists, to complete 128 credits)

BIOL 311, Principles of Ecology .....3  
 BIOL 373, Evolution..... 3  
 CHEM 332-332L, Analytical Chemistry and Lab<sup>†</sup> .....4  
 CHEM 434-434L, Instrumental Analysis and Lab .....4  
 CHEM 482-482L, Environmental Chemistry and Lab....4  
 DS 301-301L, Dairy Microbiology and Lab ..... 3  
 ENVM 275, Introduction to Environmental Management.....3  
 ENVM 425-425L, Disturbance Ecology and Lab .....3  
 MICR 491, Independent Study .....1-3  
 MICR 494-497, Internship/Cooperative Education.....1-3  
 PHIL 454, Environmental Ethics .....3

† Recommended as a General Elective

**Infectious Disease Specialization**

**(Plant, Animal, Human)**

*Required Courses*

CHEM 464-464L, Biochemistry and Lab .....4  
 MICR 332, Microbial Physiology Lecture<sup>1</sup> ..... 2  
 MICR 332L, Microbial Physiology Lab<sup>1</sup>..... 2  
 MICR 436, Molecular Microbial Genetics .....4  
 MICR 433, Medical Microbiology<sup>1</sup> .....3  
 or PS 223-223L, Principles of Plant Pathology and Lab<sup>3</sup> 3  
 MICR 439, Medical and Veterinary Immunology .....3  
 MICR 440, Infectious Disease Lab<sup>2</sup> ..... 3

*Supporting Courses*

(choose a minimum of 6 credits)

MICR 311-311L, Food Microbiology..... 4  
 MICR 424, Medical and Veterinary Virology..... 3  
 MICR 498, Undergraduate Research.....2-3  
 PS 333-333L, Diseases of Field Crops adn Lab..... 3  
 PS 334-334L, Diseases of Horticultural Crops and Lab.3  
 ZOOL 467-467L, Parasitology Lecture and Lab.....3

*Microbiology Electives*

(choose a minimum of 3 credits)

MICR 310-310L, Environmental Microbiology and Lab... 4  
 MICR 414-414L, Anaerobic Microbiology and Lab .....3  
 MICR 421-421L, Soil Microbiology and Lab..... 3  
 MICR 499, Biotechnology .....3

*Suggested General Electives*

(choose 3 further credits from this list as well as from Supporting Courses and Microbiology Electives lists to fulfill remainder of degree requirements.)

BOT 327-327L, Plant Physiology and Lab ..... 4  
 BIOL 325-325L, Physiology and Lab .....4  
 CHEM 332-332L, Analytical Chemistry and Lab<sup>4</sup> .....4  
 CHEM 465, Biochemistry II..... 3  
 DS 301-301L, Dairy Microbiology and Lab ..... 3  
 HSC 440, Epidemiology ..... 3  
 MICR 491, Independent Study .....1-3  
 MICR 494-497, Internship/Cooperative Education.....1-3  
 VET 403, Animal Diseases and their Control ..... 3

1 Take these courses in Junior year if possible  
 2 Not required for students interested in a plant emphasis  
 3 Recommended for students interested in plant emphasis  
 4 Recommended as a General Elective

### Requirements for Microbiology Minor: 18 cr

The minor in Microbiology consists of MICR 231-231L, General Microbiology and Lab, and additional credit hours with MICR prefix for a total of at least 18 credits. DS 301 may be included in the 18 credits. Two courses must be at the 300 level or above. No more than 3 credits can come from 493, 494, 495, 496, 497 and 498. A minimum GPA of 2.0 is required in these courses.

## Military Science (MSL) Minor

Lieutenant Colonel Michael P. Herman  
Department of Military Science  
DePuy Military Hall 200  
605-688-6151  
e-mail: michael.herman@sdstate.edu

### Requirements for Military Science Minor: 18cr

A minor in Military Science is available for those who complete 18 credits offered and who enroll and complete MSL 494 ROTC Leader Development and Assessment Course. This minor is compatible to fields of major studies.

## (Pre-) Ministerial

Dennis Bielfeldt  
Department of Philosophy and Religion  
Scobey Hall  
605-688-4934  
e-mail: Dennis.Bielfeldt@sdstate.edu

### Program

Almost all theological seminaries require some undergraduate education. Most require a college degree. A broad general education is desirable. A satisfactory pre-ministerial program could be: a Liberal Studies degree or selection of a major in any humanities or social science area, focusing electives around a core of religion and philosophy courses as selected from the more than 30 hours available in these areas.

## Modern Language (MFL)

### Business-Economics Specialization

Maria Ramos  
Department of Modern Languages  
SNF 121  
605-688-5101  
Fax: 605-688-6699  
e-mail: maria.ramos@sdstate.edu

### Requirements for Modern Language

#### Business-Economics Specialization:

17 cr. of one language including Business French,  
German or Spanish .....17  
ECON 201, Principles of Microeconomics .....3  
ECON 202, Principles of Macroeconomics .....3  
Subtotal .....23

#### Choose 4 of the following courses:

ACCT 210, Principles of Accounting I .....3  
AGEC 354, Agricultural Marketing and Prices .....3  
AGEC 454, Economics of Grain and Livestock  
Marketing .....3  
AGEC 479, Agricultural Policy .....3

BADM 310, Business Finance .....3  
BADM 350, Legal Environment of Business and  
Contracts .....3  
BADM 360, Organization and Management .....3  
ECON 330, Money and Banking .....3  
ECON 370, Marketing .....3  
POLS 350, International Relations .....3  
STAT 281, Introduction to Statistics .....3  
Subtotal .....12

#### Choose 1 of the following courses:

ECON 405, Comparative Economic Systems .....3  
ECON 440, Economics of the International Sector .....3  
ECON 460, Economic Development .....3  
ECON 472, Resource and Environmental Economics .....3  
Subtotal .....3

Total .....38

Within the above framework, individually tailored specializations will be possible. They will be planned in consultation with, and will be subject to the approval of, an adviser in the Department of Economics.

## (Pre-) Mortuary

Mark Binkley  
College of General Studies and Outreach Programs  
Medary Commons 124  
605-688-4153  
e-mail: mark.binkley@sdstate.edu

### Freshman Year

BIOL 151, General Biology I .....4  
CHEM 106/106L, Survey of Chemistry .....4  
ENGL 101, Composition I .....3  
MATH 102, College Algebra .....3  
PSYC 101, General Psychology .....3  
REL 360, Death and Dying .....3  
SOC 100, Introduction to Sociology .....3  
SPCM 101, Fundamentals of Speech .....3  
Social Science Elective .....3

### Sophomore Year

ACCT 210, Principles of Accounting I .....3  
BADM 350, Legal Environment of Business .....3  
BADM 360, Organization and Management .....3  
BIOL 221/221L, Human Anatomy .....4  
HLTH 443, Public Health Science .....3  
MICR 231, General Microbiology .....4  
SPCM 201, Interpersonal Communication .....3  
Social Science Elective .....3  
Electives\* .....9

\* to meet mortuary school or state requirements, suggest REL 213, Intro to Religion; ENGL 201, Composition II.

# Music (Mus) Major and Minor

David Reynolds  
 Department of Music  
 Lincoln Music Center 204  
 605-688-5187  
 e-mail: paul.reynolds@sdstate.edu

## Requirements for Music Major Bachelor of Arts in Arts and Science

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
MUS 110-110L, Basic Music Theory I and Lab and MUS 111-111L, Basic Music Theory II and Lab .....	4	4
MUS 185, Recital Attendance.....	0	0
SPCM 101*, Fundamentals of Speech.....	3	or 3
Applied Music .....	1	1
Music Organization .....	1	1
SGR Goal 3*: Social Sciences (G) .....	3	or 3
SGR Goal 5*: Mathematics .....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	3
IGR Goal 2**: Personal Wellness .....	2	or 2

Sophomore Year	F	S
ENGL 201*, Composition II .....	3	or 3
MUS 130, Music Literature and History I (World Music), and MUS 131, Music Literature and History II (Medieval and Renaissance).....	2	2
MUS 185, Recital Attendance.....	0	0
MUS 210-210L, Advanced Music Theory I and Lab and MUS 211-211L, Advanced Music Theory II and Lab.....	4	4
MUS 360, Conducting .....	2	
Applied Music .....	1	1
Music Organization .....	1	1
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 4*: Humanities and Arts (G) Modern Language* (FREN, GER, SPAN, LAKL).....	4	4

Junior Year	F	S
MUS 185, Recital Attendance.....	0	0
MUS 230**, Music Literature and History III (Baroque and Classical), and MUS 231**, Music Literature and History IV (Romantic) .....	2	2
MUS 313, Form and Analysis .....	3	
Modern Language .....	3	3
Applied Music .....	2	2
Music Organization .....	1	1
Music Electives .....	2	2
General Electives .....	3	6

Senior Year	F	S
MUS 185, Recital Attendance.....	0	0
MUS 433, Twentieth Century Music Literature (AW) .....	2	
MUAP 483, Public Recital .....	0	or 0
Applied Music .....	2	2
Music Organization .....	1	1
SGR Goal 4*: Humanities and Arts .....	3	or 3
IGR Goal 1**: Land and Natural Resources .....	3	or 3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	or 3
General Electives .....	5	8

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

\*\* South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). See pages 43-45 for details.  
 (G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Requirements for Music Minor: 22 cr

MUS 110-110L and 111-111L, Basic Music Theory I and II with Labs.....	8
MUS 130, Music Literature and History I.....	2
MUS 360, Conducting .....	2
MUS 361-361L, Music Education II (Vocal or Instrumental Conducting) and Lab or Music Electives.....	2
Applied (at least two hours upper level—300-400) .....	6
Music Electives .....	2

**NOTE:** MUS 185 required for each semester enrolled for applied lessons. In addition, minors must participate in Major Ensembles each semester in which they are enrolled in Applied Music lessons. Participation in small ensembles is strongly encouraged.

# Music Education Major

David Reynolds  
 Department of Music  
 Lincoln Music Center 204  
 605-688-5187  
 e-mail: paul.reynolds@sdstate.edu

## Requirements for Music Education Major Bachelor of Music Education

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
MUS 110-110L, Basic Music Theory I and Lab and MUS 111-111L, Basic Music Theory II and Lab .....	4	4
MUS 185, Recital Attendance.....	0	0
SPCM 101*, Fundamentals of Speech.....	3	or 3
Applied Music .....	1	1
Music Organization .....	1	1
SGR Goal 3*: Social Sciences (G) .....	3	or 3
SGR Goal 5*: Mathematics .....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	3
IGR Goal 2**: Personal Wellness .....	2	

Sophomore Year	F	S
ENGL 201*, Composition II .....	3	or 3
MUS 130*, Music Literature and History I (World Music) and MUS 131*, Music Literature and History II (Medieval and Renaissance) .....	2	2
MUS 185, Recital Attendance.....	0	0
MUS 210-210L, Advanced Music Theory I and Lab and MUS 211-211L, Advanced Music Theory II and Lab.....	4	4
MUS 360, Conducting.....	2	
MUS 270-MUS 271, Pedagogy I and II .....	1	1
MUS 361-361L, Music Education Core: Conducting and Lab .....	2	
Applied Music .....	1	1
Music Organization .....	1	1
SGR Goal 3*: Social Sciences .....	3	
SGR Goal 4*: Humanities and Arts (G) .....	3	or 3
IGR Goal 1**: Land and Natural Resources .....	3	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
EDFN 365, Integrating Computers into the Classroom .....	2	
EDFN 427, Middle School Philosophy and Applications .....	2	
MUS 185, Recital Attendance.....	0	0
MUS 230, Music Literature and History III (Baroque and Classical) <b>and</b>		
MUS 231, Music Literature and History IV(Romantic)....	2	2
MUS 313, Form and Analysis .....	3	3
MUS 351, Music Education Core: Elementary School Music Methods.....	2	
MUS 362-362L, Music Education Core: Methods and Materials and Lab.....	2	
MUS 365-365L, Music Education Core: Supervision and Administration of School Music and Lab.....	2	2
MUS 370-371, Pedagogy III and IV .....	1	1
Applied Music .....	2	2
Music Organization .....	1	1
Professional Semester I.....	5	
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3	3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
MUS 185, Recital Attendance.....	0	
MUS 420, Orchestration and Arranging .....	3	
MUS 433, Twentieth Century Music Literature (AW) .....	2	
MUAP 483, Public Recital.....	0	or 0
SEED 420, Teaching Special Needs Students.....	1	
Applied Music .....	2	
Music Organization .....	1	
Professional Semester II .....	6	
Professional Semester III.....	14	

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 360, Conducting
- MUS 270-271, Pedagogy I-II
- MUS 351, Music Education Core: Elementary School Music Methods
- MUS 370-371, Pedagogy III-IV
- MUS 361-361L, Music Education Core: Conducting and Lab
- MUS 362-362L, Music Education Core: Methods and Materials (Vocal) and Lab
- MUS 365-365L, Music Education Core: Supervision and Administration of School Music and Lab

**Specific Courses Required for Instrumental Emphasis:**

- MUS 360, Conducting
- MUS 270-271, Pedagogy I-II
- MUS 351, Music Education Core: Elementary School Music Methods
- MUS 361-361L, Music Education Core: Conducting and Lab
- MUS 362-362L, Music Education Core: Methods and Materials (Instrumental) and Lab
- MUS 365-365L, Music Education Core: Supervision and Administration of School Music and Lab
- MUS 370-371, Pedagogy III-IV

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

# Music Merchandising Major

**David Reynolds**  
**Department of Music**  
**Lincoln Music Center 204**  
**605-688-5187**  
**e-mail: paul.reynolds@sdstate.edu**

**Requirements for Music Merchandising Major**  
**Bachelor of Science in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
CSC 105, Introduction to Computers .....		3
ENGL 101*, Composition I .....	3	or 3
MUS 110-110L, Basic Music Theory I and Lab <b>and</b>		
MUS 111-111L, Basic Music Theory II and Lab .....	4	4
MUAP 115, Class Instruction in Keyboard <b>and</b>		
MUAP 116, Class Instruction in Keyboard .....	1	1
MUS 185, Recital Attendance .....	0	0
MUS 201*, History of Country Music, (G) .....		3
MUS 202, The Music Industry <b>or</b>		
MUS 302, Introduction to the Recording Industry .....	2-3	
SPCM 101*, Fundamentals of Speech .....	3	or 3
Applied Music .....	1	1
Music Organization .....	1	1
SGR Goal 5*: Mathematics .....	3	or 3
IGR Goal 2**: Personal Wellness .....		2

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ECON 201*, Principles of Microeconomics .....		3
ENGL 201*, Composition II .....	3	or 3
MUS 185, Recital Attendance .....	0	0
MUS 210-210L, Advanced Music Theory I and Lab <b>and</b>		
MUS 211-211L, Advanced Music Theory II and Lab.....	4	4
Applied Music .....	1	1
Music Organization .....	1	1
SGR Goal 3*: Social Sciences (G) .....	3	
SGR Goal 4*: Humanities and Arts (G) .....	3	
SGR Goal 6*: Natural Sciences .....	3	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting .....	3	
MCOM 370, Principles of Advertising .....		3
MUS 185, Recital Attendance .....	0	0
MUS 202, The Music Industry <b>or</b>		
MUS 302, Introduction to the Recording Industry .....	2-3	
MUS 203, Blues, Jazz and Rock .....	3	
MUS 230, Music Literature and History III (Baroque and Classical) <b>and</b>		
MUS 231, Music Literature and History IV(Romantic)....	2	2
Applied Music .....	2	2
Music Organization .....	1	1
Natural Science.....	4	4
IGR Goal 1**: Land and Natural Resources.....		3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness .....		3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
BADM 310, Business Finance .....	3	
ECON 370, Marketing .....	3	
MCOM 161, Fundamentals of Desktop Publishing .....		3
MUAP 483, Public Recital .....	0	or 0
MUS 185, Recital Attendance .....	0	0
MUS 433, Twentieth Century Music Literature (AW) .....		2

Applied Music .....	2
Music Organization .....	1 or 1
Professional Electives .....	5-6 5-6

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Nursing (NURS) Major

Roberta Olson, Dean

College of Nursing

SNF 255

605-688-5178 or 1-888-216-9806, ext. 6

e-mail: roberta.olson@sdstate.edu

### Requirements for Nursing Major – Standard Option

#### Bachelor of Science in Nursing

##### Freshman Year F S

BIOL 221-221L, Human Anatomy and Lab ..... 4

SGR Goal 6\*: CHEM 106-106L, Chemistry Survey and Lab...4

SGR Goal 6\*: CHEM 108-108L, Organic and Biochemistry and Lab..... 5

SGR Goal 1\*: ENGL 101, Composition I ..... 3

IGR Goal 2\*\*: GS 143, Mastering Lifetime Learning Skills or WEL 100, Wellness for Life ..... 2

SGR Goal 5\*: MATH 102, College Algebra..... 3

NURS 201, Medical Terminology (E) ..... 1

SGR Goal 3\*: PSYC 101, General Psychology..... 3

SGR Goal 3\*: SOC 100, Introduction to Sociology or

SOC 150, Social Problems or

SOC 240, Sociology of Rural America or

SOC 250, Courtship and Marriage ..... 3

SGR Goal 2\*: SPCM 101, Fundamentals of Speech..... 3

SGR Goal 4\*: Humanities and Arts ..... 3

##### Sophomore Year F S

BIOL 325-325L, Physiology and Lab..... 4

SGR Goal 1\*: ENGL 201, Composition II ..... 3

SGR Goal 3\*: HDF5 210, Lifespan Development ..... 3

MICR 231-231L, General Microbiology and Lab..... 4

NFS 321, Human Nutrition ..... 3

NURS 264, Professional Perspectives I..... 1

NURS 265-265L, Health Assessment Intervention and Lab ... 4

NURS 280-280L, Professional Communication and Lab..... 3

NURS 282, Health Promotion..... 2

NURS 323, Introduction to Pathophysiology ..... 3

SGR Goal 4\*: Humanities and Arts ..... 3

##### Junior Year F S

IGR Goal 3\*\*: HSC 443, Public Health Science (G) ..... 3

NURS 304, Professional Perspectives II..... 1

NURS 320-320L, Family as Client: Emerging and

Developing and Lab..... 6

NURS 330-330L, Family Health Environment Across the

Lifespan and Lab..... 3

NURS 364, Professional Perspectives III ..... 1

NURS 370-370L, Nursing Care of the Client with

Medical-Surgical Problems and Lab..... 10

PHA 321, Pharmacology .....	3
Electives.....	6

##### Senior Year F S

NURS 404, Professional Perspectives IV ..... 1

NURS 410-410L, Advanced Nursing Care of the Client

with Medical-Surgical Problems and Lab ..... 6

NURS 420-420L, Care of the Client with Mental Health

Problems and Lab..... 4

NURS 460: Preparation for RN Licensure (E) ..... 1

NURS 464, Professional Perspectives V..... 2

NURS 475-475L, Community as Client and Lab..... 3

NURS 495, Practicum (AW)..... 6

STAT 281, Introduction to Statistics or

HSC 445, Epidemiology ..... 3

IGR Goal 1\*\*: Land and Natural Resources..... 3

A total of 128 credits are required for graduation.

Required pre-nursing major courses: CHEM 106-106L, 108-108L; HDF5 210; MICR 231-231L; NFS 321; PSYC 101; (one of the following) SOC 100, 150, 240, 250; BIOL 221-221L, 325-325L; MAJOR: NURS 264, 265, 280, 282, 304, 320, 323, 330, 364, 370, 404, 410, 420, 464, 475, 495.

Other required support courses: PHA 321; HSC 443; STAT 281 or HSC 445.

(E) Elective

**NOTE:** West River pre-nursing courses may not be offered in exactly the same semester as they are on the main campus in Brookings. However, this is a recommended sequence for courses.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Nursing Major – RN Upward Mobility Option

#### Bachelor of Science in Nursing

Please contact the Coordinator, RN Upward Mobility, at 605-688-6186, or 1-888-216-9806 ext. 1, for plan.

### Requirements for Nursing Major – Accelerated Option

#### Bachelor of Science in Nursing

Requirements are the same as those for the **Standard Option**. For transcript evaluation, please contact the Academic Adviser, Sioux Falls, at 605-367-5636 or toll-free at 1-866-661-6230.

## Nutrition and Food Science (NFS) Major and Minor

C. Y. Wang

Department of Nutrition, Food Science and Hospitality

SNF 425

605-688-5161

e-mail: cy.wang@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 112-112L\*, General Chemistry I and Lab\*\*..... 4

CHEM 114-114L\*, General Chemistry II

and Lab..... 4

ENGL 101\*, Composition I ..... 3 or 3

FCS 101, Family and Consumer Sciences: Professional Foundations .....	1	
NFS 110, Perspectives in Nutrition .....	3	
NFS 141-141L, Food Principles and Lab .....	4	
SGR Goal 2*: Oral Communication .....	3	or 3
SGR Goal 4*: Humanities and Arts/Diversity .....	3	or 3
SGR Goal 5*: Mathematics .....	3	
IGR Goal 2***: Personal Wellness .....	2-3	or 2-3

<b>Sophomore Year</b> .....	<b>F</b>	<b>S</b>
ACCT 210, Principles of Accounting I .....	3	
BIOL 221-221L, Anatomy and Lab .....	4	
CHEM 464-464L, Biochemistry I and Lab .....	4	
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 201*, Composition II .....	3	
MICR 231-231L, General Microbiology and Lab .....	4	
NFS 321, Human Nutrition .....	3	
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
PSYC 101*, General Psychology .....	3	
SGR Goal 4*: Humanities and Arts .....	3	

<b>Junior Year</b> .....	<b>F</b>	<b>S</b>
BIOL 325-325L, Physiology and Lab .....	4	
HDFS 241, Family Relations .....	3	
HFM 251, Foodservice Sanitation .....	1	
HFM 261, Foodservice Operations .....	3	
HFM 380, Foodservice Operations and Purchasing .....	3	
HFM 465, Cost Controls .....	3	
NFS 322-322L, Assessment Skills in Nutrition and Lab .....	4	
NFS 341-341L, Food Science and Lab .....	4	
NFS 371, Food Service Purchasing .....	3	
NFS 381-381L, Quantity Food Production and Service and Lab .....	3	
NFS 422, Advanced Human Nutrition .....	4	
STAT 281, Introduction to Statistics or HSC 445, Epidemiology .....	3	

<b>Summer</b> .....		
NFS 495, Practicum .....	2	
(taken summer between Junior and Senior year)		

<b>Senior Year</b> .....	<b>F</b>	<b>S</b>
FCSE 421, Adult Education .....	2	
NFS 423-423L, Clinical Nutrition I and Lab .....	3	
NFS 424-424L, Community Nutrition and Lab .....	3	
NFS 425-425L, Clinical Nutrition II and Lab .....	3	
NFS 481, Food Science, Dietetics, and Hospitality Human Resource Management .....	3	
NFS 490, Seminar (AW) .....	1	
IGR Goal 1***: Land and Natural Resources .....	3	
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness .....	3	
Electives .....	5	3

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Nutrition and Food Science Major  
Food Science Specialization**

**Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b> .....	<b>F</b>	<b>S</b>
CHEM 112-112L*, General Chemistry I and Lab .....	4	
CHEM 114-114L*, General Chemistry II and Lab .....	4	
ENGL 101*, Composition I .....	3	or 3
FCS 101, Family and Consumer Sciences: Professional Foundations .....	1	
MATH 115*, Precalculus .....	5	
NFS 151, Food Technology .....	2	
SGR Goal 2*: Oral Communication .....	3	or 3
SGR Goal 3*: Social Sciences .....	3	or 3
IGR Goal 1***: Land and Natural Resources .....	3	or 3
IGR Goal 2***: Personal Wellness .....	2-3	or 2-3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness .....	3	

<b>Sophomore Year</b> .....	<b>F</b>	<b>S</b>
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 201*, Composition II .....	3	
NFS 141-141L, Food Principles and Lab .....	4	
NFS 341-341L, Food Science and Lab .....	4	
PHYS 111-111L, Introduction to Physics I and Lab .....	4	
SGR Goal 3*: Social Sciences .....	3	
SGR Goal 4*: Humanities and Arts .....	3	
IGR Goal 3***: NFS111, Food, People and Environment .....	3	

<b>Junior Year</b> .....	<b>F</b>	<b>S</b>
AS 241, Meat: Production to Consumption .....	3	
CHEM 332-332L, Analytical Chemistry and Lab .....	4	
CHEM 464-464L, Biochemistry I and Lab .....	4	
DS 313-313L, Technical Control of Dairy Products I and Lab .....	3	
MATH 121, Survey of Calculus .....	4	
MICR 231-231L, General Microbiology and Lab .....	4	
NFS 351-351L, Principles of Food Processing and Lab .....	4	
NFS 360-360L, Food Chemistry and Lab .....	4	
STAT 281, Introduction to Statistics .....	3	
Electives .....	2-3	

<b>Senior Year</b> .....	<b>F</b>	<b>S</b>
AST 443-443L, Food Processing and Engineering Fundamentals and Lab .....	3	
DS 422-422L, Technical Control of Dairy Products II and Lab .....	4	
HDFS 241, Family Relations .....	3	
MICR 311-311L, Food Microbiology and Lab .....	4	
NFS 321, Human Nutrition .....	3	
NFS 450-450L, Food Analysis and Lab .....	4	
NFS 451-451L, New Food Product Development .....	4	
NFS 481, Food Science, Dietetics, and Hospitality Human Resource Management .....	3	
NFS 490, Seminar (AW) .....	1	
Electives .....	2-3	

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Nutrition and Food Science Major  
Nutritional Sciences Specialization**

**Bachelor of Science in Family and Consumer Sciences**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 151-151L*, General Biology I and Lab.....	4	
BIOL 153-153L*, General Biology II and Lab .....	4	
CHEM 112-112L*, General Chemistry I and Lab.....	4	
CHEM 114-114L*, General Chemistry II and Lab.....	4	
FSC 101, Professional Foundations .....	1	
NFS 110, Perspectives in Nutrition.....	3	
NFS 141-141L, Foods Principles and Lab.....	4	
SGR Goal 1*: Written Communication .....	3	
SGR Goal 5*: Mathematics.....	3	
IGR Goal 2***: Personal Wellness .....	3	or 3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
BIOL 221-221L, Human Anatomy and Lab .....	4	
CHEM 326-326L, Organic Chemistry I and Lab .....	4	
CHEM 328-328L, Organic Chemistry II and Lab .....	4	
NFS 321, Human Nutrition .....	3	
SPCM 101*, Fundamentals of Speech.....	3	
SGR Goal 1*: Written Communication .....	3	
SGR Goal 3*: Social Science .....	3	
SGR Goal 4*: Humanities and Arts .....	3	
IGR Goal 2***: Personal Wellness .....	2	

<b>Junior Year</b>	<b>F</b>	<b>S</b>
BIOL 325-325L, Physiology and Lab.....	4	
CHEM 464-464L, Biochemistry I and Lab .....	4	
HDFS 241, Family Relations .....	3	
NFS 341-341L, Food Science and Lab.....	4	
NFS 322-322L, Assessment Skills in Nutrition and Lab.....	4	
PHYS 111-111L*, Introduction to Physics I and Lab.....	4	
PHYS 113-113L*, Introduction to Physics II and Lab.....	4	
Electives.....	2	

<b>Senior Year</b>	<b>F</b>	<b>S</b>
NFS 423-423L, Clinical Nutrition I and Lab.....	3	
NFS 424-424L, Community Nutrition and Lab.....	3	
NFS 425-425L, Clinical Nutrition II and Lab .....	3	
NFS 481, Food Science, Dietetics, and Hospitality Human Resource Management .....	3	
NFS 490, Seminar (AW) .....	1	
STAT 281, Introduction to Statistics .....	3	
IGR Goal 1***: Land and Natural Resources.....	3	
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	
Electives.....	6	

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Nutrition Minor: 18-19 cr**

Required courses include:

NFS 110, Perspectives in Nutrition or NFS 221, Survey of Nutrition .....	3
NFS 141-141L, Food Principles and Lab .....	4
NFS 321, Human Nutrition .....	3
NFS 422, Advanced Human Nutrition .....	4
Plus one or two of the following:	
NFS 322-322L, Assessment Skills in Nutrition and Lab .....	4
NFS 423, Clinical Nutrition I.....	3
NFS 424-424L, Community Nutrition and Lab .....	3
NFS 425-425L, Clinical Nutrition II and Lab.....	3
NFS 492-592, Topics .....	1

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.

**(Pre-) Optometry**

**Bruce Bleakley**  
**Department of Biology and Microbiology**  
**Northern Plains Biostress Laboratory, 251B, Box 2140D**  
**605-688-5498**  
**e-mail: bruce.bleakley@sdstate.edu**  
**webpage: <http://www3.sdstate.edu/academics/preprofessionalprograms/>**

**Suggested Pre-Professional Coursework**

**See your Pre-Optometry Adviser for a complete listing**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 151-151L*, General Biology I and Lab and BIOL 153-153L*, General Biology II and Lab .....	4	4
CHEM 112-112L*, General Chemistry I and Lab and CHEM 114-114L*, General Chemistry II and Lab .....	4	4
MATH 102*, College Algebra, or MATH 115*, Precalculus or Placement in Calculus.....	3-5	
MATH 121-121L, Survey of Calculus or MATH 123*, Calculus I.....		4-5
MICR 231-231L, General Microbiology .....		4

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
CHEM 326-326L, Organic Chemistry I and Lab and CHEM 328-328L, Organic Chemistry II and Lab.....	4	4
BIOL 202-202L, Genetics and Organismal Biology and BIOL 204-204L, Genetics and Cellular Biology.....	4	4
PHYS 111-111L*, Introduction to Physics I and Lab and PHYS 113-113L*, Introduction to Physics II and Lab.....	4	4

<b>Junior Year</b>	<b>F</b>	<b>S</b>
CHEM 464-464L, Biochemistry I and Lab .....	4	
STAT 281, Introduction to Statistics or MATH 125, Calculus II .....	3-4	or 3-4
BIOL 221-221L, Human Anatomy .....	4	
BIOL 325-325L, Physiology .....		4

**Senior Year**  
**Complete Major Requirements**

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Park and Recreation Management (PRM) Major

### Park Management Specialization

Peter Schaefer

Department of Horticulture, Forestry, Landscape and Parks

Northern Plains Biostress Laboratory 201A

605-688-5136

email: sdsu.hflp@sdsu.edu

### Requirements for Park and Recreation Management Major -

#### Park Management Specialization

#### Bachelor of Science in Agriculture

Freshman Year	F	S
BIOL 101-101L*, Biology Survey I and Lab .....	3	or 3
CHEM 106-106L*, Chemistry Survey and Lab .....	4	or 4
ENGL 101*, Composition I .....	3	or 3
HO 111-111L, Introduction to Horticulture and Lab .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
PRM 100, Introduction to Parks and Recreation .....	1	or 1
PRM 101, Parks and Society .....	3	or 3
SOC 100*, Introduction to Sociology or		
SOC 150*, Social Problems or		
SOC 240*, Sociology of Rural America or		
ANTH 210*, Cultural Anthropology .....	3	or 3
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3
SGR Goal 2**: Personal Wellness .....	3	or 3

Sophomore Year	F	S
BIOL 103-103L, Biology Survey II and Lab or		
BIOL 200-200L, Biological Diversity and Lab or		
BOT 201-201L, General Botany and Lab .....	3	or 3
ECON 202, Principles of Macroeconomics (G) .....	3	or 3
ENGL 201*, Composition II .....	3	or 3
HO 220-220L, Landscape Maintenance and Lab .....	3	
PHYS 101-101L, Survey of Physics and Lab .....	4	or 4
POLS 100**, American Government or		
POLS 210**, State and Local Government .....	3	or 3
PRM 202-202L, Outdoor Recreation & Resource		
Management and Lab .....	3	
PS 213-213L**, Soils and Lab .....	3	
ACCT 210, Principles of Accounting I .....	3	or 3
HLTH 251, First Aid and CPR .....	1	or 1
PSYC 101*, General Psychology .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3

Summer	F	S
PRM 496, Field Experience (summer) .....	1	

Junior Year	F	S
HO 250-250L, Woody Plants: Trees and Lab .....	3	
PR 301-301L, Park Interpretation and Lab .....	3	
PRM 302, Commercial Recreation & Tourism .....	3	
PRM 360, Recreation and Outdoor Programming .....	3	
Resource Management Electives .....	6	3
SPCM 215, Public Speaking .....	3	or 3
Economics/Business Electives .....	3	or 3
Electives .....	3	or 3

Summer	F	S
PRM 496, Field Experience (summer) .....	1	

Senior Year	F	S
ENGL 379, Technical Communications (AW) .....	3	or 3
POLS 320, Public Administration or		
POLS 428, Personnel and Budgetary		
Administration .....	3	or 3
PRM 300-300L, Park and Recreation Facility		
Management and Lab .....	3	
PR 401-401L, Advanced Park Management and Lab .....		3
RECR 440, Administration of Leisure Services .....		3
Resource Management Electives .....	3	or 3
Economics/Business Electives .....	3	or 3
Land Use Planning Electives .....	3	3
Electives .....	3	or 3

#### Park Management Resource Management Electives

Choose 12 credits from the following:

AST 333-333L, Soil and Water Mechanics and Lab .....	3
HO 314-314L, Turf Management and Lab .....	3
HO 413-413L, Arboriculture and Lab .....	3
PR 303-303L, Forest Ecology and Management	
and Lab .....	3
PS 243-244, Geology and Lab .....	4
RANG 205, Introduction to Range Management .....	3
RANG 321, Wildland Ecosystems .....	3
WL 220, Introduction to Wildlife and	
Fisheries Management .....	3
WL 411, Principles of Wildlife Management .....	4
WL 412, Principles of Fisheries Management .....	3
WL 430, Human Dimensions in Wildlife and Fisheries .....	4
LA 440-440L, Restoration Ecology and Lab .....	4

#### Park Management Economics/Business Electives

Choose 6 credits from the following:

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
BADM 474, Principles of Selling .....	3
ECON 201, Principles of Microeconomics .....	3
ECON 370, Marketing .....	3
ECON 433, Public Finance .....	3
ECON 472, Resource and Environmental Economics .....	3
STAT 281, Introduction to Statistics .....	3

#### Park Management Land Use Planning Electives

Choose 6 credits from the following:

LA 201, Introduction to Landscape Design .....	3
PLAN 471, Principles of State, Regional and	
Community Planning .....	3



PLAN 472, Techniques of State, Regional and Community Planning.....	3
PS 310-310L, Soil Geography and Land Use Interpretation and Studio.....	3
GEOG 363, Rural Geography .....	3
GEOG 212, Geography of North America and GEOG 365, Land Use Planning .....	6
GEOG 415, Environmental Geography.....	3
GEOG 447, Geography of the Future .....	3
GEOG 464, Geographical Aspects of Regional Planning.....	3
GEOG 487, Geographic Information Systems I .....	3
GEOG 488, Geographic Information Systems II.....	3
GEOG 489, Geographic Information Systems III.....	3

*Park Management Suggested Electives*

HO 260, Woody Plants, Shrubs and Vines .....	2
HO 311-311L, Herbaceous Plants and Lab .....	3
PE 321-321L, Water Safety Instructor and Lab .....	2
PHIL 220, Introduction to Ethics .....	3
RECR 260, Fundamentals of Recreation Leadership.....	3
SOC 308, Research Methods II.....	3

Students must obtain 2 to 4 credits of PRM 494, 496, 497 Internship / Field Experience/Cooperative Education Park Management by completing either (a) or (b):

- a. Field Experience (PRM 496). Work two 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 (PRM 497), Internship (PRM 494), Field Experience (PRM 496). Work one summer or equivalent time unit as stated in (a) for 1 credit and participate in Department approved Professional Internship for one 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.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Public Recreation Specialization**

**Paul Fokken**  
**Department of Health, Physical Education and Recreation**  
**Physical Education Center 267**  
**605-688-6163**  
**email: paul.fokken@sdstate.edu**

**Requirements for Park and Recreation Management Major**  
**Public Recreation Specialization**  
**Bachelor of Science in Arts and Science**

The Public Recreation Specialization is 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 Specialization 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 Specialization. Transfer students with less than a 2.0 GPA may petition for approval. If accepted, the transfer student will enter on probation for one semester. A student in the Public Recreation Specialization must have a 2.4 cumulative GPA to be recommended for the required internship experience. A minimum final grade of "C" is required in all courses taught in the major.

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
PRM 100, Introduction to Parks and Recreation .....	1	or 1
PRM 101, Parks and Society.....	3	or 3
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra or MATH 104, Finite Mathematics .....	3	or 3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences/Diversity .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	or 3
IGR Goal 2**: Personal Wellness .....	2	or 2
IGR Goal 1**: Land and Natural Resources .....	3	or 3
Arts and Science Natural Science Requirement for B.S.....	4	or 4

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
PRM 202, Outdoor Recreation Resource Management.....		3
RECR 260, Recreation & Activities Leadership.....		3
ENGL 201*, Composition I .....	3	or 3
HLTH 251, First Aid and CPR.....	1	or 1
SGR Goal 3*: Social Sciences/Diversity .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3
SGR Goal 6*: Natural Sciences .....	3	or 3
SGR Goal 2**: Personal Wellness .....	2	or 2
IGR Goal 3**: Social Responsibility/ Cultural and Aesthetic Awareness.....	3	or 3
POLS 210, State and Local Government .....	3	or 3
Arts and Science Natural Science Requirement for B.S.....	4	or 4

<b>Junior Year</b>	<b>F</b>	<b>S</b>
PRM 300, Park and Recreation Facility Management.....	3	or 3
PRM 302 Commercial Recreation & Tourism.....		3
PRM 360, Recreation and Outdoor Programming.....		3
RECR 342, Rec Sports Programming & Admin.....	3	
RECR 330, Therapeutic Recreation .....	3	
RECR 395, Practicum .....	1-3	or 1-3
SPCM 215, Public Speaking .....	3	or 3
PE 320/322, Lifeguard Training/Lifeguard Instructor .....	2	or 2
ECON 202, Macroeconomic Principles .....	3	or 3
ACCT 210, Principles of Accounting I .....	3	or 3
Suggested Electives		

<b>Senior Year</b>	<b>F</b>	<b>S</b>
RECR 362, Recreation Across the Lifespan .....	3	
RECR 410, Current Issues in Recreation (AW).....		3
RECR 440, Administration of Leisure Services .....		3
BADM 350, Legal Environment of Business .....	3	or 3
BADM 360, Organization and Management .....	3	or 3
ECON 370, Marketing or MCOM 313 Publicity Methods .....	3	or 2-3
ENGL 379, Technical Communications (AW) .....	3	or 3
PRM 494/496, Internship/Field Experience .....	8-12	or 8-12
Suggested Electives		

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Requirements for Public Recreation Minor: 21 cr

PE 180, Introduction to HPER.....	1
PR 101, Parks and Society.....	3
RECR 260, Recreation Leadership.....	3
Take two of the following three:	
RECR 330, Therapeutic Recreation or	
RECR 350, Recreation Facilities and Area Design or	
RECR 342, Recreational Sports Programming	
and Administration.....	6
RECR 440, Administration of Leisure Services.....	3

Students in the recreation minor will be counseled in selecting five to seven additional semester hours of coursework from the suggested elective list.

## Pest Management Minor

Dale Gallenberg

Department of Plant Science

Agricultural Hall 219

605-688-5123 (Department Head)

605-688-4450 (Teaching Office, Northern Plains Biostress Lab 248A)

e-mail: dale.gallenberg@sdstate.edu

http://plantsci.sdstate.edu

### Requirements for Pest Management Minor: 18 cr

PS 223-223L, Principles of Plant Pathology and Lab.....	3
PS 305-305L, Insect Biology and Lab.....	3
PS 343-343L, Weed Science and Lab.....	3
PS 490, Seminar.....	1

Plus 8 additional credits from:

PS 307-307L, Insect Pest Management and Lab.....	3
PS 333-333L, Diseases of Field Crops and Lab.....	3
PS 334-334L, Diseases of Horticultural Crops and Lab.....	3
PS 415-415L, Mycology and Lab.....	3
PS 420-420L, Biological Control of Arthropods and Lab.....	3
PS 431-431L, Applied Insect Ecology and Lab.....	3
PS 450-450L, Field Studies in Plant Disease Diagnosis and Lab.....	2
PS 491, Independent Study.....	1-4
PS 492, Topics.....	3

Student must have a GPA of 2.5 or higher in courses used to satisfy the Pest Management Minor.

## Pharmacy (PHA) Major

Brian Kaatz

College of Pharmacy

Pharmacy 125

605-688-6197

website: [www3.sdstate.edu/Academics/CollegeofPharmacy](http://www3.sdstate.edu/Academics/CollegeofPharmacy)

### Progression Standards for Class Standing

Some pharmacy courses have prerequisites such as P1 Year Standing, etc. These are defined as follows:

P1 Year Standing – the student must have been admitted into the professional program.

P2 Year Standing – completion of all PHA 300 level required courses.

P3 Year Standing – completion of all PHA 400 level required courses and a bachelor's degree are required to begin the first semester. Completion of all required PHA courses in the first semester is required to progress to the second semester.

P4 Year Standing – completion of all PHA 700 level required, non-practice experience courses.

**NOTE:** "completion" means a passing grade in each pharmacy course and maintaining semester and cumulative PHA GPA requirements

### Requirements for Doctor of Pharmacy Degree

#### Pre-Pharmacy Courses:

First Year	F	S
BIOL-101-101L**, Biology Survey I and Lab or		
BIOL 151 General Biology I and Lab.....	3	or 3
CHEM 112-112L*, General Chemistry I and Lab.....	4	
CHEM 114-114L*, General Chemistry II and Lab.....		4
ENGL 101*, Composition I.....	3	or 3
MATH 121-121L*, Survey of Calculus and Lab.....	5	or 5
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences.....	3	or 3
SGR Goal 4*: Humanities and Arts.....	6	or 6
IGR Goal 2**: Personal Wellness.....	2	or 2

Second Year	F	S
BIOL 221-221L, Human Anatomy and Lab.....	4	
BIOL 325-325L, Physiology and Lab.....		4
CHEM 326-326L, Organic Chemistry I and Lab.....	4	
CHEM 328-328L, Organic Chemistry II and Lab.....		4
ECON 202*, Principles of Macroeconomics (G).....	3	or 3
ENGL 201*, Composition II.....	3	or 3
MICR 231-231L, General Microbiology and Lab.....	4	or 4
STAT 281, Introduction to Statistics.....	3	or 3
IGR Goal 3**: Social Responsibility/Cultural and		
Aesthetic Awareness.....	3	or 3
PHA 101, Introduction to Pharmacy.....	1	or 1

#### Professional Program Courses

P1 Year	F	S
PHA 310, Introduction to Pharmaceutical Care.....	2	
PHA 311-311L, Professional Issues and Communications		
and Lab (AW).....		2
PHA 313, Pharmaceutical Calculations.....	2	
PHA 320, Pathophysiology.....	3	
PHA 323, Pharmaceutical Biochemistry.....	4	
PHA 324, Biomedical Science.....		4
PHA 331, Pharmaceutics I.....	3	
PHA 332-332L, Pharmaceutics II and Lab.....		4
PHA 340-340L, Medicinal Chemistry I and Lab.....	4	
PHA 341-341L, Medicinal Chemistry II and Lab.....		4
PHA 367, Early Practice Experience I.....	0.5	
PHA 368, Early Practice Experience II.....		0.5
General Electives†.....		3

<b>P2 Year<sup>1</sup></b>	<b>F</b>	
PHA 415, Biopharmaceutics and Pharmacokinetics.....	5	
PHA 430, Pharmacy Practice Law.....	3	
PHA 441, Chemotherapeutic Agents.....	2	
PHA 442-442L, Pharmacology I and Lab (AW).....	5	
PHA 443-443L, Pharmacology II and Lab.....	5	
PHA 445 Research Design.....	2	
PHA 446, Drug Information I (AW).....	1	
PHA 447, Drug Information II (AW).....	1	
PHA 450-450L, Drug Distribution Systems and Lab.....	4	
PHA 465-465L, Professional Resources Management and Lab.....	4	
PHA 467, Early Practice Experience III.....	0.5	
PHA 468, Early Practice Experience IV.....	0.5	
General Electives†.....	3	

<b>P3 Year</b>	<b>F</b>	<b>S</b>
PHA 723, Ethics in Healthcare Practice.....	2	
PHA 741-741L, Patient Assessment and Self Care I and Lab.....	2	
PHA 756, Pharmacotherapeutics I.....	5	
PHA 757, Pharmacotherapeutics II.....	5	
PHA 758, Pharmacotherapeutics Application Lab I.....	1	
PHA 767, Early Practice Experience V.....	0.5	
PHA 742-742L, Patient Assessment and Self Care II and Lab.....	2	
PHA 761, Pharmacotherapeutics III.....	4	
PHA 762, Pharmacotherapeutics IV.....	4	
PHA 763, Pharmacotherapeutics V.....	4	
PHA 764, Pharmacotherapeutics Application Lab II.....	1	
PHA 768, Early Practice Experience VI.....	0.5	
PHA 784, Seminar.....	1	
Pharmacy Electives.....	2	2

<b>P4 Year – Advanced Pharmacy Practice Experiences<sup>2</sup></b>	<b>Su/F/S</b>
PHA 700, Directed Studies.....	4-5
PHA 714, Community Pharmacy.....	5
PHA 716, Health-System Pharmacy Practice.....	5
PHA 772, Internal Medicine I.....	5
PHA 774, Ambulatory Care Practice Experience.....	5
Assigned Practice Experiences (see below).....	10
Elective Practice Experiences (see below).....	10

*Assigned Advanced Pharmacy Practice Experiences (choose 2):*

PHA 700, Directed Studies.....	4-5
PHA 706, Critical Care.....	5
PHA 707, Infectious Disease.....	5
PHA 717, Community Health and Patient Monitoring Practice Experience.....	5
PHA 770, Pediatrics.....	5
PHA 771, Geriatrics.....	5
PHA 773, Internal Medicine II.....	5
PHA 775, Psychiatry.....	5

*Elective Advanced Pharmacy Practice Experiences (choose 2):*

PHA 700, Directed Studies.....	4-5
PHA 701, Home Health Care/Hospice.....	5
PHA 702, Indian Health Service.....	5
PHA 703, Pharmacy Administration.....	5
PHA 704, Nutrition.....	5
PHA 705, Clinical Research.....	5
PHA 708, Surgery.....	5
PHA 709, Nephrology.....	5
PHA 710, Pharmacokinetics.....	5

	<b>S</b>	PHA 711, Oncology.....	5
		PHA 712, Nuclear Pharmacy.....	5
		PHA 713, Managed Care.....	5
		Practice experiences not utilized from list of Assigned Advanced Pharmacy Practice Experiences	
		† General Electives: 6 credits required prior to beginning P3 Year. Credits in excess of System General Education Requirements or IGR Goals may apply toward General Elective requirement.	
		1 Eligible for Bachelor of Science degree in Pharmaceutical Sciences after completion of P2 Year.	
		2 Advanced pharmacy practice experiences completed during Summer Session, Fall and Spring Semesters of P4 Year. Each credit requires one week of advanced pharmacy practice experience.	
		* The 30 credit Board of Regents <b>System General Education Requirements (SGRs)</b> must be completed as part of a student's first 64 credits. See pages 40-42 for details.	
		** South Dakota State University has an 8-9 credit <b>Institutional Graduation Requirement (IGRs)</b> . See pages 43-45 for details.	
		(G) <b>Globalization Requirement</b> See page 46 for details.	

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Philosophy (PHIL) Minor

**Greg Peterson**  
**Department of Philosophy and Religion**  
**Scobey Hall 318**  
**605-688-4933**  
**e-mail: greg.peterson@sdstate.edu**

**Requirements for Philosophy Minor: 15 cr**

PHIL 100, Introduction to Philosophy.....	3
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: patty.hacker@sdstate.edu**

The Physical Education minor is offered to any student at South Dakota State University interested in the area of study of human movement. The course work provides students with experiences that will raise the level of knowledge and understanding about how people move and learn sport skills, as well as provide a foundation for developing or enhancing movement skill in their own lives and those of others. This minor would be of interest to those pursuing teaching degrees in other content areas, or individuals pursuing a Park and Recreation Management major. All students interested in obtaining this minor must obtain written approval from the PETE Coordinator. A minimum final grade of "C" is required for all courses taken in the minor.

**Required Courses (23 credits):**

PE 170, Fundamental Movement.....	1
PE 180, Foundations of HPER.....	2
PE 202, Skill Concept: Individual/Dual Activities.....	1

PE 203, Skill Concept: Team Sport Activities .....	1
PE 252, Motor Learning.....	2
PE 352, Adapted Physical Education.....	2
PE 354, Prevention and Care of Athletic Injuries.....	2
PE 360-360L, K-8 PE Methods and Lab .....	2
PE 480-480L, K-12 Methods of Teaching PE and Lab.....	3
HLTH 250, Pre-Professional First Aid and CPR or .....	2
HLTH 251, First Aid and CPR .....	1
DANC 130, Fundamentals of Dance .....	1
DANC 241, Creative Movement for Kids.....	2
EPSY 302, Educational Psychology or	
PSYC 324, Psychology of Aging or	
PSYC 327, Child Psychology .....	2 or 3

IGR Goal 2** : Personal Wellness .....	2
IGR Goal 3** : Social Responsibility/Cultural and	
Aesthetic Awareness.....	3
Technical Electives†.....	2
.....	4
<b>Senior Year</b> .....	<b>F</b> <b>S</b>
PHYS 418, Advanced Lab II.....	1
PHYS 421, Electromagnetism.....	4
PHYS 435, Introduction to Nuclear Engineering or	
PHYS 439, Solid State Physics.....	3
PHYS 471, Quantum Mechanics .....	4
PHYS 490, Seminar .....	1
Technical Electives†.....	12
.....	5

## Physics (PHYS) Major and Minor

Oren Quist

Department of Physics

Crothers Engineering Hall 314

605-688-5428

website: [www.engineering.sdstate.edu/~physics/physics.htm](http://www.engineering.sdstate.edu/~physics/physics.htm)

### Requirements for Physics Major – College of Engineering

#### Bachelor of Science in Physics

#### Professional Physics Emphasis

##### Freshman Year

CHEM 112-112L*, General Chemistry I and Lab .....	4
CHEM 114*, General Chemistry II .....	3
GE 121, Engineering Design Graphics I.....	1
GE 122, Engineering Design Graphics II or	
GE 123, Computer Aided Drawing.....	1
ENGL 101*, Composition I .....	3
MATH 123*, Calculus I.....	4
MATH 125, Calculus II.....	4
PHYS 211-211L, University Physics I and Lab .....	4
SPCM 101*, Fundamentals of Speech.....	3
SGR Goal 3*: Social Sciences/Diversity (G) .....	3

##### Sophomore Year

CSC 150, CSC 213, CSC 218 (a programming language) .....	3
EE 220-220L, Circuits I and Lab .....	4
EE 221-221L, Circuits II and Lab.....	4
ENGL 201*, Composition II or	
ENGL 277, Technical Writing in Engineering.....	3
MATH 225, Calculus III.....	4
MATH 321, Differential Equations.....	3
PHYS 213-213L, University Physics II and Lab.....	4
SGR Goal 3*: Social Sciences/ Diversity .....	3
SGR Goal 4*: Humanities and Arts/Diversity (G).....	6

##### Junior Year

MATH 331, Advanced Engineering Mathematics or	
MATH 327, Calculus of Several Variables.....	3
PHYS 316-316L, Measurement Theory and Experiment	
Design and Lab .....	2
PHYS 318, Advanced Laboratory I .....	1
PHYS 331, Introduction to Modern Physics .....	3
PHYS 341, Thermodynamics .....	2
PHYS 343, Statistical Physics.....	2
PHYS 361, Optics .....	3
PHYS 451, Classical Mechanics.....	4
IGR Goal 1** : Land and Natural Resources .....	3

† 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. A complete list of departmental approved technical electives is available in the Physics Department office. Any departures from this list must be approved by the Head of the Physics Department.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### 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

CHEM 112-112L*, General Chemistry I and Lab or	
CHEM 106-106L, Chemistry Survey and Lab .....	4
CHEM 114*, General Chemistry II or	
CHEM 120, Elementary Organic Chemistry .....	3
ENGL 101*, Composition I .....	3
MATH 123*, Calculus I .....	4
SPCM 101*, Fundamentals of Speech.....	3
SGR Goal 3*: Social Sciences/Diversity (G).....	3
SGR Goal 4*: Humanities and Arts/Diversity (G).....	6
IGR Goal 2** : Personal Wellness .....	2
Directed Electives††.....	3

##### Sophomore Year

CSC 150, CSC 213, CSC 218, (a programming language).....	3
ENGL 201*, Composition II or	
ENGL 277, Technical Writing in Engineering.....	3
MATH 125, Calculus II.....	4
MATH 225, Calculus III.....	4
PHYS 211-211L, University Physics I and Lab or	
PHYS 111-111L, Introduction to Physics I and Lab .....	4
PHYS 213-213L, University Physics II and lab or	
PHYS 113-113L, Introduction to Physics II and Lab.....	4

SGR Goal 3*: Social Sciences .....	3		
Directed Electives††.....	5	3	
<b>Junior Year</b> <span style="float:right">F S</span>			
MATH 321, Differential Equations .....	3		
PHYS 316-316L, Measurement Theory and Experiment Design and Lab (AW) .....	2		
PHYS 331, Introduction to Modern Physics.....	3		
IGR Goal 1***: Land and Natural Resources.....	3		
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3		
Physics Electives .....	5		
Directed Electives††.....	3	10	

<b>Senior Year</b> <span style="float:right">F S</span>			
PHYS 451, Classical Mechanics or PHYS 471, Quantum Mechanics or PHYS 421, Electromagnetism .....	4	or 4	
PHYS 490, Seminar .....	1	or 1	
Physics Electives .....	5	or 5	
Technical Electives†.....	10	10	
Directed Electives††.....	2	or 2	

† 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. A complete list of departmental approved technical electives is available in the Physics Department office. Any departures from this list must be approved by the Head of the Physics Department.

†† The Flexible Emphasis Physics Major is designed to allow students the freedom to achieve significant preparation in an area that will complement physics. The resulting physics major will have an emphasis in an area such as: business, biophysics, geophysics, information systems, mass communications, medical physics, or statistical process control. A student is advised to work closely with an adviser as emphasis courses are chosen.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Physics Major  
Bachelor of Science in Physics  
Science Teaching Specialization**

<b>Freshman Year</b> <span style="float:right">F S</span>			
BIOL 101-101L, Biology Survey I and Lab or BIOL 151-151L, General Biology I and Lab .....	3-4		
BIOL 103-103L, Biology Survey II and Lab or BIOL 153-153L, General Biology II and Lab .....	3-4		
CHEM 112-112L*, General Chemistry I and Lab or CHEM 106-106L, Chemistry Survey and Lab .....	4		
CHEM 114*, General Chemistry II or CHEM 120, Elementary Organic Chemistry .....	3		
ENGL 101*, Composition I .....	3		
MATH 123*, Calculus I .....	4		
PSYC 101*, Introduction to Psychology or SOC 100, Introduction to Sociology.....	3		
SPCM 101*, Fundamentals of Speech.....	3		
SGR Goal 3*: Social Sciences (G).....	3		
SGR Goal 4*: Humanities and Arts (G).....	3		

**Sophomore Year** F S

CSC 150, Computer Science I or CSC 213, Introduction to Programming W/Fortran or CSC 218, Introduction to C/C++/Unix for Engineering (a programming language).....	3		
EDFN 338, Foundations of American Education .....	2		
EDFN 475, Human Relations.....	3		
EDFN 427, Middle School: Philosophy and Application.....	2		
ENGL 201*, Composition II or ENGL 277, Technical Writing in Engineering.....	3		
MATH 125, Calculus II.....	4		
MATH 225, Calculus III.....	4		
PHIL 200*, Introduction to Logic.....	3		
PHYS 211-211L, University Physics I and Lab or PHYS 111-111L, Introduction to Physics I and Lab .....	4		
PHYS 213-213L, University Physics II and Lab or PHYS 113-113L, Introduction to Physics II and Lab.....	4		
IGR Goal 3***, Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3	

**Junior Year** F S

EDFN 365, Integrating Computers into the Curriculum.....	2		
EPSY 302, Educational and Adolescent Psychology .....	3		
MATH 321, Differential Equations .....	3		
PHYS 185-185L, Astronomy I and Lab.....	3		
PHYS 316-316L, Measurement Theory and Experiment Design and Lab (AW) .....	2		
PHYS 331, Introduction to Modern Physics .....	3		
SEED 314, Supervised Clinical/Field Experience .....	1		
SEED 413, 7-12 Science Methods .....	3		
SEED 450, Teaching of Reading.....	2		
IGR Goal 1***: Land and Natural Resources.....	3		
IGR Goal 2***: Personal Wellness .....	2		
Physics Electives (300 or greater).....	4		3

**Senior Year** F S

ANTH 421, Indians of North America.....	3	or 3	
EDFN 427, Middle School: Philosophy and Application.....	2		
EDFN 475, Human Relations.....	3		
PHYS 451, Classical Mechanics or PHYS 421, Electromagnetism or PHYS 471, Quantum Mechanics .....	4	or 4	
PHYS 490, Seminar .....	1	or 1	
SEED 400, Curriculum and Instruction in Secondary Schools .....	3	or 3	
SEED 410, Social Foundations, Management and Law .....	2	or 2	
SEED 488, 7-12 Student Teaching.....	8	or 8	
SPED 401, Introduction to Educating Secondary Students with Disabilities .....	1	or 1	
Chemistry Electives (numbered 300 or greater) .....	4	or 4	

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Physics Minor: 17 cr**

PHYS 111-111L and 113-113L, Introduction to Physics I-II and Labs or PHYS 211-211L and 213-213L, University Physics I-II and Labs.....	8
PHYS 331, Introduction to Modern Physics .....	3
Other Physics Department courses, 3 credits of which must be from courses numbered 300 or greater .....	6

## Planning (PLAN) Minor

**Roger Sandness**  
**Department of Geography**  
**Scobey Hall 232**  
**605-688-4511**  
**e-mail: roger.sandness@sdstate.edu**

**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

**Gordon Tolle, Coordinator**  
**Department of Political Science**  
**Scobey Hall 304**  
**605-688-4912**  
**e-mail: gordon.tolle@sdstate.edu**

**Requirements for Political Science Major**

**Bachelor of Arts or Bachelor of Science in Arts and Science**

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
POLS 100, American Government.....	3	
POLS 100 or 200 level elective .....		3
SPCM 101*, Fundamentals of Speech or approved SGR alternative .....	3	or 3
Modern Language* 101 and 102 (B.A. only) .....	4	4
SGR Goal 3*: Social Sciences (not POLS) .....	3	3
SGR Goal 5*: Mathematics.....	3	or 3
SGR Goal 6*: Natural Sciences (Physical Science: CHEM, GEOG, PHYS, or PS) (B.S. Only).....	4	4
SGR Goal 6*: Natural Sciences (B.A. Only) .....	3-4	3-4
IGR Goal 2**: Personal Wellness .....	2	or 2

**Sophomore Year**

	F	S
ENGL 201*, Composition II .....	3	or 3
POLS 100-200 level electives, including POLS 253 (G) .....	3	3
Modern Language 201 and 202 (B.A. only) .....	3	3
SGR Goal 4*: Humanities and Arts .....	3	3
IGR Goal 1**: Land and Natural Resources (Biological Science: BIOL, BOT, MICR, NFS, WL) (B.S. Only)† .....	3	3
IGR Goal 1**: Land and Natural Resources (B.A. Only)† .....	3	or 3
Electives (consider Education emphasis, Second Major, or Minor).....	3	3

Junior Year	F	S
POLS 300-400 level, including either POLS 461 (AW) or POLS 462 (AW)† .....	6-12	6-9
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (B.A. only) (not POLS) .....	3	or 3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (B.S. only).....	3	3
Electives (consider Education emphasis, Second Major, or Minor) .....	3-9	3-9

Senior Year	F	S
POLS 300-400 level.....	6-12	6-9
Electives 100-400 level (consider Education emphasis, Second Major or Minor).....	0-9	6-16

Students must complete at least one political science course that has been designated as an information technology literacy course. Consult with your major adviser for course titles.

† The B.S. in Arts and Science requires six credits of biological science and eight credits of physical science. Six of the combined 14 credits must be from the SGR, pp. 40-42 listing and two credits must be from IGR Goal 1, p. 43 listing. The B.A. in Arts and Science requires a total of eight credits of natural science. Six credits must be from SGR Natural Science, p. 42 listing and two credits must be from the IGR Goal 1, p. 43 listing.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Political Science Minor: 18 cr**

POLS 100, American Government .....	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

**Virginia Norris**  
**Department of Psychology**  
**Scobey Hall 336**  
**605-688-4322**  
**e-mail: virginia.norris@sdstate.edu**

**Requirements for Psychology Major**

**Bachelor of Science in Arts and Science**

Freshman Year	F	S
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra .....	3	
PSYC 202, Advanced General Psychology .....		3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: PSYC 102, Introduction to Psychology .....	4	
SGR Goal 3*: Social Sciences (not PSYC) .....		3

SGR Goal 4*: Humanities and Arts .....	3	
SGR Goal 6*: Natural Sciences .....	4	4
IGR Goal 2**: Personal Wellness .....		2

**Sophomore Year**

<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3
PSYC 287, Critical Thinking in Psychology or PSYC 289, Pseudoscience and Psychology.....	3 or 3
STAT 281, Introduction to Statistics .....	3 or 3
SGR Goal 4*: Humanities and Arts .....	3
IGR Goal 3-option 2**: Social Responsibility/Cultural and Aesthetic Awareness.....	3
Arts and Science Science Requirement for B.S., p. 66.....	3
Arts and Science Social Science Requirement for B.S., p. 66.....	3
Arts and Science Social Science Requirement for B.S., (not PSYC), p. 66.....	3
Psychology Elective .....	3

**Junior Year**

<b>F</b>	<b>S</b>
PSYC 375, Research Methods in Psychology .....	3
PSYC 390, Seminar.....	1
IGR Goal 1**: Land and Natural Resources .....	3
Psychology Electives.....	3
Electives (as needed).....	9-10

**Senior Year**

<b>F</b>	<b>S</b>
PSYC 409, History and Systems of Psychology (AW)(G)....	4
Psychology Electives.....	4
Electives (as needed)	

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Psychology Major  
Psychological Services Specialization  
Bachelor of Science in Arts and Science**

<b>F</b>	<b>S</b>
<b>Freshman Year</b>	
ENGL 101*, Composition I .....	3 or 3
MATH 102*, College Algebra .....	3
PSYC 202, Advanced General Psychology .....	3
SPCM 101*, Fundamentals of Speech.....	3 or 3
SGR Goal 3*: PSYC 102, Introduction to Psychology .....	4
SGR Goal 3*: Social Sciences (not PSYC) .....	3
SGR Goal 4*: Humanities and Arts .....	3
SGR Goal 6*: Natural Sciences .....	4
IGR Goal 2**: Personal Wellness .....	2

**Sophomore Year**

<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3 or 3
PSYC 287, Critical Thinking in Psychology or PSYC 289, Pseudoscience and Psychology.....	3 or 3
PSYC 461, Theories of Personality.....	3
PSYC 411, Physiological Psychology.....	3
PSYC 414, Drugs and Behavior.....	3

STAT 281, Introduction to Statistics .....	3	
SGR Goal 4*: Humanities and Arts .....	3	
Arts and Science Science Requirement for B.S., p. 66.....	3	3
Electives (as needed).....	2	

**Junior Year**

<b>F</b>	<b>S</b>
PSYC 305, Learning and Conditioning .....	3
PSYC 357, Psychological Therapies.....	3
PSYC 375, Research Methods in Psychology .....	3
PSYC 358, Behavior Modification .....	3
PSYC 390, Seminar.....	1
IGR Goal 1**: Land and Natural Resources .....	3
IGR Goal 3-option 2**: Social Responsibility/Cultural and Aesthetic Awareness.....	3
Arts and Science Social Science Requirement for B.S.:	
PSYC 451, Abnormal Behavior.....	3
Arts and Science Social Science Requirement for B.S., (not PSYC), p. 66.....	3
Electives (as needed).....	3

**Senior Year**

<b>F</b>	<b>S</b>
PSYC 409, History and Systems (AW)(G).....	3
PSYC 441, Social Psychology .....	3
PSYC 477, Psychological Testing and Measurement.....	3
PSYC 494, Internship (6 credits required).....	6
Electives (as needed)	

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Psychology Major  
Graduate School Preparation Specialization  
Bachelor of Science in Arts and Science**

<b>F</b>	<b>S</b>
<b>Freshman Year</b>	
ENGL 101*, Composition I .....	3 or 3
MATH 102*, College Algebra .....	3
PSYC 202, Advanced General Psychology .....	3
SPCM 101*, Fundamentals of Speech.....	3 or 3
SGR Goal 3*: PSYC 102, Introduction to Psychology .....	4
SGR Goal 3*: Social Sciences (not PSYC) .....	3
SGR Goal 4*: Humanities and Arts .....	3 or 3
SGR Goal 6*: Natural Sciences .....	4
IGR Goal 2**: Personal Wellness .....	2

**Sophomore Year**

<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3 or 3
PSYC 287, Critical Thinking in Psychology or PSYC 289, Pseudoscience and Psychology.....	3 or 3
PSYC 324, Psychology of Aging or.....	3
PSYC 327 Child Psychology (Arts and Science Social Science Requirement for B.S., p. 66) .....	3
PSYC 411, Physiological Psychology or .....	3 or 3
PSYC 301, Sensation and Perception .....	3
PSYC 441, Abnormal Behavior or.....	3 or 3
PSYC 461, Theories of Personality .....	3
STAT 281, Introduction to Statistics .....	3

SGR Goal 4*: Humanities and Arts .....	3	
Arts and Science Science Requirement for B.S., p. 66.....	3	3
IGR Goal 3-option 2**: Social Responsibility/Cultural and Aesthetic Awareness .....	3	3
Arts and Science Social Science Requirement, (not PSYC), p. 66.....	3	or 3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
PSYC 373, Psychological Investigations .....	3	
PSYC 373L, Psychological Investigations Lab .....	1	
PSYC 374, Experiments in Psychology .....	3	3
PSYC 374L, Experiments in Psychology Lab .....	3	
PSYC 305, Learning and Conditioning or PSYC 406, Cognitive Psychology .....	3	3
PSYC 390, Seminar .....		1
IGR Goal 1**: Land and Natural Resources .....	3	
Electives (as needed).....	6	8-9

<b>Senior Year</b>	<b>F</b>	<b>S</b>
PSYC 409, History and Systems of Psychology (AW)(G)....	3	
PSYC 441, Social Psychology .....	3	
PSYC 491, Independent Study or PSYC 498, Undergraduate Research .....	3	
Psychology Emphasis Courses (see below) .....	3	3
Electives (as needed).....	5	12

The Psychology Department's "Informational Technology Literacy" requirement is met by successfully completing Psyc 302 and Psyc 390.

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Psychology Emphasis Courses** – Choose 6 credits from one Emphasis. Cannot duplicate courses in the required list. Other courses can be selected with the approval of the Department Head.

	<b>Credits</b>
<b>Biopsychology</b>	
PSYC 301, Sensation and Perception .....	3
PSYC 411, Physiological Psychology.....	3
PSYC 413, Advanced Physiological Psychology .....	3
PSYC 414, Drugs and Behavior.....	3

<b>Learning/Cognition</b>	
PSYC 305, Learning and Conditioning .....	3
PSYC 406, Cognitive Psychology .....	3
PSYC 407, Cognition and the Visual Arts .....	3

<b>Developmental Psychology</b>	
PSYC 324, Psychology of Aging .....	3
PSYC 327, Child Psychology .....	3
PSYC 367, Psychological Gender Issues.....	3
PSYC 427, Child Psychopathology .....	3

<b>Clinical</b>	
PSYC 357, Psychological Therapies.....	3
PSYC 358, Behavior Modification .....	3

PSYC 440, Forensic Psychology .....	3
PSYC 451, Abnormal Psychology .....	3
PSYC 461, Theories of Personality.....	3
PSYC 477, Psychological Testing.....	3
PSYC 480, Clinical Neuropsychology.....	3

<b>Social</b>	
PSYC 244, Environmental Psychology .....	3
PSYC 331, Industrial and Organizational .....	3
PSYC 367, Psychological Gender Issues.....	3
PSYC 417, Health Psychology.....	3
PSYC 440, Forensic Psychology .....	3
PSYC 441, Social Psychology .....	3

**Requirements for Psychology Major – Teaching Specialization Bachelor of Science in Arts and Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra .....		3
PSYC 202, Advanced General Psychology .....		3
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: PSYC 102, Introduction to Psychology .....	4	
SGR Goal 3*: Social Sciences (not PSYC) .....	3	
SGR Goal 4*: Humanities and Arts .....		3
SGR Goal 6*: Natural Sciences .....	4	4
IGR Goal 2**: Personal Wellness .....	2	

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
EDFN 365, Computer-Based Technology and Learning .....	2	or 2
ENGL 201*, Composition II .....	3	or 3
IGR Goal 1**: HIST 368, History of the American Indians or ANTH 421, Indians of North America or INED 411, South Dakota Indian Studies .....	3	or 3
PSYC 367, Psychological Gender Issues.....		3
SEED 415, Methods of Teaching Social Studies.....	3	or 3
STAT 281, Introduction to Statistics .....	3	
SGR Goal 4*: Humanities and Arts .....	3	
IGR Goal 3-option 2**: Social Responsibility/Cultural and Aesthetic Awareness .....		3
Arts and Science Science Requirement for B.S., p. 66.....		3

<b>PS I, Professional Semester I</b> (the following courses to be taken concurrently):	
EDFN 475, Human Relations.....	3
EDFN 338, Foundations of American Education .....	2

<b>Junior Year</b>	<b>F</b>	<b>S</b>
PSYC 287, Critical Thinking in Psychology or PSYC 289, Pseudoscience and Psychology.....	3	or 3
PSYC 305, Learning and Conditioning .....	3	
PSYC 327, Child Psychology (Arts and Science Social Science Requirement or B.S., p. 66).....		3
PSYC 375, Research Methods in Psychology .....	3	
PSYC 390, Seminar.....		1
PSYC 411, Physiological Psychology.....	3	
PSYC 451, Abnormal Behavior .....	3	
PSYC 461, Theories of Personality.....		3
Arts and Science Social Science Requirement for B.S., (not PSYC).....	3	or 3

<b>PS II, Professional Semester II</b> (the following courses to be taken concurrently):	
EPSY 302, Educational and Adolescent Psychology.....	3
SEED 314, Supervised Clinical/Field Experience .....	1
SEED 450, Teaching of Reading in the Content Area.....	3



Senior Year	F	S
PSYC 406, Cognitive Psychology .....		3
PSYC 409, History and Systems (AW)(G).....	3	
PSYC 441, Social Psychology .....	3	
PSYC 491, Independent Study .....	3	
SPED 401, Introduction to Educating Secondary Students with Disabilities.....	1	
EDFN 427, Middle School Philosophy and Application .....		3

**PS III, Professional Semester III**

(the following courses to be taken concurrently):

SEED 400, Curriculum and Instruction in Secondary and Middle Schools.....		3
SEED 410, Social Foundations, Management and Law .....		2
SEED 488, 7-12 Student Teaching.....		8

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Psychology Minor: 18 cr**

PSYC 101, General Psychology or PSYC 102, Introduction to Psychology .....	3 or 4
300-400 level courses .....	14 or 15

# Range Science (RANG) Major and Minor

**Robert Thaler**  
Department of Animal and Range Sciences  
Animal Science Complex 103A  
605-688-5166  
e-mail: robert.thaler@sdstate.edu

**Requirements for Range Science Major**

**Bachelor of Science in Agriculture**

Freshman Year	F	S
BIOL-101-101L*, Biology Survey I and Lab.....	3	
BIOL 103-103L*, Biology Survey II and Lab or BOT 201-201L*, General Botany and Lab .....		3
CHEM 106-106L Chemistry Survey and Lab or CHEM 112-112L, General Chemistry I and Lab.....		4
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra .....	3	or 3
RANG 105-105L**, Introduction to Range Management and Lab.....	3	
SPCM 101*, Fundamentals of Speech.....	3	or 3
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3
IGR Goal 2**: Personal Wellness .....	2-3	or 2-3
Electives and Specialization courses .....	0-3	0-3

**Sophomore Year**

F	S
ECON 201*, Principles of Microeconomics or ECON 202*, Principles of Macroeconomics (G).....	3 or 3
ENGL 201*, Composition II.....	3 or 3

PHYS 101-101L, Survey of Physics and Lab or MICR 231-231L, Microbiology and Lab or CHEM 464-464L, Biochemistry and Lab.....	4	or 4
PS 213-213L, Soils and Lab .....	3	or 3
SGR Goal 4*: Humanities and Arts .....	3	or 3
Communications Elective†.....	3	or 3
Electives and Specialization courses .....	2-13	2-13

**Junior Year**

F	S
STAT 281, Introduction to Statistics .....	3 or 3
RANG 415-415L, Rangeland Improvements and Grazing Management and Lab.....	4
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness.....	3 or 3
Electives and Specialization Courses.....	9-15 9-15

**Senior Year**

F	S
Capstone Course††.....	3
Senior Seminar†††.....	1 or 1
Electives and Specialization Courses.....	15-16 12-13

† For Range Livestock Production, take SPCM 201. For Rangeland Resource Conservation, select from SPCM 201, SPCM 215, or ENGL 379. For Rangeland Ecology and Habitat Management, take ENGL 379.

†† For Range Livestock Production, take RANG 485-485L. For other specializations, take ABS 475-475L (AW) or other capstone course as approved.

††† For Range Livestock Production, take AS 489 (AW). For Rangeland Resource Conservation, take AS 489 or other seminar as approved. For Rangeland Ecology and Habitat Management, take AS 489, BIOL 490, or PS 490 or other seminar as approved.

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

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

(G) Globalization Requirement See page 46 for details. Take ECON 202 or another course from the list.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Rangeland Resource Conservation Specialization**

AGEC 271-271L, Farm and Ranch Management and Lab .....	4
AS 101-101L, Introduction to Animal Science and Lab .....	3
AS 233-233L, Applied Animal Nutrition and Lab .....	4
AS 474-474L, Beef Cattle Production and Lab or AS 477-477L, Sheep and Wool Production and Lab .....	3
BOT 301-301L, Plant Systematics and Lab or BOT 405-405L, Grasses and Grass-like Plants and Lab .....	3-4
BOT 327-327L, Plant Physiology and Lab or BOT 421-421L, Plant Anatomy and Lab .....	3-4
PS 310-310L, Soil Geography and Land Use Interpretation and Studio or PS 446, Agroecology .....	3-4
RANG 210-210L, Range Plant Identification and Lab .....	2
RANG 215, Introduction to Integrated Ranch Management....	3
RANG 321, Wildland Ecosystems.....	3

*Communications Electives*

Select 1 course not selected above:

ENGL 379, Technical Communications.....	3
SPCM 201, Interpersonal Communications .....	3
SPCM 215, Advanced Public Speaking .....	3

### Ecology Electives

Select 1 course from the following:

BOT 415-415L, Plant Ecology and Lab	4
ENVM 425-425L, Disturbance Ecology and Lab	4
LA 440-440L, Restoration Ecology and Lab	4

### Geography Electives

Select 1 course from the following:

GEOG 365, Land Use Planning	3
GEOG 484, Remote Sensing	3
GEOG 487, Geographic Information Systems I	3
LA 231, Introduction to LandCAAD	3

### Natural Resource Management Electives

Select 5 credits from the following:

PR 202-202L, Outdoor Recreation Resource Management and Lab	3
PR 300-300L, Park Operations and Facility Management and Lab	3
PR 303, Forest Ecology and Management	3
PR 401-401L, Advanced Farm Management and Lab	3
PS 313-313L, Forage Crops and Pasture Management and Lab	3
PS 362-362L, Environmental Soil Management and Lab	3
WL 220, Introduction to Wildlife and Fisheries Management	3
WL 411-411L, Principles of Wildlife Management and Lab	4
WL 412-412L, Principles of Fisheries Management and Lab	3

### Range Science Electives

Select 2 courses from the following:

RANG 325-325L, Measurement Topics: Natural Resource Measurements and Lab	3
RANG 325-325L, Measurement Topics: Rangeland Analysis and Monitoring and Lab	3
RANG 421-421L, Grassland Fire Ecology and Lab	3
General Electives	8-12

### Range Livestock Production Specialization

AGEC 271-271L, Farm and Ranch Management and Lab	4
AGEC 354, Agricultural Marketing and Prices	3
AGEC 421, Farming and Food Systems Economics	3
AS 101-101L, Introduction to Animal Science and Lab	3
AS 233-233L, Applied Animal Nutrition and Lab	4
AS 433-433L, Livestock Reproduction and Lab	3
ECON 201*, Principles of Microeconomics or ECON 202, Principles of Macroeconomics (choose course not taken as Gen Ed requirement)	3
RANG 210-210L, Range Plant Identification and Lab	2
RANG 215, Introduction to Integrated Range Management	3
RANG 325-325L, Measurement Topics: Rangeland Analysis and Monitoring and Lab	3

### Animal Science Electives

Select 2 courses from the following:

AS 332-332L, Principles of Animal Breeding and Lab	4
AS 365-365L, Horse Production and Lab	3
AS 474-474L, Beef Cattle Production and Lab	3
AS 477-477L, Sheep and Wool Production and Lab	3

### Business Electives

Select 2 courses from the following:

AGEC 352, Agricultural Law	3
AGEC 478-478L, Agricultural Finance and Lab	3
AGEC 479, Agricultural Policy	3
BADM 360, Organization and Management	3
BADM 380, Personal Finance	3
ECON 472, Resource and Environmental Economics	3

### Plant Science Electives

Select 1 course from the following:

PS 313-313L, Forage Crops and Pasture Management and Lab	3
PS 343-343L, Weed Science and Lab	3
PS 421-421L, Soil Microbiology and Lab	3
PS 475, Water Quality in Agriculture	3

### Support Courses

Select 2 courses from the following:

ACCT 210, Principles of Accounting I	3
AS 241, Meat: Production to Consumption	3
AS 285-285L, Livestock Evaluation and Monitoring and Lab	4
AS 332-332L, Principles of Animal Breeding and Lab (if not selected above)	4
AS 365-365L, Horse Production and Lab (if not selected above)	3
AS 474-474L, Beef Cattle Production and Lab (if not selected above)	3
AS 477-477L, Sheep and Wool Production and Lab (if not selected above)	3
BIOL 371, Genetics	3
CA 340, Work, Time and Energy Decisions	3
POLS 438, The Legislative Process	3
RANG 321, Wildland Ecosystems	3
RANG 325-325L, Measurement Topics: Natural Resource Measurements	3
RANG 421-421L, Grassland Fire Ecology and Lab	3
VET 403, Animal Disease and Their Control	3
WL 220, Introduction to Wildlife and Fisheries Management	3
WL 411-411L, Principles of Wildlife Management and Lab	4
WL 412-412L, Principles of Fisheries Management and Lab	3
WL 415-415L, Upland Game Ecology and Management and Lab	3
WL 430-430L, Human Dimensions in Wildlife and Fisheries	3
Business Courses not selected above	3-6
Plant Science Electives not selected above	3-6
General Electives	10-13

### Rangeland Ecology and Habitat Management Specialization

BOT 301-301L, Plants Systematics and Lab or BOT 405-405L, Grasses and Grass-Like Plants and Lab	3-4
BOT 415-415L, Plant Ecology and Lab	4
RANG 321, Wildland Ecosystems	3
RANG 325-325L, Measurement Topics: Natural Resource Measurements and Lab	3
RANG 421-421L, Grassland Fire Ecology and Lab	3
WL 220, Introduction to Wildlife and Fisheries	3
WL 411-411L, Principles of Wildlife Management and Lab	4

Group I Electives

Select 6 credits from approved list, p. 64.

Communication Elective

Select 1 course from the following:

- SPCM 201, Interpersonal Communications .....3
- SPCM 215, Advanced Public Speaking .....3

Environmental Electives

Select 1 course from the following:

- BIOL 311, Principles of Ecology .....3
- ENVM 275, Introduction to Environmental Science .....3
- WL 430-430L, Human Dimensions in Wildlife and Fisheries and Lab.....3

Select 2 courses from the following:

- ENVM 425-425L, Disturbance Ecology and Lab .....4
- LA 440-440L, Restoration Ecology and Lab .....4
- PS 446, Agroecology .....3

Science Electives

Select 12 credits from the following:

- BIOL 373, Evolution .....3
- BIOL 383, Bioethics .....4
- BOT 301-301L, Plant Systematics and Lab (if not selected above) .....4
- BOT 405-405L, Grasses and Grass-Like Plants and Lab (if not selected above) .....3
- BOT 327-327L, Plant Physiology and Lab .....4
- BOT 421-421L, Plant Anatomy and Lab .....3
- CHEM 380, Environmental Chemistry .....4
- LA 560, Landscape Ecology .....4
- PS 243, Geology .....3
- PS 310-310L, Soil Geography and Land Use Interpretation and Lab .....3
- PS 313-313L, Forage Crops and Pasture Management and Lab .....3
- PS 343-343L, Weed Science and Lab .....3
- PS 362-362L, Environmental Soil Management and Lab .....3
- PS 421-421L, Soil Microbiology and Lab .....3
- PS 475, Water Quality in Agriculture .....3
- RANG 210-210L, Range Plant Identification and Lab .....2
- RANG 400, Range Judging .....1
- WL 230, Wildlife and Fisheries Techniques.....3
- WL 412-412L, Principles of Fisheries Management.....3
- WL 415-415L, Upland Game Ecology and Management and Lab .....3
- WL 417-417L, Large Animal Ecology and Management and Lab .....3
- WL 419-419L, Waterfowl Ecology and Management and Lab .....3
- ZOOL 301, Animal Behavior .....3
- General Electives .....9-11

Requirements for Range Science Minor: 18 cr

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

# Reading Minor, System

Howard Smith

College of Education and Counseling

Wenona 108

605-688-4376

e-mail: howard.smith@sdstate.edu

This minor requires a total of 18-19 credit hours consisting of a combination of 13-14 credit hours of the following **required** courses and 3-9 credit hours of **electives** listed below.

**Required Courses in the Minor (must select 13-14 credit hours)**

- ENGL 240, Juvenile Literature .....3
- ELED 450, K-8 Reading Methods Course (Distance from BHSU or DSU) .....2-3
- SEED 450, 7-12 Reading in the Content Area .....3
- DCOM 212, Language Development **or** EDFN 458/558, Literacy Assessment and Remediation .....3
- EDFN 462/562, Teaching Language Arts for English as a Second Language .....3

**Elective Courses in the Minor (must select 3-9 credit hours)**

- EDFN 452/552, Foundations of Reading .....3
- EPSY 442/542, Serving Students with Learning Disabilities...3
- EDFN 492/592, Topics .....3
- DCOM 212, Language Development .....3

# Religion (REL) Minor

Greg Peterson

Department of Philosophy and Religion

Scobey Hall 318

605-688-4933

e-mail: greg.peterson@sdstate.edu

**Requirements for Religion Minor: 15 cr**

- REL 213, Introduction to Religion .....3
- Additional Religion Courses .....12

# Safety Management (SM) Major

Teresa Hall

Department of Engineering Technology and Management

Solberg Hall 116

605-688-6417

e-mail: teresa.hall@sdstate.edu

**Requirements for Safety Management Major**

**Bachelor of Science in Safety Management**

Freshman Year	F	S
CHEM 106-106L*, Chemistry Survey and Lab .....4		
CSC 105, Introduction to Computers.....3		3
ENGL 101*, Composition I .....3		
GE 101, Introduction to Engineering and Technology .....1	or	1
GE 120-120L, Engineering Drawing/CAD and Lab <b>or</b> .....3		3
GE 121 & GE 122 Engineering Design Graphics I and II <b>and</b>		
GE 123 Computer Aided Drawing .....1		2
MATH 115*, Pre-Calculus .....5		
PSYC 101*, General Psychology.....3		3
SPCM 101*, Fundamentals of Speech.....3		
IGR Goal 2**: Personal Wellness .....2		2
Electives.....2		3

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
AST 225, Principles of Environmental Science and Engineering .....	3	
ECON 202*, Principles of Macroeconomics (G) .....	3	
ENGL 277*, Technical Writing in Engineering .....	3	
HLTH 250-250L, Pre-professional First Aid and CPR .....	2	
MNET 231-231L, Manufacturing Processes and Lab .....	3	
MNET 260, Production and Operations Management .....	3	
PHIL 220*, Introduction to Ethics .....	3	
PHYS 111-111L*, Introduction to Physics I and Lab .....	4	
STAT 281, Introduction to Statistics .....	3	
SGR Goal 4*: Humanities and Arts .....	3	
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness .....	3	

<b>Junior Year</b>	<b>F</b>	<b>S</b>
BADM 350, Legal Environment of Business .....	3	
CM 333, Mechanical, Electrical, and Plumbing Systems .....	3	or 3
HLTH 479, Health Promotion Programming and Evaluation .....	2	
GE 410, Human Factors in Design .....	3	
GE 241, Applied Mechanics .....	3	
HSC 433, Industrial Health .....	3	
PSYC 331, Industrial and Organizational Psychology .....	3	
MNET 460, Manufacturing Cost Analysis .....	3	
Electives .....	5	

<b>Senior Year</b>	<b>F</b>	<b>S</b>
BADM 310, Business Finance .....	3	
ECON 467, Labor, Law and Economics .....	3	
GE 425, Occupational Safety and Health Management .....	3	
HSC 440, Epidemiology .....	3	
MNET 470-470L, Project Management and Lab (AW) .....	2	
MNET 471-471L, Capstone Experience and Lab (AW) .....	1	
MNET 492, Topics .....	3	
MNET 494, Internship .....	3	
IGR Goal 1***: Land and Natural Resources .....	3	
Electives .....	5	6

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

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

(G) Globalization Requirement See page 46 for details.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Sociology (SOC) Major and Minor

**Donna Hess**  
**Department of Rural Sociology**  
**Scobey Hall 224**  
**605-688-4132**  
**e-mail: donna.hess@sdsstate.edu**

Teaching Specialization majors confer with adviser in College of Education and Counseling for college requirements.

### Requirements for Sociology Major – General Bachelor of Science in Arts and Science (B.S.) Bachelor of Arts in Arts and Science (B.A.)

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I (SGR Goal1) .....	3	or 3
SOC 100*, Introduction to Sociology (G) (SGR Goal3) .....	3	
SOC 240***, Sociology of Rural America (G) or other IGR Goal 1 or SGR Goal 3 .....		3
SPCM 101*, Fundamentals of Speech .....	3	or 3
Modern Language (B.A. only) .....	4	4
SGR Goal 5*: Mathematics .....	3	or 3
SGR Goal 6*: Natural Sciences and Arts and Science requirements, pp. 65-66 (B.S. only) .....	4	4
IGR Goal 2***: Personal Wellness .....	2	or 2
SOC/ANTH Electives .....		3
Electives or IGR courses .....	5	or 5

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ANTH 210*, Cultural Anthropology or other SGR Goal 3 .....	3	or 3
ENGL 201*, Composition II (SGR Goal1) .....	3	or 3
Modern Language (B.A. only) .....	3	3
SGR Goal 4*: Humanities and Arts .....	3	3
SGR Goal 6*: Natural Sciences .....	3	3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness (outside major) .....	3	or 3
SOC/ANTH Electives .....	3	3
Electives (B.S. only) .....	5	or 5
Electives (B.A. only) .....	3	or 3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
SOC 307, Research Methods I .....	3	
SOC 308, Research Methods II .....		3
SOC/ANTH Electives .....	3	or 3
General Electives (B.A. only) .....	10	11
General Electives (B.S. only) .....	12	10

<b>Senior Year</b>	<b>F</b>	<b>S</b>
SOC 403, Sociological Theory (AW) .....	3	or 3
SOC/ANTH Electives .....	3	or 3
General Electives (B.A. only) .....	11	12
General Electives (B.S. only) .....	13	13

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

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

(G) Globalization Requirement See page 46 for details. Met with one of SOC 100, 150, 240, 350, 440, or 483.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**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.)**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I (SGR Goal 1).....	3	or	3
Modern Language (B.A. only) (SGR Goal 3).....	4		4
SOC 100*, Introduction to Sociology (G) (SGR Goal 3).....	3		
SOC 240**, Sociology of Rural America, (G) or other IGR Goal 1 or other SGR Goal 3.....	3	or	3
SOC 270, Introduction to Social Work.....	3		3
SPCM 101*, Fundamentals of Speech (SGR Goal 2).....	3	or	3
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Sciences (B.S. only).....	4		4
IGR Goal 2**: Personal Wellness.....	2	or	2
Electives or IGR courses.....	5		5

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ANTH 210*, Cultural Anthropology or other SGR Goal 3.....	3	or	3
ENGL 201*, Composition II (SGR Goal 1).....	3	or	3
ENGL 210*, Introduction to Literature (SGR Goal 4).....	3	or	3
Modern Language (B.A. only) (SGR Goal 4).....	3		3
SGR Goal 4*: Humanities and Arts.....	3	or	3
SGR Goal 6*: Natural Sciences.....	3		3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (outside major).....	3	or	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (B.S. only).....	3	or	3
SOC/ANTH Electives.....	3		3
Electives or IGR courses (B.S. only).....	3	or	3

<b>Junior Year (First Semester Only)</b>		<b>F</b>	<b>S</b>
ANTH 220**, Physical Anthropology or other SGR Goal 3.....	3		
SOC 400, Social Policy.....	3		
SOC/ANTH Electives.....	6		
General Electives.....	9		

Upon acceptance to the Social Work program, transfer to University of South Dakota Program for second semester and senior year.

**Senior Year**

Enrolled in USD Program

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

(G) Globalization Requirement See page 46 for details. Met with one of SOC 100, 150, 240, 350, 440, or 483.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Sociology Major – Human Services**

**Bachelor of Science in Arts and Science (B.S.)**

**Bachelor of Arts in Arts and Science (B.A.)**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I (SGR Goal 1).....	3	or	3
SOC 100*, Introduction to Sociology (G) (SGR Goal 3).....	3	or	3
SOC 240**, Sociology of Rural America, (G) or other IGR Goal 1 or SGR Goal 3.....			3
SPCM 101*, Fundamentals of Speech (SGR Goal 2).....	3	or	3
Modern Language (B.A. only) (SGR Goal 4).....	4		4
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Sciences.....	3		3
IGR Goal 2**: Personal Wellness.....	2	or	2
SOC/ANTH Elective.....			3
Electives or IGR courses (B.S. only).....	5		5

<b>Sophomore Year</b>		<b>F</b>	<b>S</b>
ANTH 210*, Cultural Anthropology or other SGR Goal 3.....	3	or	3
ENGL 201*, Composition II (SGR Goal 1).....	3	or	3
SOC 270, Introduction to Social Work.....	3		
Modern Language (B.A. only).....	3		3
SGR Goal 4*: Humanities and Arts (B.S. only).....	3		3
SGR Goal 6*: Natural Sciences (B.S. only).....	4		4
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (outside major).....	3	or	3
IGR Goal 3**: Social Responsibility/Cultural and Aesthetic Awareness (B.S. only).....	2	or	2
SOC/ANTH Elective.....	3	or	3
Electives.....	2	or	2

<b>Junior Year</b>		<b>F</b>	<b>S</b>
SOC 307, Research Methods I.....	3		
SOC 308, Research Methods II.....			3
SOC 400, Social Policy.....	3		
General Electives.....	10	or	11

<b>Senior Year</b>		<b>F</b>	<b>S</b>
SOC 403, Sociological Theory (AW).....	3	or	3
SOC 471, Social Work Skills and Methods I.....			3
SOC 494, Internship (often taken during summer).....	12	or	12
General Electives (B.A. only).....	7		8
General Electives (B.S. only).....	8		8

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

(G) Globalization Requirement See page 46 for details. Met with one of SOC 100, 150, 240, 350, 440, or 483.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

**Requirements for Sociology Major – Human Resources**

**Bachelor of Science in Arts and Science (B.S.)**

**Bachelor of Arts in Arts and Science (B.A.)**

<b>Freshman Year</b>		<b>F</b>	<b>S</b>
ENGL 101*, Composition I (SGR Goal 1).....	3	or	3
SOC 100*, Introduction to Sociology (G) (SGR Goal 3).....	3		
SOC 240**, Sociology of Rural America, (G) or other IGR Goal 1 or SGR Goal 3.....			3

SPCM 101*, Fundamentals of Speech (SGR Goal 2).....	3	or	3
Modern Language (B.A. only) (SGR Goal 4).....	4		4
SGR Goal 5*: Mathematics.....	3	or	3
SGR Goal 6*: Natural Sciences (B.S. only) .....	4		4
IGR Goal 2***: Personal Wellness .....	2	or	2
SOC/ANTH Elective .....			3
Electives or IGR courses .....			5

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>	
ACCT 210, Principles of Accounting I.....	3		
ANTH 210*, Cultural Anthropology or other SGR Goal 3 .....	3	or	3
ENGL 201*, Composition II (SGR Goal1).....	3	or	3
Modern Language (B.A. only) .....	3		3
SGR Goal 4*: Humanities and Arts .....	3		3
SGR Goal 6*: Natural Sciences .....	3		3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness (outside major) .....	3	or	3
SOC/ANTH Elective.....			3
Electives or IGR courses (B.S. only) .....	3	or	3

<b>Junior Year</b>	<b>F</b>	<b>S</b>	
SOC 307, Research Methods I.....	3		
SOC 308, Research Methods II.....			3
SOC 353, Sociology of Work.....	3		
SOC 453, Industrial Sociology.....			3
BADM/ECON Elective.....	3		
General Electives (B.A. only) .....	6	or	7
General Electives (B.S. only).....	7	or	7
SOC/ANTH Elective.....	3	or	3

<b>Senior Year</b>	<b>F</b>	<b>S</b>	
SOC 403, Sociological Theory (AW).....	3	or	3
SOC 494, Internship (strongly recommended; often taken during summer).....	12	or	12
General Electives (B.A. only) .....	8		8
General Electives (B.S. only).....	9		9

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

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

(G) Globalization Requirement See page 46 for details. Met with one of SOC 100, 150, 240, 350, 440, or 483.

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

<b>Requirements for Sociology Minor: 18 cr</b>	
SOC 100, Introduction to Sociology.....	3
300 level or above.....	6
Additional SOC or ANTH credits.....	9

# Software Engineering (SE) Major

**Dennis Helder, Department Head**  
**Ali Salehnia, Program Coordinator**  
**Department of Electrical Engineering and Computer Science**  
**Administration Building 133B**  
**605-688-5719**  
**e-mail: ali.salehnia@sdstate.edu**  
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## Requirements for Software Engineering Major Bachelor of Science in Software Engineering

<b>Freshman Year</b>	<b>F</b>	<b>S</b>	
CSC 150, Computer Science I .....	3		
CSC 250, Computer Science II .....			3
ENGL 101*, Composition I .....	3		
GE 101, Introduction to Engineering .....	1		
MATH 123*, Calculus I .....	4		
MATH 125, Calculus II.....			4
MATH 253, Logic and Set Theory.....			3
SPCM 101*, Fundamentals of Speech .....			3
SGR Goal 3*: Social Sciences .....	3		3
IGR Goal 1***: Land and Natural Resources .....	3		

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>	
CSC 300, Data Structures.....	3		
CSC 314, Assembly Language.....	3		
MATH 215, Matrix Algebra .....	2		
MATH 316, Discrete Math.....			3
PHYS 211-211L*, University Physics I and Lab .....	4		
PHYS 213-213L, University Physics II and Lab.....			4
SE 270, Foundation of Software Engineering .....	3		
SE 320, Software Requirements and Formal Specifications (AW) .....			3
SGR Goal 4*: Humanities and Arts .....			6
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3		

<b>Junior Year</b>	<b>F</b>	<b>S</b>	
CSC 354, Systems Programming .....	3		
EE 300-300L, Basic Electrical Engineering I.....	3		
EE 302-302L, Basic Electrical Engineering II.....			3
EE 245-245L, Digital Systems.....	4		
EE 347-347L, Microprocessor .....			4
ENGL 277*, Technical Writing in Engineering .....	3		
SE 330, Human Factors and User Interface (G) .....			3
SE 340, Software Architecture.....	3		
SE 420, Software Project Management .....			3
IGR Goal 2***: Personal Wellness .....			2

<b>Senior Year</b>	<b>F</b>	<b>S</b>	
CSC 456, Operating Systems .....	3		
CSC 461, Programming Languages .....			3
CSC 484, Database Management Systems .....			3
MATH 321, Differential Equations .....			3
SE 410, Software Testing and Quality Assurance.....	3		
SE 440, Embedded Systems Programming.....			3
SE 464, Senior Design I.....	2		
SE 465, Senior Design II.....			2
STAT 381, Introduction to Probability and Statistics.....	3		
Applied or Technical Electives††.....	6		3

†† Courses numbered 300 or above. Suggested courses: CSC 303, 325, 422, 428, 474, EE 440-440L or MATH 471

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

### Computer Science Emphasis

The Software Engineering Program offers an emphasis in Computer Science. This emphasis helps Software Engineering students to enhance their understanding of foundations of compiler construction as well as the graphical user-interface programming environments. Students interested in the Computer Science Emphasis should take the courses below:

CSC 303, Ethics and Security in Computer Science .....	3
CSC 346, Object Oriented Programming .....	3
CSC 422, GUI Programming.....	3
CSC 445, Introduction to Theory of Computation.....	3
CSC 446, Compiler Construction.....	3

## Spanish (SPAN) Major and Minor

**Maria Ramos**  
**Department of Modern Languages**  
**SNF 121**  
**605-688-5101**  
**Fax: 605-688-6699**  
**e-mail: maria.ramos@sdstate.edu**

The major in Spanish requires a minimum of 36 credit hours in Spanish.†

Spanish 101 does not count towards the major or minor. The coursework for the major should include 102, 201, 202, 310 and at least 18 additional credit hours of upper-division (300-400) classes. Upper-division coursework 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

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
ENGL 101*, Composition I .....	3	or 3
SPAN 101-102†, Introductory Spanish I and II.....	4	and 4
SPCM 101*, Fundamentals of Speech .....	3	or 3
SGR Goal 3*: Social Sciences .....	3	or 3
SGR Goal 5*: Mathematics.....	3	or 3
IGR Goal 2***: Personal Wellness.....	2-3	or 2-3
IGR Goal 3***: Social Responsibility/Cultural and Aesthetic Awareness.....	3	or 3
Electives		

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
ENGL 201*, Composition II .....	3	or 3
SPAN 201-202, Intermediate Spanish I and II.....	3	and 3
SPAN 211-212, Intermediate Oral Practice I and II (recommended).....	2	and 2
SGR Goal 3*: Social Sciences .....	3	or 3

SGR Goal 6*: Natural Sciences .....	3	and 3
B.A. Core: Humanities (IGR Goal 3-option 2, not in Modern Languages Department) .....	3	
Electives		

<b>Junior Year††</b>	<b>F</b>	<b>S</b>
Spanish coursework ( 310, 330 and electives) .....	3-6	and 3-6
B.A. Core: Humanities (IGR Goal 3-option 2, not in Modern Languages Department) .....	3	or 3
IGR Goal 1***: Land and Natural Resources .....	3	or 3
Electives		

<b>Senior Year</b>	<b>F</b>	<b>S</b>
Spanish coursework (300-400 level, including SPAN 433 and/or SPAN 435).....	3-6	and 3-6
Electives		

**NOTE:** A minimum grade of "C" is required for a Spanish course to count towards the major or minor.

† Students who have a background in modern language study before entering the University should take the Placement Examination to determine the appropriate course in which to enroll. Credit may be obtained for courses exempted upon completion of one course in the department, with a grade of "C" or better, and the payment of the established fee to the Academic Evaluation and Assessment Office. Please see "Modern Language Credit" on page 19 of this catalog for more detailed information.

†† Junior year course selections, which fulfill the Institutional (SDSU) requirements, must be different from those taken to fulfill the General Education requirements.

### Requirements for Spanish Minor: 20 cr

SPAN 102, Introductory Spanish II .....	4
SPAN 201-202, Intermediate Spanish I and II .....	6
SPAN 310, Practical Language Skills.....	3
Electives (may include 211-212) .....	7

## Teacher Education - Certification Only

### (K-12 Content Area, 7-12 Content Area)

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

Admission to the program requires a 2.5 CGPA; a 2.6 GPA in the major; and completion of English Composition, Speech, and College Algebra with no grade less than "C."

### Requirements for the Teacher Education – Certification Only Program: 35 cr

EDFN 338, Foundations of American Education .....	2
EDFN 365, Computer-Based Technology and Learning .....	2
EDFN 427, Middle School: Philosophy and Application.....	2
EDFN 475, Human Relations.....	3
EPSY 302, Educational Psychology .....	3
SEED 314, Supervised Clinical/Field Experience.....	1
SEED 410, Social Foundation, Management and Law.....	2
SEED 450, 7-12 Teaching Reading in Content Area.....	2
SEED 400, Curriculum and Instruction in Middle and Secondary Schools .....	3
SEED 488, Supervised Teaching Internship .....	8

SPED 401, Introduction to Educating Secondary Students with Disabilities .....	1
Content Area Methods Course .....	3
ANTH 421, Indians of North America, or HIST 368, History of the American Indians, or INED 411, Indians of North America.....	3

## Teaching Minors

**Lonell Moeller**  
**College of Education and Counseling**  
**Wenona Hall 107**  
**605-688-4378**  
**e-mail: lonell.moeller@sdstate.edu**  
**website: http://learn/sdstate.edu/teachered/**

### Requirements for Teacher Education Minors

Frequently students in the teacher education program complete a combination of courses that constitute a minor. These would be courses not included in a student's major. For detailed information consult with the Certifying Officer of the College of Education and 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 specialization 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 101-201, Composition I and II .....	6
MCOM 210-210L, Newswriting and Reporting and Studio .....	3
SPCM 101, Fundamentals of Speech .....	3
English electives.....	7
Journalism elective.....	2
Speech electives .....	3

#### General Science Minor†

BIOL 101-101L and BIOL 103-103L, Biology Survey I and II and Labs .....	6
CHEM 106-106L and CHEM 120-120L or CHEM 112-112L and CHEM 114-114L, General Chemistry and Labs .....	7
PHYS 101-101L and PHYS 185 or PHYS 111-111L and PHYS 113-113L, Introductory Physics .....	7
Electives .....	4
Any physical geography course	
ABE 353-353L, Physical Climatology and Meteorology and Lab	
BIOL 221-221L, Anatomy and Lab	
BIOL 353, Introduction to Oceanography	

PS 243, Geology	
PS 305-305L, Insect Biology and Lab	
WL 110, Environmental Conservation	

#### Biological Science Minor†

BIOL 101-101L and BIOL 103-103L, Biology Survey I and II and Labs .....	6
BIOL 311, Principles of Ecology.....	3
BIOL 371-371L, Genetics and Lab .....	3
Electives in Botany, Zoology, Biology, Microbiology, or Wildlife .....	9

#### Physical Science Minor†

CHEM 112-112L and CHEM 114-114L, General Chemistry and Labs .....	8
CHEM 120-120L, Elementary Organic Chemistry and Lab .....	3-4
PHYS 111-111L, PHYS 113-113L, Introduction to Physics I and II and Labs .....	8
PHYS 331, Introduction to Modern Physics .....	3
Physics elective .....	1

Those planning to teach should consult the dean of the college, college faculty members, and advisers in college major and minor departments early in the junior year for more detailed interpretation of these regulations.

† These teaching minors do not guarantee certification in the areas listed. Certification requirements are established by the South Dakota Department of Education. Please contact the department head or certification officer to obtain the latest information regarding certification requirements. Certification in different states may require additional courses.

## (Pre-)Veterinary Science (VET)

**David Zeman**  
**Department of Veterinary Science**  
**Animal Disease Research 105, Box 2175**  
**605-688-5172**  
**e-mail: david.zeman@sdstate.edu**

#### Suggested Pre-Veterinary Medicine Plan of Study

Freshman Year	F	S
BIOL 151-151L*, General Biology I and Lab and BIOL 153-153L*, General Biology II and Lab .....	4	4
CHEM 112-112L*, General Chemistry I and Lab and CHEM 114-114L*, General Chemistry II and Lab .....	4	4
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra or MATH 115*, Precalculus or MATH 120*, Trigonometry or MATH 121-121L*, Survey of Calculus and Lab .....		3-5
SOC* 100, or 150** or 240** Sociology courses .....	3	or 3
SPCM 101*, Fundamentals of Speech .....	3	or 3
VET 103, Introduction to Veterinary Medicine .....	1	
IGR Goal 2**: Personal Wellness.....	2-3	or 2-3
Electives .....	3-4	or 3-4
<b>Sophomore Year†</b>	<b>F</b>	<b>S</b>
CHEM 326-326L, Organic Chemistry I and Lab and.....	4	
CHEM 328-328L, Organic Chemistry II and Lab.....		4
ECON 202*, Macroeconomics.....	3	or 3
ENGL 201*, Composition II.....	3	or 3
MICR 231-231L, General Microbiology and Lab.....		4



PHYS 111-111L*, Introduction to Physics I and Lab and PHYS 113-113L*, Introduction to Physics II and Lab.....4	4	
VET 223-223L, Anatomy and Physiology of Domestic Animals and Lab .....	4	
SGR Goal 4*: Humanities and Arts (G).....3	3	
Electives .....	3-4	3-4
<b>Junior Year</b>	<b>F</b>	<b>S</b>
BIOL 371-372, Genetics and Lab or .....	4	or 4
BIOL 202-202L, Genetics and Organismal Biology .....	4	
CHEM 464-464L, Biochemistry I and Lab .....	4	or 4
VET 403, Animal Diseases and Control .....	3	
IGR Goals 1 and/or 3** and requirements for specific B.S. and Electives.....	6-10	7-14

**Senior Year**

IGR Goals 1 and/or 3\*\* and Electives  
Requirements for specific B.S.  
Specific requirements for various veterinary colleges

This curriculum meets the pre-veterinary requirements of some Colleges of Veterinary Medicine. The student and his/her adviser may alter the pre-veterinary curriculum to meet specific requirements of certain colleges.

† See adviser for chemistry specializations in sophomore year.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Wildlife and Fisheries Sciences (WL) Major

Charles Scalet

Department of Wildlife and Fisheries Sciences  
Northern Plains Biostress Laboratory 138C  
605-688-6121

e-mail: [charles.scalet@sdstate.edu](mailto:charles.scalet@sdstate.edu)  
website: <http://wfs.sdstate.edu>

**Requirements for Wildlife and Fisheries Sciences Major  
Bachelor of Science in Biological Science**

<b>Freshman Year</b>	<b>F</b>	<b>S</b>
BIOL 101-101L*, Biology Survey I and Lab or BIOL 151-151L*, General Biology I and Lab .....	3-4	
BIOL 103-103L*, Biology Survey II and Lab or BIOL 153-153L*, General Biology II and Lab .....	3-4	
CHEM 112-112L, General Chemistry I and Lab .....	4	
ENGL 101*, Composition I .....	3	or 3
MATH 102*, College Algebra .....	3	
SPCM 101*, Fundamentals of Speech.....	3	or 3
WL 220, Introduction to Wildlife and Fisheries Management .....	3	
SGR Goal 3*: Social Sciences/Diversity .....	3	or 3
SGR Goal 4*: Humanities and Arts/Diversity .....	3	or 3
IGR Goal 2**: Personal Wellness .....	2	or 2

<b>Sophomore Year</b>	<b>F</b>	<b>S</b>
BIOL 311**, Principles of Ecology .....	3	
ENGL 201*, Composition II .....	3	or 3
MATH 121-121L, Survey of Calculus and Lab or MATH 123, Calculus I.....	4-5	or 4-5
STAT 281, Introduction to Statistics .....	3	or 3
WL 230, Wildlife and Fisheries Techniques .....		3
WL 490, Seminar.....	1	
SGR Goal 3*: Social Sciences/Diversity .....	3	or 3
SGR Goal 4*: Humanities and Arts/Diversity .....	3	or 3
CHEM 120-120L, Elementary Organic Chemistry and Lab.....	4	or 4
Computer Science Elective .....	3	or 3

<b>Junior Year</b>	<b>F</b>	<b>S</b>
PHYS 101-101L, Survey of Physics I and Lab or PHYS 111-111L, University Physics I and Lab .....	4	or 4
A soils or geology course or an additional chemistry or physics course .....	3-4	or 3-4
WL 363-363L, Ornithology and Lab .....		4
WL 367-367L, Ichthyology and Lab.....	3	
WL 412-412L, Principles of Fisheries Management and Lab.....		3
ZOOL 355-355L, Mammalogy and Lab .....	3	
Botany Elective (BOT 301-301L or BOT 405-405L) .....	3-4	or 3-4
Communications Elective (SPCM 201, 215, 222, or 434) ....	3	or 3

<b>Senior Year</b>	<b>F</b>	<b>S</b>
ABS 475-475L, Integrated Natural Resource Management and Lab (AW).....		3
BIOL 371, Genetics .....	3	or 3
WL 411-411L, Principles of Wildlife Management and Lab.....	4	
WL 430-430L**, Human Dimensions in Wildlife and Fisheries and Lab (G).....		4
WL 490, Seminar.....		1
WL 440-440L, Fisheries and Wildlife Biometrics .....		2
Botany Elective (BOT 419-419L or BOT 303-303L) .....	3-4	or 3-4
Communications Elective (ENGL 379, MCOM 210-210L, MCOM 313, MCOM 316, or MCOM 330-330L).....	2-3	or 2-3
Biological Science Elective .....	3-4	or 3-4

Choose one course:

- BIOL 373, Evolution
- BIOL 440-440L, Restoration Ecology and Lab
- BOT 327-327L, Plant Physiology and Lab
- MICR 231-231L, General Microbiology and Lab
- PS 305-305L, Insect Biology and Lab
- VET 223-223L, Anatomy and Physiology of Domestic Animals and Lab
- VET/403, Animal Diseases and Their Control
- WL 370-370L, Limnology and Lab
- ZOOL 325-325L, Physiology and Lab
- ZOOL 483-483L, Developmental Biology and Lab
- ZOOL 441-441L, Histology and Lab
- ZOOL 467-467L, Parasitology and Lab

Remaining hours of 128 hour requirement are electives.

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

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

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

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

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the General Education areas of social science, mathematics, natural science, and humanities and arts must be taken prior to taking this exam.

## Women's Studies (WMST) Minor

April Brooks, Coordinator  
Department of History  
Scobey Hall 324  
605-688-6042  
e-mail: april.brooks@sdstate.edu

### Requirements for Women's Studies Minor: 18 cr

- WMST 101, Introduction to Women's Studies.....3
  - WMST 491, Independent Study.....3
  - Choose one course from the following:.....3
    - WMST/HIST 349, Women in American History
    - WMST/POLS 305, Women and Politics
    - WMST/PSYC 367, Psychological Gender Issues
    - WMST/SOC 383, Sociology of Sex Roles
  - Choose one course from the following:.....3
    - WMST/ENGL 248, Women in Literature orAppropriate courses in the Humanities and Arts may be substituted with the approval of the Program Coordinator.
  - Elective Courses.....6
- Courses can be selected from the required list above and from the following:
- WMST/AM 453, Socio-Psychological Aspects of Dress
  - CA 340, Work, Time, and Energy Decisions
  - WMST/HDFS 250, The Development of Human Sexuality
  - WMST/REL 331, Feminism and Theology
  - WMST/SOC 325, Domestic and Intimate Violence
  - WMST/MCOM, 419/519 Women in Media
  - WMST 492, Topics

In addition, courses related to the roles of women in society are offered on a periodic basis in various departments. These courses may be used as electives with the approval of the Program Coordinator.

## Zoology (ZOOL) Minor

Tom Cheesbrough  
Department of Biology and Microbiology  
Agricultural Hall 304  
605-688-6141  
e-mail: biomicro@abs.sdstate.edu  
website: sdsu\_biomicro.sdstate.edu

### Requirements for Zoology Minor: 18 cr

The minor in Zoology consists of BIOL 101-101L or 151-151L, and additional courses with a ZOOL prefix for a total of at least 18 credits. Two courses must be at the 300 level or above. No more than 3 credits can come from 493, 494, 495, 496, 497 and 498. A minimum GPA of 2.0 is required in these courses.



A parking lot in 1969 was an early indicator of tight space on a growing university campus.



Students enjoying Bum Stew during Hobo Week, October 1957.



COURSE DESCRIPTIONS.....241

*Curriculum Entries*.....242  
*Colleges, Departments and Program Abbreviations*.....243  
*Miscellaneous Abbreviations* .....243  
*Course Types/Instructional Methods*.....244  
*Other Important Definitions* .....245  
*x9x Common Course Descriptions* .....246  
*Course Descriptions*.....248

# Curriculum Entries

## Course Descriptions

1	2	3	4	5	6
BIOL 101	Biology Survey I	(COM)	.....	.....	3

Study of the nature, diversity, and classification of life; ecology; cells and cell cycles, Mendelian and modern Genetics. Intended for those not majoring in Biology. Duplicate credit for 101 and 151 not allowed.

1. Course prefix.
2. Course number. The first digit of the three-digit number indicates the level of instruction, as follows:  
0 Pre-college, non-degree, remedial  
1 Freshman  
2 Sophomore  
3 Junior  
4 Senior
3. Name of the course.
4. Common Course within the Regental System.
5. 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.
6. Number of credits assigned to the course. One credit is usually interpreted as one hour of class work per week or as two to four hours of lab work per week.

## Course Numbering

### Undergraduate Courses

- 001-099** Pre-college, remedial skills, special improvement (non-degree credit)
- 100-199** Freshman level
- 200-299** Sophomore level
- 300-399** Junior level
- 400-499** Senior level (may be dual listed with 500 level graduate course)

### Graduate Courses

- 500-599** Entry level graduate (may be dual listed with a 400 level undergraduate course and may include limited enrollment by undergraduates)
- 600-699** Graduate level (undergraduate enrollment only by exception)  
Also open to senior students for **graduate credit** under the following conditions:  
Within 15 credits of completing Bachelor's degree;  
Have an overall grade point average of 2.5 or higher, or a Junior-Senior grade point average of 3.0 or higher;  
Enroll for no more than 18 credits (9 credits during Summer Term);  
The course or courses are not required for the Bachelor's degree.
- 700-799** Graduate level (graduate students only)
- 800-899** Doctoral and post-doctoral level (doctoral and post-doctoral students only)

### Experimental Courses

A course at the 100-600 levels ending in 99 is experimental and may be offered no more than twice within two academic years before it must be submitted as a New Course Request.



In this partial panoramic photo from 1924 (only the left section appears here), the entire student body had gathered in front of the Administration Building.

# Colleges, Departments and Program Abbreviations

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<b>A&amp;S</b> , Arts and Science	<b>EET</b> , Electronics Engineering Technology	<b>MCOM</b> , Mass Communication
<b>ABE</b> , Agricultural and Biosystems Engineering	<b>ELED</b> , Elementary Education	<b>ME</b> , Mechanical Engineering
<b>ABS</b> , Agriculture and Biological Sciences	<b>EM</b> , Engineering Mechanics	<b>MEDT</b> , Medical Technology
<b>ACCT</b> , Accounting	<b>ENGL</b> , English	<b>MEPR</b> , Media Production
<b>AGEC</b> , Agricultural Economics	<b>ENT</b> , Entomology	<b>MICR</b> , Microbiology
<b>AGED</b> , Agricultural Education	<b>ENTR</b> , Entrepreneurial Studies	<b>MFL</b> , Modern Foreign Languages
<b>AHED</b> , Adult Higher Education	<b>ENVM</b> , Environmental Management	<b>MNET</b> , Manufacturing Engineering Technology
<b>AIR</b> , Aerospace Studies	<b>EPSY</b> , Educational Psychology	<b>MRCH</b> , Merchandising
<b>AIS</b> , American Indian Studies	<b>ETM</b> , Engineering Technology and Management	<b>MSL</b> , Military Science Leadership
<b>AM</b> , Apparel Merchandising	<b>EURS</b> , European Studies	<b>MUAP</b> , Music Applied
<b>ANTH</b> , Anthropology	<b>FBME</b> , Food and Biomaterials Engineering	<b>MUEN</b> , Music Ensemble
<b>ARAB</b> , Arabic	<b>FCS</b> , Family and Consumer Sciences	<b>MUS</b> , Music
<b>ART</b> , Art	<b>FCSE</b> , Family and Consumer Sciences Education	<b>NACC</b> , Nursing Accelerated
<b>ARTD</b> , Art Design	<b>FREN</b> , French	<b>NFS</b> , Nutrition, Food Science and Hospitality
<b>ARTE</b> , Art Education	<b>GCOM</b> , General Communication	<b>NURS</b> , Nursing
<b>ARTH</b> , Art History	<b>GE</b> , General Engineering	<b>PE</b> , Physical Education
<b>AS</b> , Animal Science	<b>GEOG</b> , Geography	<b>PHA</b> , Pharmacy
<b>AST</b> , Agricultural Systems Technology	<b>GER</b> , German	<b>PHIL</b> , Philosophy
<b>AT</b> , Athletic Training	<b>GERO</b> , Gerontology	<b>PHST</b> , Physics Topics for Educators
<b>AVIA</b> , Aviation	<b>GIS</b> , Geographic Information Sciences	<b>PHTH</b> , Physical Therapy
<b>BADM</b> , Business Administration	<b>GS</b> , General Studies	<b>PHYS</b> , Physics
<b>BIOL</b> , Biology	<b>HDCE</b> , Human Development, Child and Family Studies	<b>PLAN</b> , Planning
<b>BIOS</b> , Biological Sciences	<b>HDFS</b> , Human Development and Family Studies	<b>POLS</b> , Political Science
<b>BOT</b> , Botany	<b>HFM</b> , Hotel and Foodservice Management	<b>PR</b> , Park Management
<b>CA</b> , Consumer Affairs	<b>HIST</b> , History	<b>PRM</b> , Park and Recreation Management
<b>CEE</b> , Civil and Environmental Engineering	<b>HLTH</b> , Health	<b>PS</b> , Plant Science
<b>CHEM</b> , Chemistry	<b>HO</b> , Horticulture	<b>PSYC</b> , Psychology
<b>CHIN</b> , Chinese	<b>HON</b> , Honors	<b>RANG</b> , Range Science
<b>CHRD</b> , Counseling and Human Resource Development	<b>HPER</b> , Health, Physical Education and Recreation	<b>RECR</b> , Recreation
<b>CJUS</b> , Criminal Justice	<b>HSC</b> , Health Science	<b>REL</b> , Religion
<b>CM</b> , Construction Management	<b>ID</b> , Interior Design	<b>SE</b> , Software Engineering
<b>CSC</b> , Computer Science	<b>IM</b> , Industrial Management	<b>SEED</b> , Secondary Education
<b>CSCA</b> , Computer Science Applications	<b>JAPN</b> , Japanese	<b>SM</b> , Safety Management
<b>CST</b> , Communication Studies and Theatre	<b>LA</b> , Landscape Design	<b>SOC</b> , Sociology
<b>CTE</b> , Career and Technical Education	<b>LAS</b> , Latin American Studies Minor	<b>SPAN</b> , Spanish
<b>DANC</b> , Dance	<b>LAKL</b> , Lakota	<b>SPCM</b> , Speech Communication
<b>DCOM</b> , Communication Disorders	<b>LING</b> , Linguistics	<b>STAT</b> , Statistics
<b>DS</b> , Dairy Science	<b>LMNO</b> , Leadership and Management of Nonprofit Organizations	<b>THEA</b> , Theatre
<b>ECON</b> , Economics	<b>MATH</b> , Mathematics	<b>VET</b> , Veterinary Science
<b>EDAD</b> , Educational Administration		<b>WEL</b> , Wellness
<b>EDER</b> , Education Evaluation and Research		<b>WL</b> , Wildlife
<b>EDFN</b> , Educational Foundations		<b>WMST</b> , Women's Studies
<b>EE</b> , Electrical Engineering		<b>ZOOL</b> , Zoology

## Miscellaneous Abbreviations

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<b>admin</b> , administration	<b>CRN</b> , 5 digit course reference number	<b>P</b> , prerequisite
<b>adv</b> , advanced	<b>dev</b> , development	<b>R</b> , recitation (lecture)
<b>Ag</b> , Agriculture	<b>econ</b> , economics	<b>S</b> , spring semester
<b>Am</b> , American	<b>ed</b> , educational	<b>Schd</b> , Schedule Type
<b>AV</b> , Audio-Visual	<b>F</b> , fall semester	<b>Sec</b> , Section
<b>AY</b> , alternate years	<b>fr</b> , freshman	<b>S.D., or SD</b> , South Dakota
<b>&amp;</b> , and	<b>fund</b> , fundamentals	<b>soph</b> , sophomore
<b>CAI</b> , Computer Assisted Instruction	<b>gen</b> , general	<b>sr</b> , senior
<b>chem</b> , chemistry	<b>Hum</b> , Humanities	<b>Su</b> , summer term
<b>CITO</b> , Chief Information Technology Office	<b>intro</b> , introduction	<b>TBA</b> , time and/or credit to be arranged
<b>COM</b> , Common Course	<b>jr</b> , junior	<b>U.S., or US</b> , United States
<b>comp</b> , composition	<b>prin</b> , principles	
<b>conc</b> , Concurrent	<b>L, or lab</b> , laboratory	

# Course Types/Instructional Methods

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## **Clinical Experience**

Students participate in client and client related services that are an integral part of an educational program. Clinical instruction occurs in or outside an institutional setting and involves work with clients who receive professional services from students serving under direct or indirect supervision by a faculty member and/or an approved member of the agency staff. Instructional Method: G.

## **Clinical Laboratory**

The course takes place in a clinical laboratory setting. This includes practice labs, hospitals, or other agencies. Students apply methods and principles of a clinical discipline. Course size varies depending upon accreditation standards, clinical space limitations, level of offering, availability of client experiences, the nature of the clients, and equipment limitations. Faculty members control the assignments and maintain direct and close supervision of the students. Instructional Method: C.

## **Competency-Based/Self-Paced Study**

Students proceed through a course of study at their own rate, or as directed often assisted by computer or other technology. Mastery is based on achieving competencies and benchmarks, rather than attaining a schedule of assignments. An instructor monitors student progress. May be supplemented by individual or group tutorial sessions. Includes self-paced Internet courses. Instructional Method: B.

## **Design/Research**

Courses focusing on design research and do not entail a dissertation or thesis. The plan of study is negotiated by the faculty member and the students. Contact between the two may be extensive and intensive. May be used as a research/design requirement for a degree. Research/ Research Problems are included in this course type. Instructional Method: J.

## **Discussion/Recitation**

A course, or a section of a larger course, designed for group discussion or student recitation. Instructional Method: D.

## **Ensemble**

Large group musical performance courses, meaning group of more than 10 performers. Includes: orchestra, bands, and choruses. Instructional Method: H.

## **Graduate Thesis**

A formal treatise presenting the results of study submitted in partial fulfillment of the requirements of an advanced degree. The process requires intensive interaction between the candidate and the thesis director. Masters degrees, Specialist degrees, and Doctorates are included in this course type. Instructional Method: T.

## **Independent Study**

Students complete individualized plans of study. The faculty member and students negotiate the details of the study plans. Meeting depending upon the requirements of the topic. This course type is not for completion of a thesis or dissertation or for meeting the research requirement for a degree. Directed Studies, Special Projects, Mentored, and Special Problems are examples of this course type. Instructional Method: I.

## **Internship/Practicum**

Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and/or directed plan of study. Includes field work/experience, supervision courses, student teaching, and cooperative education. Instructional Method: S.

## **Laboratory**

Courses meeting in a defined physical setting (i.e. laboratory) for the purpose of the application of methods and principles of a discipline. Instructional Method: L.

## **Lecture**

Faculty members give oral presentations of facts, principles, context, or interpretation. Instruction takes place in a traditional classroom setting. Instructional Method: R.

## **Modified Physical Education Activity**

A course type limited to accommodate students with physical disabilities where numbers are very limited. Instructional Method: O.

## **Physical Education Activity**

A course devoted to participation in or the performance of some form of physical activity. Knowledge associated with the proper performance of the activity is presented. Instructional Method: P.

## **Private Instruction**

The courses involve individual instruction. One-to-one demonstration, performance critique, music, fine arts or performing arts, or flight instruction are examples. Instructional Method: M.

## **Seminar**

A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, or research. Seminars may be conducted over electronic media such as Internet and are at the upper division or graduate levels. Instructional Method: E.

## **Special Topics**

A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Instructional Method: X.

## **Studio Course/Small Group Instruction/Small Ensemble**

Course involves the demonstration and application of design and theory in a defined physical setting (i.e., studio). The Studio Course is characterized by significant one-on-one student/instructor interaction. Students explore and experiment under the guidance of an instructor. Instructional Method: A.

## **Thesis/Research Sustaining**

This is a zero credit hour course type used to track students who are not currently working with faculty on thesis or research activities. Universities may require students to register under this course type to remain active degree candidates. Instructional Method: U.

## **Tracking Courses**

This course type is used to track students for zero credit hours. Instructional Method: Q.

## **Undergraduate Thesis**

A formal treatise presenting the results of study submitted in partial fulfillment of the requirements for an undergraduate degree. The process requires extensive and intensive one-on-one interaction between the candidate and professor with more limited interaction between and among the candidate and the other members of the committee. Instructional Method: T.

## **Workshop**

Special sessions in specific topic areas. Approximately 45 hours of work is required for each hour of credit. Workshops may vary in time range. They may include lectures, conferences, committee work, and group activity. Instructional Method: W.



# Other Important Definitions

## Advanced Writing

A BOR Requirement, courses chosen by departments to meet this requirement are tagged with (AW).

## Common Course Numbering

The South Dakota Regental institutions utilize common course numbering, meaning that a course designated as a common course (COM) is automatically transferable between institutions. Any courses on the following pages without the COM designation are considered to be unique to SDSU.

## Crosslisted Courses

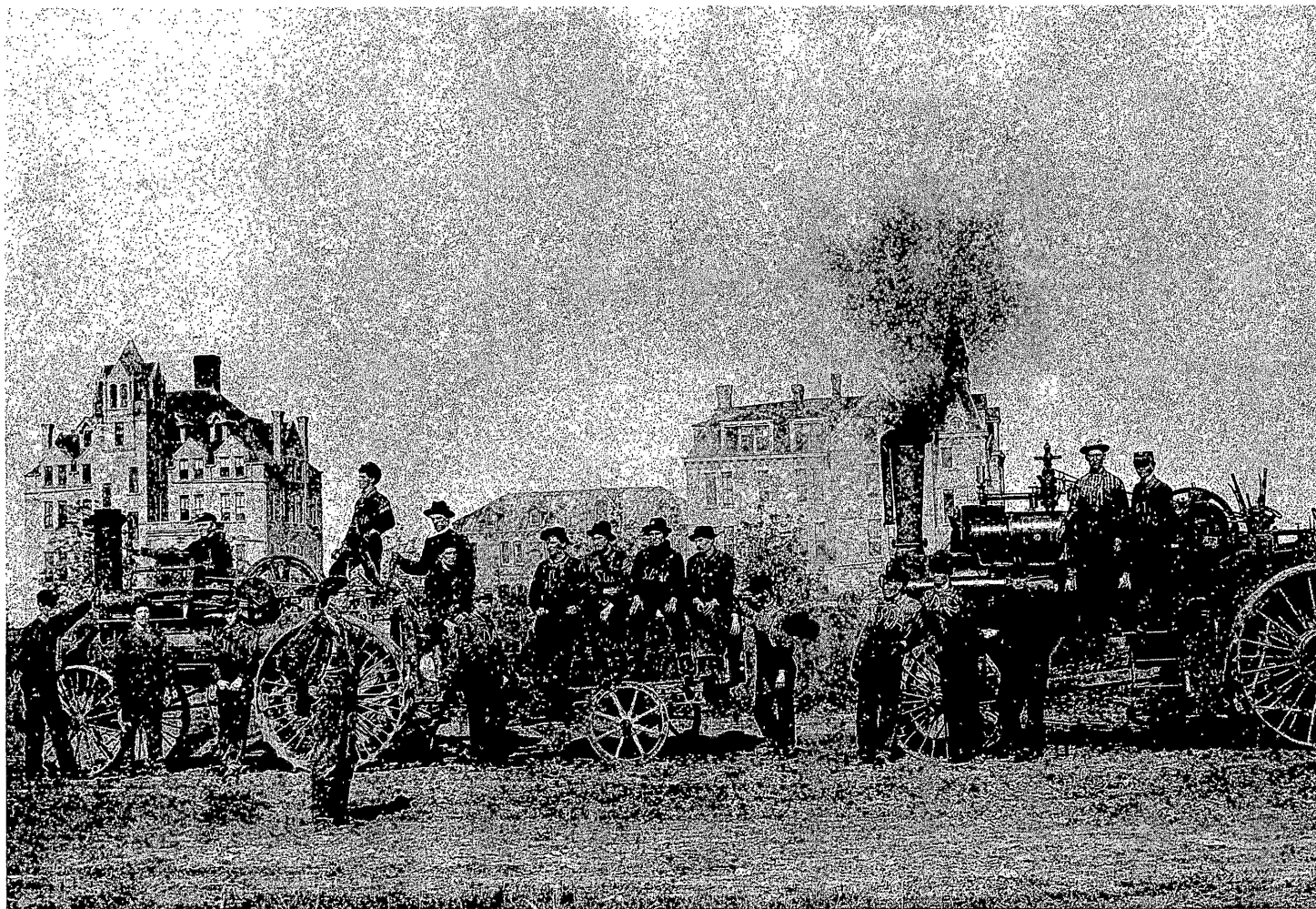
A crosslisted course is a course which carries more than one course prefix (i.e., HIST, POLS, GEOG) with credit being offered under any one of the listed prefixes at the same time. Students choose to take the course under the prefix that is more beneficial to their course of study. All students meet at the same time in the same place, with the same instructor(s). A crosslisted course may also be multi-numbered.

## Dual Numbered Courses

A multiple-numbered course is a single course specifically designed for simultaneous delivery at two or more levels with the two or more numbers taught simultaneously. In some instances, the course may be offered for credit at different levels (i.e., courses may be offered for upper/lower division credit or for undergraduate/graduate credit). The dual-numbered course may also be crosslisted.

## Globalization

A BOR Requirement, courses chosen by departments to meet this requirement are tagged with (G).



Threshing on campus at the turn of the century.



# x9x Common Course Descriptions

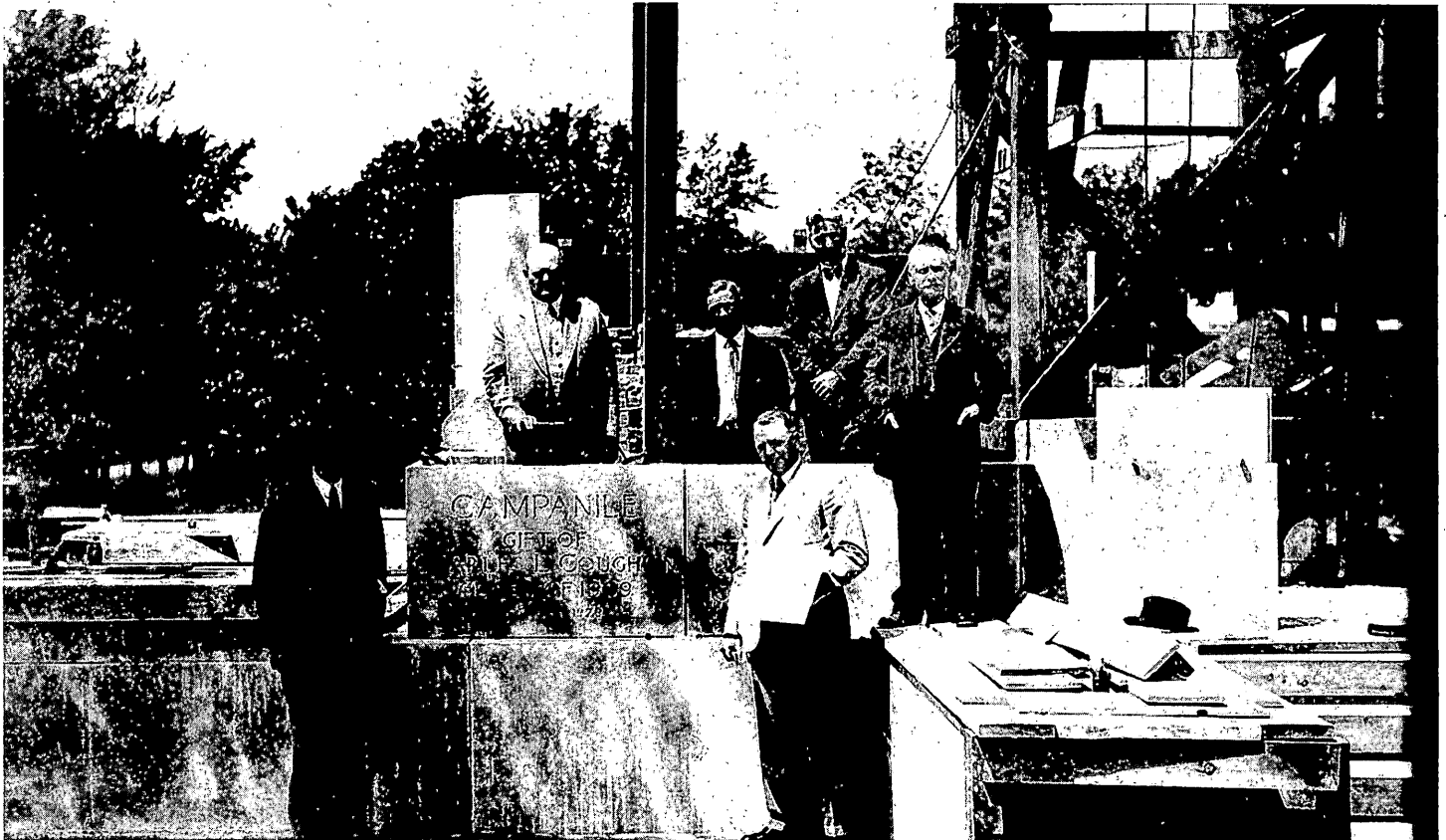
The following middle digit 9 course numbering scheme is used in the South Dakota public university system. These courses may have **multiple sections**. A section's title may or may not reflect the material covered in that section. See the academic department for **section** information, e.g., description, prerequisites such as instructor or department consent, GPA required, junior or senior standing, etc.

- x90 Seminar
- x91 Independent Study
- x92 Topics
- x93 Workshop
- x94 Internship
- x95 Practicum
- x96 Field Experience
- x97 Cooperative Education
- 498 Undergraduate Research/Scholarship

In addition, the following 700 and 800 level course numbers are also used in common:

- 788 Master's Research Problems/Projects
- 789 Master's Research Problems/  
Projects Sustaining
- 798/898S/898D\* Thesis/Dissertation
- 799/899S/899D\* Thesis Sustaining/  
Dissertation Sustaining

\*As appropriate, an S or D should be appended to a course number to distinguish between courses for specialist and doctoral degree seekers.



Pictured below right, Charles Coughlin, a 1909 graduate, returned to campus to help lay the cornerstone of the Campanile. The structure, named after Coughlin, was dedicated at the 1929 graduation.

# x9x Common Course Descriptions

## Definitions:

### **x90 Seminar**

A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as Internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

Instructional method: E.

### **x91 Independent Study**

Includes Directed Study, Problems, Readings, Directed Readings, Special Problems, and Special Projects. Students complete individualized plans of study which include significant one-on-one student-teacher involvement. The faculty member and students negotiate the details of the study plans. Enrollments are usually 10 or fewer students. Meeting depending upon the requirements of the topic.

Instructional method: I.

### **x92 Topics**

Includes Current Topics, Advanced Topics and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

Instructional method: X.

### **x93 Workshop**

Special, intense sessions in specific topic areas. Approximately 45 hours of work is required for each hour of credit. Workshops may vary in time range but typically use a compressed time period for delivery. They may include lectures, conferences, committee work, and group activity.

Instructional method: W.

### **x94 Internship**

Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with Field Experience courses.

Instructional method: S.

### **x95 Practicum**

Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study. A higher level of supervision is provided by the instructor in these courses than is the case with Field Experience courses.

Instructional method: S.

### **x96 Field Experience**

Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an Internship or Practicum course.

Instructional method: S.

### **x97 Cooperative Education**

Applied, monitored and supervised, field-based learning experience for which the student may or may not be paid. Students gain practical experience; they follow a negotiated and or directed plan of study established between the student, instructor and field experience supervisor. Due to the presence of a field experience supervisor, a lower level of supervision is provided by the instructor in these courses than is the case with an Internship or Practicum course.

Instructional method: S.

### **498 Undergraduate Research/Scholarship**

Includes Senior Project, and Capstone Experience. Independent research problems/projects or scholarship activities. The plan of study is negotiated by the faculty member and the student. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

Instructional method: J.

### **788 Master's Research Problems/Projects**

Independent research problems/projects that lead to a research or design paper but not to a thesis. The plan of study is negotiated by the faculty member and the candidate. Contact between the two may be extensive and intensive. Does not include research courses which are theoretical.

Instructional method: J.

### **789 Master's Research Problems/Projects Sustaining**

This is a zero credit hour schedule type used to track students who are not currently working with faculty on thesis or doctoral activities. Universities may require students to register under this schedule type to remain active degree candidates.

Instructional method: U.

### **798/898S/898D Thesis/Dissertation**

A formal treatise presenting the results of study submitted in partial fulfillment of the requirements for the applicable degree. The process requires extensive and intensive one-on-one interaction between the candidate and professor with more limited interaction between and among the candidate and other members of the committee.

Instructional method: T.

### **799/899S/899D Thesis Sustaining/Dissertation Sustaining**

This is a zero credit hour schedule type used to track students who are not currently working with faculty on thesis or research activities. Universities may require students to register under this schedule type to remain active degree candidates.

Instructional method: U.

## A&S (Arts and Science)

### Dual Listed Courses

**ABE 482-582 Travel Studies .....1-5**  
 This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

## ABE (Agricultural and Biosystems Engineering)

### Undergraduate Courses

**ABE 122 Introduction to Agricultural and Biological Engineering .....2**  
 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.

**ABE 225 Principles of Environmental Science and Engineering.....3**  
 Introduction to the basic principles of environmental management, environmental science and engineering, and natural resources engineering. The class will be team taught by faculty from environmental management, civil and environmental engineering, agricultural and biosystems engineering, and agricultural systems technology programs. The course will teach the fundamental physical, biological, and chemical principles of environmental processes. The course will also explore the impact of humans and human activity on ecosystems in the environment. P, CHEM 106 or CHEM 112.

**ABE 311 Design Project I.....1**  
 Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Junior standing.

**ABE 314 Ag Power and Machines .....4**  
 Analysis of factors affecting field machines and tractor performance, engine design, transmissions, traction, hitches, hydraulic systems, economics. P, EM 215. Corequisite course ABE 314L.

**ABE 314L Ag Power and Machines Lab .....0**  
 Corequisite course ABE 314.

**ABE 321 Design Project II.....1**  
 Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Junior standing.

**ABE 324 Ag Structures and Indoor Environment .....4**  
 Course is divided into two parts emphasizing design of wood structures and environmental control in animal housing. Loads, structural analysis (load distribution and deflection determination), and wood and wood panel properties are introduced. Design of beams, column, beam-columns, trusses, sheathing, and diaphragms are emphasized with mechanical fasteners. Desired animal production space (thermal environment and indoor air quality) for production, health, and welfare are discussed. Heating and cooling load emphasized along with sizing equipment (fans, inlets, heat exchangers, controls, etc.) to maintain the desired animal production space. P, ME 314, EM 321 or concurrent. Corequisite course ABE 324L.

**ABE 324L Ag Structures and Indoor Environment Lab .....0**  
 Corequisite course ABE 324.

**ABE 343 Physical Properties of Biological Materials .....3**  
 Engineering Properties of biological and interacting materials within a system. Relationships between composition structure, and properties of various biomaterials including food and plant and animal tissues. Definition and measurement of mechanical, physical, thermal and electromagnetic properties and their variability. Use of these properties in engineering applications. Corequisite course ABE 343L.

**ABE 343L Physical Properties of Biological Materials Lab .....0**  
 Corequisite course ABE 343.

**ABE 350 Hydraulic and Pneumatic Systems .....3**  
 Fluid properties, pumps, actuators, valves and their selection and performance in hydraulic circuits. Open center, closed center, load sensing and pressure compensated circuits. Proportional electro hydraulic valves and controls. Pneumatic actuators, valves, and circuits, including fluid logic and electro pneumatic controls. Corequisite course ABE 350L.

**ABE 350L Hydraulic and Pneumatic Systems Lab.....0**  
 Corequisite course ABE 350.

**ABE 353 Physical Climatology and Meteorology.....3**  
 Physical description of daily weather changes and circulation of the atmosphere. Long time means and variation from means of climatological parameters. Application of meteorological and climatological principles to various problem areas. Corequisite course ABE 353L.

**ABE 353L Physical Climatology and Meteorology Lab .....0**  
 Corequisite course ABE 353.

**ABE 372 Microcomputer Applications AE .....2**  
 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 150 or CSC 218. Corequisite course ABE 372L.

**ABE 372L Microcomputer Applications AE Lab .....0**  
 Corequisite course ABE 372.

**ABE 390 Seminar.....1**

**ABE 411 Design Project III .....2**  
 Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Senior standing.

**ABE 422 Design Project IV (AW) .....2**  
 Procedures, theory, concepts and design of equipment for agricultural production or ag product processing applications. The integration of design principles with design projects and reports. Senior standing.

**ABE 434 Natural Resources Engineering .....4**  
 Precipitation, infiltration, evapotranspiration and runoff from small agricultural watersheds and application to design of conservation structures, water erosion control practices. Design of drainage and irrigation systems. Feedlot pollution control principles. P, EM 331. Corequisite course ABE 434L.

**ABE 434L Natural Resources Engineering Lab .....0**  
 Corequisite course ABE 434.

**ABE 454 Advanced Unit Operations in Food/Biological Materials 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. Corequisite course ABE 454L.

**ABE 454L Advanced Unit Operations of Food/Biological Materials Problems Lab**.....0  
 Corequisite course ABE 454.

**ABE 460 Senior Design I Environmental Science/Engineering**.....1  
 Development of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report for preliminary design and plan for second semester final design project.

**ABE 461 Senior Design II Environmental Science/Engineering** .....2  
 Completion of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report, and plans for final design project.

**ABE 463 Applied Instrumentation** .....3  
 Measurement systems for strain, flow, pressure, displacement, and temperature are introduced with error analysis and the dynamic characteristics of the measurand and measurement system. Filters, amplifiers, logic circuits, and input circuitry analysis and use are emphasized. The additional signal conditioning required for digital data acquisition is presented. P, EE 300. Corequisite course ABE 463L.

**ABE 463L Applied Instrumentation Lab** .....0  
 Corequisite course ABE 463.

**ABE 490 Seminar (AW)** .....1

**ABE 491 Independent Study**.....1-3

**ABE 492 Topics**.....1-4

**ABE 492L Topics Lab** .....0

**ABE 494 Internship** .....1-6

**ABE 496 Field Experience**.....1-6

**ABE 497 Cooperative Education**.....1-6

**ABE 498 Undergraduate Research/Scholarship**.....1-3

## Dual Listed Courses

**ABE 444-544 Unit Operations of Biological Materials Processing** .....4  
 Transport processes of heat and mass are applied to the following unit operations: evaporation, drying, gas liquid separation processes (humidification cooling towers), vapor-liquid separation processes (distillation), soil-liquid separation processes (leaching), membrane separations (ultrafiltration, reverse osmosis), mechanical separation processes, extrusion. P, senior standing or consent. Corequisite course ABE 444L-544L.

**ABE 444L-544L Unit Operations Biological Materials Processing Lab** .....0  
 Corequisite course ABE 444-544.

## Graduate Courses

**ABE 503 Energy and Environment**.....3

**ABE 512 Advanced Agricultural Tractors and Machines** .....2

**ABE 522 Bio-Environmental Engineering**.....2

**ABE 533 Advanced Irrigation Engineering**.....3

**ABE 533L Advanced Irrigation Engineering Lab** .....0

**ABE 732 Advanced Hydrology in Agriculture** .....2

**ABE 733 Ground Water Engineering in Agriculture** .....3

**ABE 752 Theoretical Micro-Climatology**.....2

**ABE 754 Advanced Unit Operations of Food/Biomaterials Processing**.....3

**ABE 754L Advanced Unit Operations Food/Biomaterials Processing Lab**.....0

**ABE 763 Instrumentation**.....3

**ABE 763L Instrumentation Lab**.....0

**ABE 771 Graduate Seminar**.....1

**ABE 772 Similitude** .....2

**ABE 772L Similitude Lab**.....0

**ABE 773 Programming Agricultural System** .....3

**ABE 773L Programming Agricultural Systems Lab** .....0

**ABE 787 Research**.....1-9

**ABE 788 Research Report/Design Paper** .....1-2

**ABE 791 Independent Study** .....1-3

**ABE 792 Topics**.....1-3

**ABE 792L Topics Lab** .....0

**ABE 798 Thesis**.....1-7

**ABE 898D Dissertation PhD** .....1-12

## ABS (Agriculture and Biological Sciences)

### Undergraduate Courses

**ABS 100 Exploring Ag and the Food System** .....1  
 An introduction for students pursuing the 2 and 4 year General Agriculture majors, this course will provide an overview of issues, opportunities, academic and career possibilities for students interested in agriculture.

**ABS 203 Global Food Systems (G)** .....3  
 Introduction to global food systems and agricultural diversity. Food production techniques, economics, society/cultural values, and agricultural constraints in several countries will be studied. The course is team taught with faculty from Economics, Animal and Range Sciences, and Plant Science.

**ABS 205 Biotechnology in Agriculture and Medicine** .....2  
 This course will provide a means for students in various majors to gain an understanding of the rapidly emerging, multidisciplinary research and applications in biotechnology, and to learn of potential career directions and training opportunities in biotechnology-related fields. Course materials and lectures will change each year to keep up with the changing technology. Guest lecturers will provide the best expertise available. Internet assistance is necessary to provide resource materials and new publications. Course will be open to all students.

**ABS 310 Leadership for Families and the Food System .....3**  
 Principles of leadership within the unique contexts of agriculture, biological sciences, family and consumer sciences. Topics covered include definitions and approaches to the study of leadership, leadership styles, gender and ethnic diversity, leadership in groups, ethical issues, mission statements, and emerging leadership issues. Crosslisted with FCS 310.

**ABS 381 Multicultural Agriculture/Biological Science Experience ...2-4**  
 This will be a team-mentored class. Students will work one on one or in small groups with professors that have knowledge of the region and one-to-three week experience to an area in the U.S. that is different from their home agricultural community, to experience and evaluate diverse food/agricultural systems. For the Bachelor's degree, a maximum of 8 credits is allowed for domestic multicultural travel/study experience (ABS 381) and/or an international travel/study experience (ABS 482). ABS 203 is recommended.

**ABS 475 Integrated Natural Resource Management (AW) .....3**  
 A capstone course that requires students to integrate previously-learned natural resource techniques and information into the strategic planning process. Students will be divided into small groups for plan development. Various majors are involved to allow for integrated course material. P, dependent on major. Corequisite course ABS 475L.

**ABS 475L Integrated Natural Resource Management Lab .....0**  
 Corequisite course ABS 475.

### Dual Listed Courses

**ABS 482-582 International Experience (G).....2-4**  
 This will be a team-mentored class. Students will work one on one or in small groups with professors that have knowledge of the global region and culture that will be visited. Students will participate in a one-to-three week travel/study abroad experience to another nation(s) to experience and evaluate diverse food/agricultural systems. For the Bachelor's degree, a maximum of 8 credits is allowed for domestic multicultural travel/study experience (ABS 381) and/or an international travel/study experience (ABS 482). ABS 203 is recommended.

**ABS 492-592 Topics.....1-4**

### Graduate Courses

- ABS 701 Animal Systems .....1-10**
- ABS 702 Genetics.....1-10**
- ABS 703 Microbial Systems.....1-10**
- ABS 704 Plant Systems .....1-10**
- ABS 705 Research Methodology .....1-10**
- ABS 706 Natural Resource Management.....1-10**
- ABS 706L Natural Resource Management Lab.....0**
- ABS 792 Topics .....1-6**

## ACCT (Accounting)

### Undergraduate Courses

**ACCT 210 Principles of Accounting I (COM).....3**  
 A study of fundamental accounting principles and procedures such as journalizing, posting, preparation of financial statements, and other selected topics. Accounting is emphasized as a service activity designed to provide the information about economic entities that is necessary for making sound decisions. P, sophomore or above standing or consent of instructor.

**ACCT 211 Principles of Accounting II (COM) .....3**  
 A continuation of ACCT-210 with emphasis on partnership and corporate structures, management decision-making, cost control, and other selected topics. P, ACCT 210.

**ACCT 310 Intermediate Accounting I (COM).....3**  
 Involves the intensive study of financial accounting standards, both in theory and practice, as they relate to the preparation and analysis of financial statements. Accounting problems and their impact on the financial statements are addressed in regard to current assets, fixed assets, intangible assets, liabilities, and other selected topics. P, ACCT 211.

**ACCT 311 Intermediate Accounting II (COM).....3**  
 Provides an intensive study of accounting standards, both in theory and practice, as they relate to the preparation and analysis of financial statements. Accounting problems and their impact on the financial statements are addressed in regard to liabilities, investments, stockholders' equity, leases, pensions, tax allocation and other selected topics. P, ACCT 310 or consent of instructor.

**ACCT 320 Cost Accounting (COM).....3**  
 The study of principles and techniques for accumulating, reporting, and analyzing cost information for decision-making and external reporting. The use of cost accounting systems for planning and controlling cost responsibility centers is emphasized. Consideration is given to the appropriate use of various cost accounting methods such as activity-based costing, target costing, and just in time management techniques in service and manufacturing industries. P, ACCT 211.

**ACCT 430 Income Tax Accounting (COM).....3**  
 Involves the study of Federal Income Tax law as it affects individuals, as well as other selected topics. P, ACCT 211.

**ACCT 450 Auditing (COM) .....3**  
 Studies both theory and practice. Topics include audit planning, internal control, audit procedures, audit reports and opinions, materiality, audit risk, evidential matter, as required by generally accepted auditing standards (GAAS), professional ethics, legal responsibilities, and other selected topics. P, ACCT 311 or consent of instructor.

**ACCT 490 Seminar (COM).....3**

**ACCT 491 Independent Study (COM) .....1-4**

**ACCT 492 Topics (COM).....1-4**

**ACCT 493 Workshop (COM) .....1-4**

**ACCT 494 Internship (COM).....1-12**

## Dual Listed Courses

**ACCT 406-506 Accounting for Entrepreneurs (COM) .....3**  
 Accounting concepts and practices for entrepreneurs/small business owners. Emphasis given to the use of accounting tools to solve small business problems. Crosslisted with BADM 406-506 and ENTR 406-506.

## Graduate Courses

**ACCT 592 Topics.....1-4**

## AEWR (Atmospheric, Environmental, and Water Resources)

### Graduate Courses

**AEWR 790 Seminar .....1**  
**AEWR 898D Dissertation PhD.....1-12**

## AGEC (Agricultural and Resource Economics)

### Undergraduate Courses

**AGEC 271 Farm and Ranch Management.....4**  
 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, one course from MATH except 021, 101, 100T. Corequisite course AGECE 271L.

**AGEC 271L Farm and Ranch Management Lab.....0**  
 Corequisite course AGECE 271.

**AGEC 292 Topics.....1-4**

**AGEC 352 Agricultural Law .....3**  
 Legal rights and duties of parties to agricultural business transactions: sales, secured transactions, real and personal property, business associations, labor relations, bankruptcy, water and drainage, and livestock. Emphasis is on South Dakota law. P, BADM 350, junior standing.

**AGEC 354 Agricultural Marketing and Prices .....3**  
 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 364 Introduction to Cooperatives.....3**  
 This course will address the concepts and business principles of the cooperative form of business. Cooperatives differ from other businesses because they are member-owned and operate for the benefit of members, not investors. The course is designed to provide students an understanding of cooperatives that is legally consistent and realistic.

**AGEC 454 Economics of Grain and Livestock Marketing .....3**  
 Application of economic and marketing principles to the price discovery process and alternative exchange mechanisms; economics of technological

innovation, and the impact of federal government policies on marketing. P, AGECE 354.

**AGEC 473 Rural Real Estate Appraisal .....2**  
 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. Crosslisted with PS 473. P, AGECE 271 or PS 213. Corequisite course AGECE 473L.

**AGEC 473L Rural Real Estate Appraisal Lab.....1**  
 Crosslisted with PS 473L. Corequisite course AGECE 473.

**AGEC 478 Agricultural Finance .....3**  
 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, AGECE 271, ECON 201, ACCT 210. Corequisite course AGECE 478L.

**AGEC 478L Agricultural Finance Lab .....0**  
 Corequisite course AGECE 478.

**AGEC 479 Agricultural Policy (AW) (G).....3**  
 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 agribusiness. Implication of agricultural policy alternatives on people living in rural and urban areas. P, ECON 201 and ECON 202.

**AGEC 491 Independent Study.....1-3**

**AGEC 492 Topics.....1-4**

**AGEC 493 Workshop.....1-3**

**AGEC 498 Undergraduate Research/Scholarship.....1-4**

## Dual Listed Courses

**AGEC 421-521 Farming and Food Systems Economics .....3**  
 Use of economic concepts in analyzing farming and food system alternatives. Using multidisciplinary approach, the course examines the critical linkages in the food system and engages in problem solving at each step of the process. P, senior standing, AGECE 271 or ECON 201.

**AGEC 471-571 Advanced Farm and Ranch Management .....3**  
 Leasing arrangements, capital investment, computerized accounting and budgeting. Linear programming as a tool for planning and organizing the farm business. P, senior standing, AGECE 271, ECON 301, or consent.

## Graduate Courses

**AGEC 591 Independent Study .....1-3**

**AGEC 592 Topics .....1-4**

**AGEC 593 Workshop .....1-3**

**AGEC 621 Advanced Production Economics.....3**

**AGEC 630 Advanced Agricultural Marketing and Prices.....3**

**AGEC 691 Independent Study .....1-3**

## AGED (Agricultural Education)

### Undergraduate Courses

**AGED 404 Program Plan in Agricultural Education (AW)**.....4  
 FFA, Adult Education, and supervised occupational experience programs; policy development.

**AGED 434 Special Methods in Agricultural Education**.....3  
 Aims, course of study selection and organization of subject matter, method in field, laboratory, classroom, and supervised occupational experience programs. Taken first six weeks of semester in which the student completes student teaching, and resumes following student teaching. P, PSII-Professional Semester II; CTE 295, CTE 405, EPSY 302, EDFN 475, SEED 314, SEED 450, AGED 404.

**AGED 454 Teaching Ag Systems Technology Labs** .....2  
 Shop management, safety, shop plans, selection, care and use of hand and power tools, and equipment, to be taken as part of student teaching block in Agricultural Education. Offered first six weeks of semester. P, senior in Agricultural Education; CTE 295, CTE 405, EPSY 302, EDFN 475, SEED 314, SEED 450; AGED 404. Corequisite course AGED 454L.

**AGED 454L Teaching Agricultural Mechanics Lab** .....0  
 Corequisite course AGED 454L.

**AGED 475 Supervised Teaching Internship** .....8  
 Assigned in the individual student's major, or inappropriate, the teaching minor. An experiential application of teaching pedagogy and content for an extended period of time. Application must be made through the Supervisor of Clinical Experiences no later than the second semester of the junior year. P, Professional Semester I courses, Professional Semester II courses, acceptance and admittance into the Teaching Internship Program; CTE 295, CTE 405, EPSY 302, EDFN 475, SEED 314, SEED 450, AGED 404.

**AGED 491 Independent Study** .....1-3

**AGED 494 Internship** .....1-12

**AGED 496 Field Experience** .....1-12

**AGED 497 Cooperative Education**.....1-12

### Graduate Courses

**AGED 591 Independent Study** .....1-3

**AGED 690 Seminar**.....1-2

**AGED 706 Adult Education in Agriculture**.....2

**AGED 707 Supervised Occupational Experiences and Student Groups** .....2

**AGED 776 Curriculum in Agricultural Education**.....2

**AGED 788 Research Problems in Agricultural Education** .....2

## AHED (Adult Higher Education)

### Undergraduate Courses

**AHED 496 Field Experience** .....2-5

## Graduate Courses

**AHED 600 Special Problems in Extension** .....2-6

**AHED 691 Independent Study** .....1-3

**AHED 693 Workshop** .....1-3

**AHED 711 Assessment and Program Design**.....3

**AHED 720 Principles of Post Secondary Education**.....3

**AHED 755 Principles of College Teaching**.....3

**AHED 772 Administration and Leadership in Student Affairs** .....3

**AHED 788 Research Problems in Adult Education** .....1-2

**AHED 790 Seminar**.....1-3

**AHED 794 Internship** .....1-6

## AIR (Aerospace Studies/Air Force ROTC)

### Undergraduate Courses

**AIR 101 Aerospace Studies 100**.....1  
 Professional appearance, customs and courtesies, officership/core values, basic communication, officer opportunities/benefits, and Air Force installations. Corequisite course AIR 101L.

**AIR 101L Aerospace Studies 100 Lab** .....0  
 Corequisite course AIR 101.

**AIR 102 Aerospace Studies 100**.....1  
 Interpersonal communication, macro U.S. military history, Air Force organizations/chain of command, cadet/officer candidate/officer, oral communication, and group leadership problems. Corequisite course AIR 102L.

**AIR 102L Aerospace Studies 100 Lab** .....0  
 Corequisite course AIR 102.

**AIR 201 Aerospace Studies 200**.....1  
 Air Power from balloons and dirigibles through 1947; Air Force mission, concepts, doctrine and use of air power. Corequisite course AIR 201L.

**AIR 201L Aerospace Studies 200 Lab** .....0  
 Corequisite course AIR 201.

**AIR 202 Aerospace Studies 200**.....1  
 History of air power from 1947 to present. Air Force relief missions and civic action programs in the late 1960's. Corequisite course AIR 202L.

**AIR 202L Aerospace Studies 200 Lab** .....0  
 Corequisite course AIR 202.

**AIR 301 Aerospace Studies 300**.....3  
 Individual motivational and behavioral processes; leadership and group dynamics provide a foundation for development of professional skills as an Air Force officer-includes speaking and writing as they apply to the Air Force. Air Force quality concepts and techniques. Corequisite course AIR 301L.

**AIR 301L Aerospace Studies 300 Lab** .....0  
 Corequisite course AIR 301.

**AIR 302 Aerospace Studies 300**.....3  
 Basic management processes of planning organizing, decision-making, controlling and use of analytical aids. The manager's world of power, politics, strategy, tactics and value conflicts discussed within the context of the military organization. Corequisite course AIR 302L.

**AIR 302L Aerospace Studies 300 Lab**.....0  
 Corequisite course AIR 302.

**AIR 401 Aerospace Studies 400**.....3  
 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. Corequisite course 401L.

**AIR 401L Aerospace Studies 400 Lab**.....0  
 Corequisite course 401.

**AIR 402 Aerospace Studies 400**.....3  
 Evolution of defense strategy and the methods of managing conflict. Analysis of the system of Military Justice. Corequisite course 402L.

**AIR 402L Aerospace Studies 400 Lab**.....0  
 Corequisite course 402.

## AIS (American Indian Studies)

### Undergraduate Courses

**AIS 100 Introduction to American Indian Studies** .....3  
 Introduction to indigenous cultures of North America with emphasis on those inhabiting the United States. Contemporary issues facing Indian people today are covered along with relevant historical, geographical, legal, cultural, and philosophical information.

**AIS 101 Introductory Lakota I (COM)**.....4  
 An introduction to the Lakota language with emphasis on conversation, language structure, and vocabulary. Crosslisted with LAKL 101.

**AIS 102 Introductory Lakota II (COM)** .....4  
 A continued introduction to the Lakota language with emphasis on basic conversation, language structure, and vocabulary. P, AIS 101 or LAKL 101 or consent of instructor.

**AIS 201 Intermediate Lakota I (COM)**.....3  
 A continuation of the first-year course, with emphasis on reading, composition, and vocabulary building. Crosslisted with LAKL 201. P, AIS 101 and 102 or LAKL 101 and 102 or consent of instructor.

**AIS 202 Intermediate Lakota II (COM)** .....3  
 A continuation of intermediate Lakota with emphasis on reading, composition, vocabulary building and the oral tradition. Crosslisted with LAKL 202. P, AIS 101 and AIS 102 or LAKL 101 and LAKL 102 or consent of instructor.

**AIS 238 Native American Religions**.....3  
 A survey of Native American religious traditions and their relation to both traditional and contemporary cultures. Focus on ritual, myth and practice in traditional settings, as well as forms of religious resurgence in the 20th century. Crosslisted with REL 238.

**AIS 256 Literature of American West (COM)** .....3  
 A study of the literature produced in our region, centered on the Great Plains, including that of Native Americans; both oral and written; of pioneers, immigrants; and farmers; Western literature, and current writers. P, ENGL 101 or consent of instructor.

**AIS 368 History and Culture of the American Indian** .....3  
 Presents history and culture of North American Indians from before white contact to the present, emphasizing regional Dakota cultures. Crosslisted with HIST 368. Fulfills Teacher Education Requirement.

**AIS 410 North American Ethnology**.....3  
 A comparative survey of native North American cultures representative of major cultural areas of North America. Emphasis on traditional cultures using a case-study approach. Crosslisted with ANTH 410.

**AIS 417 Tribal Government and Politics (COM)**.....3  
 An in-depth investigation of federal, state, and tribal laws, and the historical development and status of treaties, legislation, court decisions, and tribal governments.

**AIS 421 Indians of North America** .....3  
 Provides prospective teachers and those interested in Indian people with a basic knowledge of Indian heritage and culture. Emphasis on the Dakota Indians. Crosslisted with ANTH 421-521 and INED 411. Fulfills Teacher Education requirement.

**AIS 445 American Indian Literature** .....3  
 Concentration of myths and legends of major language groups, particularly the Siouan. Crosslisted with ENGL 445.

**AIS 447 American Indian Literature of Present** .....3  
 Twentieth-century autobiography, fiction, and poetry by Native American authors. Crosslisted with ENGL 447.

**AIS 467 Geography of the American Indian** .....3  
 Study of the geography of the American Indians under three primary topics: loss of Indian lands; development of the Indian reservation system; historical and contemporary land issues. Crosslisted with GEOG 467.

**AIS 491 Independent Study (COM)**.....1-3

## AM (Apparel Merchandising)

### Undergraduate Courses

**AM 121 Dress in Popular Culture** .....2  
 Social and cultural factors affecting dress. A look at socio-cultural dynamics of contemporary times and how they affect fashion.

**AM 172 Introduction to Apparel Merchandising**.....2  
 Introduction to basic concepts for success as an apparel merchandising major. Topics include mass media, library research, group behavior, and careers in apparel merchandising.

**AM 231 Ready-To-Wear Analysis**.....3  
 Analysis of construction, fabric, fit, defects, and pricing of ready-to-wear. Product knowledge, including garment classifications. Examination of consumer attitudes toward product quality. Corequisite course AM 231L.

**AM 231L Ready-To-Wear Analysis Lab** .....0  
 Corequisite course AM 231.

**AM 242 Textiles I**.....3  
 An investigation of fiber, yarn, fabrication, finishes and their interrelationship to specific end use and consumer satisfaction. P, sophomore standing. Corequisite course AM 242L.

**AM 242L Textiles I Lab** .....0  
 Corequisite course AM 242.



<b>AM 274 Fashion Promotion and Visual Merchandising</b> .....	<b>3</b>
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). Corequisite course 274L.	
<b>AM 274L Fashion Promotion and Visual Merchandising Studio</b> .....	<b>0</b>
Corequisite course 274.	
<b>AM 292 Topics</b> .....	<b>1-3</b>
<b>AM 315 Apparel Design</b> .....	<b>3</b>
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, AM 172. Corequisite course AM 315L.	
<b>AM 315L Apparel Design Studio</b> .....	<b>0</b>
Corequisite course AM 315.	
<b>AM 331 Aesthetics of Dress</b> .....	<b>3</b>
Aesthetic aspects of dress. Analysis of elements and principles of art in the study of dress for application of clothing selection to personal and client use. Corequisite course AM 331L.	
<b>AM 331L Aesthetics of Dress Lab</b> .....	<b>0</b>
Corequisite course AM 331.	
<b>AM 350 Cultural Perspectives on Dress</b> .....	<b>3</b>
The simple act of dressing the body results in a powerful form of non-verbal communication that has the potential to convey many messages including authority, gender, and physical ideals. This course focuses on diversity and social change, the influence of cultural ideals and standards of appearance, and the evolution of dress in response to society's needs, values, and technology. Students will examine these issues from cross-cultural and cross-disciplinary perspectives.	
<b>AM 352 History of Dress in the Western World</b> .....	<b>3</b>
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 a resource material.	
<b>AM 372 Merchandising and Buying I</b> .....	<b>3</b>
Analysis of merchandising components for profitability. Develop strategies for planning profitable and acceptable merchandise lines. Construct a buying plan. Case study approach.	
<b>AM 381 Professional Behavior at Work</b> .....	<b>3</b>
Social skills and professional conduct in a global workplace. Emphasis will be on interpersonal communication and cross-cultural interactions appropriate in the work environment.	
<b>AM 453 Socio-Psychological Aspects of Dress</b> .....	<b>3</b>
Examination of clothing behavior from sociological, psychological and cultural perspectives. Crosslisted with WMST 453.	
<b>AM 462 Retailing</b> .....	<b>3</b>
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. Crosslisted with ID 462.	
<b>AM 472 Merchandising and Buying II</b> .....	<b>3</b>
Continuation of the merchandising and buying process. Specific computer applications to the process will be explored. Development of a global sourcing plan for merchandise to fulfill business needs will be required. P, AM 372. Corequisite course AM 472L.	

<b>AM 472L Merchandising and Buying II Lab</b> .....	<b>0</b>
Corequisite course AM 472.	
<b>AM 473 International Trade in Textiles and Apparel</b> .....	<b>3</b>
Examination of the textiles and apparel industries in a global context including history and development, organization and operation, domestic and international trade policies.	
<b>AM 480 Travel Studies</b> .....	<b>1-5</b>
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.	
<b>AM 482 Trends Analysis (AW)</b> .....	<b>3</b>
Study of broad societal trends as they relate to retailing and their relationship and effect on social, political, economic and lifestyle patterns. Experience with trend analysis.	
<b>AM 487 Workplace Strategies</b> .....	<b>2</b>
Discussion of professional practices and issues. Experience in goal setting, reporting and evaluation, and market research. Organization and preparation of professional documents. P, AM 462	
<b>AM 490 Seminar</b> .....	<b>3</b>
P, AM 495.	
<b>AM 491 Independent Study</b> .....	<b>1-3</b>
<b>AM 492 Topics</b> .....	<b>1-3</b>
<b>AM 495 Practicum</b> .....	<b>1-12</b>
P, AM 487.	
<b>AM 498 Undergraduate Research/Scholarship</b> .....	<b>1-3</b>

## ANTH (Anthropology)

### Undergraduate Courses

<b>ANTH 210 Cultural Anthropology (COM)</b> .....	<b>3</b>
Introduces the nature of human culture as an adaptive ecological and evolutionary system, emphasizing basic anthropological concepts, principles and problems. Draws data from both traditional and industrial cultures to cover such concepts as values and beliefs, social organization, economic and political order, science, technology, and aesthetic expression.	
<b>ANTH 220 Physical Anthropology (COM)</b> .....	<b>3</b>
Focuses upon the interactive process between human biology and human culture, drawing relationships among such concepts as human evolution, human heredity, human biological diversity, and biological micro-adaptations.	
<b>ANTH 410 North American Ethnology</b> .....	<b>3</b>
A comparative survey of native North American cultures representative of major cultural areas of North America. Emphasis on traditional cultures using a case-study approach. Crosslisted with AIS 410.	
<b>ANTH 494 Internship</b> .....	<b>1-12</b>
<b>ANTH 496 Field Experience</b> .....	<b>1-12</b>

## Dual Listed Courses

- ANTH 421-521 Indians of North America** .....3  
 Provides prospective teachers and those interested in Indian people with a basic knowledge of Indian heritage and culture. Emphasis on the Dakota Indians. Crosslisted with AIS 421 and INED 411. Fulfills Teacher Education requirement.
- ANTH 491-591 Independent Study (COM)**.....1-3
- ANTH 492-592 Topics** .....1-3

## ARAB (Arabic)

### Undergraduate Courses

- ARAB 101 Introductory Arabic I (COM) (G)**.....4  
 Introduces the fundamental elements of Arabic writing and vocabulary and Muslim culture. Emphasizes sound/symbol relationships. Class work may be supplemented with required aural/oral practice outside of class. There are no prerequisites for this course.
- ARAB 102 Introductory Arabic II (COM) (G)** .....4  
 Continues with the introduction of the fundamental elements of Arabic writing and vocabulary and Muslim culture. Emphasizes sound/symbol relationships. Class work may be supplemented with required aural/oral practice outside of class. P, ARAB 101.

## ART (Art)

### Undergraduate Courses

- ART 110 First Review** .....0  
 A course to assess basic knowledge of Visual Arts terminology and theory, including visual elements and design principles for all students entering into Visual Arts or Graphic Design majors. Students must register, attend, and complete the First Review during their first semester in the major. The faculty will assess student's knowledge and to provide an orientation to the department's future reviews, Art 200 and Art 400. The department will notify the student if the review must be repeated before the student is permitted to take Art 200 Portfolio Review Jury on Student Progress. Art 110 will be offered only once each semester. As part of University Assessment, this Review will aid faculty in assessing the curricula.
- ART 111 Drawing I (COM)** .....3  
 Introduces various drawing concepts, media, and processes developing perceptual and technical skills related to accurate observing and drawing.
- ART 112 Drawing II (COM)** .....3  
 Emphasizes the continuing development of essential drawing skills and perceptual abilities as drawing concepts, compositional complexity, and creativity gain importance. P, ART 111.
- ART 121 Design I 2D (COM)** .....3  
 Emphasizes the organization of visual elements and principles while exploring creative thought processes through art theory, concepts, material, and techniques.
- ART 122 Design II Color (COM)**.....3  
 Introduction to color theory as it applies to basic 2D and 3D design principles. P, ART 121 or consent of instructor.

- ART 123 Three Dimensional Design (COM)** .....3  
 3-D visual problems solved through the organization of design elements, utilizing three dimensional design language revealed through its history, theory, aesthetics and materials.
- ART 200 Portfolio Review Jury on Student Progress** .....0  
 A course for sophomore-level majors in the department. Students must register, attend, and complete the Review on Student Progress after finishing 15 hours of coursework in the Visual Arts Studio Core. If the Portfolio Review is not successfully completed, it must be repeated before registering in the Junior level of coursework in the student's major. Completion of the course will be indicated by "NG" (No Grade). The course may be repeated, and will be offered at least once every semester. P, Art 110 First Review.
- ART 211 Drawing III-Figurative (COM)** .....3-9  
 Figurative drawing studied, emphasizing the development of individual ideas and approaches to various drawing media, including the use of multimedia. P, ART 111 or consent of instructor.
- ART 231 Painting I (COM)** .....3  
 Initial approach to painting, employing history, materials, techniques and process in various media as student work with concepts, objects or models. P, ART 111 or consent of instructor.
- ART 241 Sculpture I (COM)** .....3  
 Introduces the development of sculptural concepts and objects through history, techniques and processes using basic three-dimensional materials, including clay, plaster, stone, metals, wood, and synthetic media. P, ART 123.
- ART 251 Ceramics I (COM)** .....3  
 Introduces ceramic art through its history and basic methods of forming, decorating, glazing, and firing pottery forms, including glaze chemistry and kiln construction.
- ART 281 Printmaking I (COM)**.....3  
 Introduces the history and techniques of relief and intaglio processes, lithography (section 1) and screen printing (section 2) as a primary means of expression.
- ART 331 Painting II (COM)**.....3  
 Emphasizes painting based on complex combinations of concepts, materials, techniques and processes using objects, models, and individual creativity. P, ART 231.
- ART 332 Painting-Intermediate Level** .....3  
 Continuation of Painting II. Emphasis on composition and expression. P, ART 331.
- ART 341 Sculpture II (COM)** .....3  
 Continues Sculpture I as students explore individual concepts through various techniques and materials. P, ART 241.
- ART 342 Sculpture III (COM)**.....3  
 Continues Sculpture II as students further explore individual concepts through various techniques and materials. P, ART 341.
- ART 351 Ceramics II (COM)**.....3  
 Continues Ceramics I as students explore clay through individually creative application of concepts, techniques and glazing and firing methods. P, ART 251.
- ART 352 Ceramics-Intermediate Level**.....3  
 Continuation of Ceramics II. Emphasis on individual concepts developed through hand-building and/or throwing techniques. Also more advanced glazing and firing techniques, kiln maintenance, and studio operations. P, ART 351 (minimum grade of "C", or consent of instructor).

**ART 381 Printmaking II (COM) .....3**  
 Continues Printmaking I as students further individualized their application of printing processes and media. P, ART 281 or consent of instructor.

**ART 382 Printmaking-Intermediate Level.....3**  
 Continuation of Printmaking II. Creative use of advanced printmaking techniques and processes in relief, intaglio, and serigraphy. P, ART 381.

**ART 391 Independent Study .....1-3**

**ART 400 Senior Review .....0**  
 A course for seniors in the department. Students must register, attend, and complete the Senior Review in order to graduate with a degree in Visual Arts or Graphic Design. The faculty will assess how the student's portfolio or exhibition meets the standards of the department major. If the standards of knowledge have not been met, the student will be informed that the work must be resubmitted for faculty review, and the student will not be eligible for graduation. Completion of the course will be indicated by "NG" (No Grade). P, Art 200 and senior standing in the major.

**ART 430 Watercolor (COM) .....3**  
 Generates creative experiences in developing and evaluating visual ideas expressed in watercolor through discussion and utilization of master artists' watercolor approaches and techniques.

**ART 431 Painting III (COM).....3**  
 Continues Painting II emphasizing concepts in art history, art criticism, and issues in contemporary art as students are encouraged to use self-directed and experimental approaches in developing subject matter and content. P, ART 331 or consent of instructor.

**ART 441 Sculpture-Advanced .....3-9**  
 Continuation of Sculpture III. Advanced exploration of sculpture concepts. P, ART 342. Repeatable up to 9 hours.

**ART 451 Ceramics-Advanced.....3-9**  
 A continuation of Ceramics III, an advanced exploration of ceramic materials as directed by personal conceptual needs. Further technical aspects of clay, glaze, and firing processes. Students take a more active role in studio operations. P, ART 352, minimum grade of "C" in ART 352, or consent of instructor. Repeatable up to 9 hours.

**ART 481 Printmaking-Advanced .....3-9**  
 A continuation of Printmaking III. P, ART 382. Repeatable up to 9 hours.

**ART 482 Travel Studies.....1-5**  
 This travel study course is designed to provide extra-mural educational experiences, as approved by, and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hand-on activities, and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report and/or exhibition or portfolio of art/design work.

**ART 491 Independent Study (COM) .....1-12**

**ART 492 Topics (COM).....1-9**

**ART 494 Internship (COM).....1-16**

## ARTD (Art Design)

### Undergraduate Courses

**ARTD 201 Graphic Design I.....3**  
 An introduction to graphic design stressing theory and creative development.

**ARTD 202 Computer Graphics I.....3**  
 A non-programming introduction to drawing, photo-imaging and page layout design software emphasizing computer-generated design projects.

**ARTD 301 Graphic Design II.....3**  
 An introduction to typographic theory and practice for graphic designers. Emphasis on historical and contemporary typographic usage; hand and computer-generated projects. Recommend concurrent enrollment in ARTD 302. P, ARTD 201 or consent of instructor.

**ARTD 302 Computer Graphics II .....3**  
 A non-programming intermediate computer graphics course focusing on digital-imaging and page-layout applications for graphic designers. Recommend concurrent enrollment in ARTD 301. P, ARTD 201, ARTD 202, or consent of instructor.

**ARTD 351 Visual Communication I .....3**  
 An intermediate Visual Communication course emphasizing theory and practice that explores graphic design and digital prepress. P, ARTD 301, ARTD 302. Corequisite course ARTD 352.

**ARTD 352 Design Media I .....3**  
 Introduction to animation and web applications. Instructor's consent required. P, ARTD 301, ARTD 302. Corequisite course ARTD 351.

**ARTD 451 Visual Communication II: Senior Portfolio .....3**  
 An advanced Visual Communication course emphasizing portfolio preparation and corporate identity study. P, ARTD 351, ARTD 352. Corequisite course ARTD 452.

**ARTD 452 Design Media II .....3**  
 A continuation of Design Media I with emphasis on completed multimedia and web page projects as portfolio works. P, ARTD 351, ARTD 352. Corequisite course ARTD 451.

**ARTD 465 Advertising Design .....3**  
 A studio course in Advertising Design with an emphasis on concept development, graphic design, research, organization, and presentation. (For advertising majors crosslisted as MCOM 470.) P, ARTD 351 or MCOM 371.

## ARTE (Art Education)

### Undergraduate Courses

**ARTE 414 K-12 Art Methods (COM).....2-3**  
 Students develop an understanding of the tools of inquiry of K-12 art; the ability to design, deliver and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to K-12 art; the ability to assess student learning in K-12 art; and to apply this knowledge, skills, and attitudes to real life situations and experiences.

### Dual Listed Courses

**ARTE 491-591 Independent Study .....1-3**



## ARTH (Art History)

### Undergraduate Courses

<b>ARTH 100 Art Appreciation (COM) (G)</b> .....	<b>3</b>
Explores the nature of art in various aesthetic, formal, and psychological dimensions, involving analysis of art objects for understanding, enjoyment, and life enhancement.	
<b>ARTH 211 History of World Art I (COM) (G)</b> .....	<b>3</b>
Art and architecture in the historical and contextual development of the role of visual arts including crafts, drawing, painting, sculptures and architecture, in the historical and cultural development of world civilizations from prehistory through the 14th century. P, ARTH 100.	
<b>ARTH 212 History of World Art II (COM) (G)</b> .....	<b>3</b>
Art and architecture in the historical and contextual development. The role of visual art; including crafts, drawing, painting, sculpture, and architecture; in the historical and cultural development of world civilization from the renaissance through the 20th century. P, ARTH 100.	
<b>ARTH 310 History of United States Art and Architecture (AW)</b> .....	<b>3</b>
From colonial times to present. P, ARTH 212.	
<b>ARTH 320 Modern Art and Architecture Survey (AW)</b> .....	<b>3</b>
Survey of Modern Art and Architecture from its beginnings in the 19th century. Emphasis on international studies and cultural diversity. P, ARTH 212.	
<b>ARTH 490 Seminar (COM) (AW)</b> .....	<b>1-3</b>
<b>ARTH 492 Topics (COM)</b> .....	<b>1-6</b>

## AS (Animal Science)

### Undergraduate Courses

<b>AS 100 Opportunities in Animal and Range Sciences</b> .....	<b>1</b>
An overview of careers and opportunities in the Animal and Range Sciences. Crosslisted with RANG 100.	
<b>AS 101 Introduction to Animal Science</b> .....	<b>2</b>
Adaptation, breeding, feeding, marketing, behavior, classification, growth, genetics, reproduction and animal health as they apply to farm animals. Corequisite course AS 101L.	
<b>AS 101L Introduction to Animal Science Lab</b> .....	<b>1</b>
Corequisite course AS 101.	
<b>AS 104 Introduction to Horse Management</b> .....	<b>2</b>
Basic principles in caring for horses, and introduction to the horse industry. Topics include: horse breeds and registry; grooming and safe handling, care and feeding practices; vital signs, body condition scoring, pre-purchase examination, recognition of common lameness and health problems and facilities. Corequisite course AS 104L.	
<b>AS 104L Introduction to Horse Management Lab</b> .....	<b>0</b>
Laboratory sessions will include involvement with the SDSU Horse Unit's activities and field trips to nearby facilities. Corequisite course AS 104.	
<b>AS 105 Light (Saddle) Horses</b> .....	<b>1</b>
Breeds of horses, gaits, grooming, equipment, diets; basic instruction with suitable equipment. Corequisite course AS 105L.	
<b>AS 105L Light (Saddle) Horses Studio</b> .....	<b>0</b>
Corequisite course AS 105.	

<b>AS 110 Equine Yearling Halter Training</b> .....	<b>1</b>
Practicum in techniques and strategies for handling and training a yearling horse. Students will learn the behavior of young horses and the appropriate steps necessary to teach a young horse to accept a halter and grooming, to lead properly, stand to be tied, load into a trailer and begin ground training for the future saddle-breaking process. P, AS 104.	
<b>AS 200 Introduction to Meats Judging</b> .....	<b>1</b>
Identifying, judging and grading of carcasses and wholesale cuts; training in writing reasons. P, AS 101 and sophomore standing.	
<b>AS 201 Introduction to Livestock and Wool Judging</b> .....	<b>1</b>
Livestock selection criteria and terminology for beef, sheep, swine, horse and wool; performance selection parameters and EPD's will be discussed. P, AS 101 and sophomore standing.	
<b>AS 210 Equine Two-Year-Old Saddle Training</b> .....	<b>2</b>
Practicum on proper progression and safety of teaching a horse to accept a saddle, rider, bridle restraint and reining principles. P, AS 104 and AS 110.	
<b>AS 213 Equine Health and Diseases</b> .....	<b>3</b>
Study of equine vital signs, first aid, and wound care, as well as the function of the integument and immune systems. Communicable and common diseases and their prevention will be discussed, with emphasis on colic and laminitis. P, AS 104. Corequisite course AS 213L.	
<b>AS 213L Equine Health and Diseases Lab</b> .....	<b>0</b>
P, AS 104. Corequisite course AS 213.	
<b>AS 220 Fundamental Equine Nutrition</b> .....	<b>3</b>
Basic principles in equine nutrition focusing on how to best feed the horse to meet its nutritional needs. Topics include the gastrointestinal tract, nutrient requirements, common feedstuffs, diet selection and evaluation, assessment of nutritional status, nutritional imbalances and toxicities. P, AS 104. Corequisite course AS 220L.	
<b>AS 220L Fundamental Equine Nutrition Lab</b> .....	<b>0</b>
Corequisite course AS 220.	
<b>AS 233 Applied Animal Nutrition</b> .....	<b>4</b>
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, AS 101 or DS 130. Corequisite course AS 233L.	
<b>AS 233L Applied Animal Nutrition Lab</b> .....	<b>0</b>
Corequisite course AS 233.	
<b>AS 241 Meat: Product to Consumption</b> .....	<b>3</b>
Survey of meat industry. Composition of meat animals. Product identification, preservation, cooking, nutritive value, pricing and curing.	
<b>AS 285 Livestock Evaluation and Marketing</b> .....	<b>4</b>
Live and carcass evaluation of market animals. Methods of marketing and pricing livestock and carcasses. P, AS 101. Corequisite course AS 285L.	
<b>AS 285L Livestock Evaluation and Marketing Lab</b> .....	<b>0</b>
Corequisite course AS 285.	
<b>AS 322 Advanced Livestock Evaluation</b> .....	<b>1</b>
Advanced study of live and carcass evaluation of market animals. Type studies and selection for improvement in beef, sheep, and swine. P, AS 200, AS 285.	
<b>AS 323 Advanced Animal Nutrition</b> .....	<b>3</b>
Functions of various nutrients; digestion and metabolism of nutrients by different animal species. P, AS 233.	

<b>AS 332 Principles of Animal Breeding</b> .....	<b>4</b>	<b>AS 433L Livestock Reproduction Lab</b> .....	<b>0</b>
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, BIOL 371. Corequisite course AS 332L.		Corequisite course AS 433.	
<b>AS 332L Principles of Animal Breeding Lab</b> .....	<b>0</b>	<b>AS 463 Agricultural Waste Management</b> .....	<b>3</b>
Corequisite course AS 332.		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. Crosslisted with AST 463. P, instructor consent.	
<b>AS 341 Fresh Meat Operations</b> .....	<b>3</b>	<b>AS 474 Beef Cattle Production</b> .....	<b>3</b>
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 AS 241 or instructor consent.		Feeding, breeding and management principles of beef cattle production under farm and ranch conditions. P, AS 101, AS 233. Corequisite course AS 474L.	
<b>AS 345 Value Added Meat Production and HACCP</b> .....	<b>3</b>	<b>AS 474L Beef Cattle Production Lab</b> .....	<b>0</b>
Investigate methods to add value to meat and meat products, including hands-on processing, product development, and industry tours. Additionally, quality control issues and HACCP systems will be investigated in depth and each student will receive HACCP certification from the International HACCP Alliance. P, AS 241. Corequisite course AS 345L.		Corequisite course AS 474.	
<b>AS 345L Value Added Meat Production and HACCP Lab</b> .....	<b>0</b>	<b>AS 477 Sheep and Wool Production</b> .....	<b>3</b>
Corequisite course AS 345.		Feeding, breeding and management principles for maximum production of meat and wool in farm and range flocks. P, AS 101, AS 233. Corequisite course AS 477L.	
<b>AS 365 Horse Production</b> .....	<b>3</b>	<b>AS 477L Sheep and Wool Production Lab</b> .....	<b>0</b>
Feeding, breeding and management principles for horses. P, AS 101, AS 104. Corequisite course AS 365L.		Corequisite course AS 477.	
<b>AS 365L Horse Production Lab</b> .....	<b>0</b>	<b>AS 478 Swine Production</b> .....	<b>3</b>
Corequisite course AS 365.		Feeding, breeding and management principles for swine production. Breeds, production trends and equipment. Student participation in management techniques. P, AS 101, AS 233. Corequisite course AS 478L.	
<b>AS 370 Stable Management</b> .....	<b>2</b>	<b>AS 478L Swine Production Lab</b> .....	<b>0</b>
This course will address skills needed to manage an equine facility for training, boarding, or reproductive purposes. Topics to include basic business concepts, such as advertising, contracts, and liability, facility design and maintenance, and practical equine skills pertaining to this type of enterprise. P, AS 104 and AS 105.		Corequisite course AS 478.	
<b>AS 420 Equine Reproductive Management</b> .....	<b>3</b>	<b>AS 489 Current Issues in Animal and Range Sciences (AW)</b> .....	<b>1</b>
Study of the reproductive systems of the mare and stallion, including detailed anatomy and physiology, and behavior of each gender. Practicums on the SDSU Horse Unit include foaling procedures, stallion handling and semen evaluation, mare handling, breeding preparation, cycle monitoring and other advanced reproductive techniques. P, AS 104, AS 365.		Senior capstone course requiring students to conduct independent research of the scientific literature on a current issue in the animal and/or range science field, formulate a position based upon the current science, and communicate this position via written and oral presentations. Crosslisted with RANG 489.	
<b>AS 390 Seminar</b> .....	<b>1</b>	<b>AS 490 Seminar</b> .....	<b>1</b>
<b>AS 400 Judging Teams</b> .....	<b>1</b>	<b>AS 494 Internship</b> .....	<b>1-12</b>
SECTION 1 - MEATS Identifying, judging and grading carcasses and cuts; training in writing reasons; participation in intercollegiate meat judging contests.		<b>AS 497 Cooperative Education</b> .....	
SECTION 2 - LIVESTOCK Trips to purebred herds; training in Oral Reasons; participation in American Royal and International Livestock Judging contests.		<b>1-12</b>	
SECTION 3 - WOOL Wool judging and grading, training in written reasons, participation in National Western Wool Judging contests.			
SECTION 4 - RANGE PLANT ID Instruction and practice in identification of important range plants of North America.			
SECTION 5 - URME Instruction and practice in general range science knowledge and problem solving. Participation in the national Undergraduate Range Management Exam (URME) contest. P, 205 or 215 or consent of instructor.			
<b>AS 433 Livestock Reproduction</b> .....	<b>3</b>		
Basic physiological processes of reproduction in domestic animals, factors affecting and methods of improving reproductive efficiency. P, VET 223. Corequisite course AS 433L.			

## Dual Listed Courses

<b>AS 491-591 Independent Study</b> .....	<b>1-3</b>
<b>AS 492-592 Topics</b> .....	<b>1-6</b>

## Graduate Courses

<b>AS 640 Metabolism</b> .....	<b>3</b>
<b>AS 711 Ruminology</b> .....	<b>3</b>
<b>AS 712 Ruminant Nutrition</b> .....	<b>3</b>
<b>AS 723 Population Genetics</b> .....	<b>3</b>
<b>AS 730 Endocrinology</b> .....	<b>3</b>
<b>AS 731 Experimental Procedures</b> .....	<b>2</b>
<b>AS 732 Advanced Physiology of Reproduction</b> .....	<b>3</b>
<b>AS 733 Vitamins and Minerals</b> .....	<b>3</b>

AS 734 Protein and Energy Nutrition .....	3
AS 736 Monogastric Nutrition .....	3
AS 750 Animal Growth and Development.....	3
AS 753 Meat Science .....	3
AS 790 Seminar .....	1
AS 798 Thesis.....	1-7
AS 898D Dissertation-PhD .....	1-12

## AST (Agricultural Systems Technology)

### Undergraduate Courses

**AST 202 Construction Technology and Materials .....**2  
 Wood and concrete building materials; efficient construction procedures; hand tools, portable and stationary power tools; safe working practices. Corequisite course AST 202L.

**AST 202L Construction Technology and Materials Lab.....**0  
 Corequisite course AST 202.

**AST 213 Ag, Industrial and Outdoor Power .....**3  
 Operation and maintenance of large and small spark ignition engines and diesel engines. Proper selection of tractors with respect to: horsepower, fuel efficiency, safety, cost of operation, traction and power train type will be covered. Corequisite course AST 213L.

**AST 213L Ag, Industrial and Outdoor Power Lab.....**0  
 Corequisite course AST 213.

**AST 225 Principles of Environmental Science and Engineering.....**3  
 Introduction to the basic principles of environmental management, environmental science and engineering, and natural resources engineering. The class will be team taught by faculty from environmental management, civil and environmental engineering, agricultural and biosystems engineering, and agricultural systems technology programs. The course will teach the fundamental physical, biological, and chemical principles of environmental processes. The course will also explore the impact of humans and human activity on ecosystems in the environment. P, CHEM 106 or CHEM 112.

**AST 252 Auto Mechanics.....**2  
 Engine tune-up, servicing and repairing engine accessories; testing valves, carburetors, ignition systems; installing new rings, valves, and general work required of mechanics. Corequisite course AST 252L.

**AST 252L Auto Mechanics Lab .....**0  
 Corequisite course AST 252.

**AST 262 Environmental Safety and Society .....**2  
 Examination of appropriate safety procedures and practices for rural environments and associated occupations. Explorations of the social, economic and physical consequences of their implementations. Individual and societal responsibilities with regard to safe practices.

**AST 273 Microcomputer Applications in Agriculture.....**3  
 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. Corequisite course AST 273L.

**AST 273L Microcomputer Applications in Agriculture Lab .....**0  
 Corequisite course AST 273.

**AST 298 Undergraduate Research/Scholarship.....**1-3

**AST 303 Design Management Experience .....**3  
 Collaboration on designs with Agricultural and Biosystems Engineering students. Develop design ideas and assist in the evaluation, construction and testing of designs. The students will have responsibility for managing the design projects. P, GE 121, GE 123. Corequisite course AST 303L.

**AST 303L Design Management Experience Research .....**0  
 Corequisite course AST 303.

**AST 313 Farm Machinery Systems Management .....**3  
 Farm machine selection and operation (including power requirements) tillage, spraying, planting, harvesting, storage, and ergonomics. P, PHYS 101 or PHYS 111. Corequisite course AST 313L.

**AST 313L Farm Machinery Systems Management Lab .....**0  
 Corequisite course AST 313.

**AST 333 Soil and Water Mechanics .....**3  
 Engineering phases of soil and water conservation; elementary measurements and surveying and application to field problems; design and layout of conservation, drainage and irrigation practices. Corequisite course AST 333L.

**AST 333L Soil and Water Mechanics Lab .....**0  
 Corequisite course AST 333.

**AST 342 Applied Electricity .....**3  
 Basic wiring, electrical circuits, controls, lighting, electric motor selection and operation. National Electric Code covering residential, farm and light industrial applications. Corequisite course AST 342L.

**AST 342L Applied Electricity Lab .....**0  
 Corequisite course AST 342.

**AST 390 Seminar .....**1

**AST 423 Rural Structures .....**3  
 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. Corequisite course AST 423L.

**AST 423L Rural Structures Lab .....**0  
 Corequisite course AST 423.

**AST 434 Landscape Irrigation.....**3  
 Design and management of landscape, turf, and golf irrigation systems. Characteristics of uniform and efficient irrigation systems. Estimating cost of installation and operation. Responsible resource utilization, conservation, and protection. P, Math 102 or 115 or 121 or 123. Corequisite course AST 434L.

**AST 434L Landscape Irrigation Lab .....**0  
 Corequisite course AST 434.

**AST 443 Food Processing and Engineering Fundamentals .....**3  
 Mechanics, refrigeration, heat transfer, instrumentation, and equipment operation as applied to materials, handling, storing, preserving, packaging and processing agricultural products. Corequisite course AST 443L.

**AST 443L Food Processing and Engineering Fundamentals Lab .....**0  
 Corequisite course AST 443.



**AST 452 Teaching Agricultural Systems Technology Labs .....2**  
 Shop management, safety, shop plans, selection, care, and use of hand and power tools and equipment to be taken as part of student teaching block in Agricultural Education. P, senior in agricultural education. Offered first half of semester. Equivalent to AGED 454. P, AST 202. Corequisite course AST 452L.

**AST 452L Teaching Agricultural Mechanics Lab .....0**  
 Equivalent to AGED 454L. Corequisite course AST 452.

**AST 460 Senior Design I Environmental Science/Engineering .....1**  
 Development of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report for preliminary design and plan for second semester final design project.

**AST 461 Senior Design II Environmental Science/Engineering .....2**  
 Completion of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report, and plants for final design project.

**AST 462 Advanced Topics in Natural Resources Technology .....2**  
 Examination of topics related to the natural resources management technologies. Potential topics include irrigation systems and water management, livestock waste facilities, soil erosion control, drainage systems and economics, wetlands, water supply and quality, watershed hydrology, water measurement and data acquisition equipment. (May be repeated when topic is different.)

**AST 463 Agricultural Waste Management (AW) .....3**  
 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. Crosslisted with AS 463. P, Instructor consent and PS 213; take PHYS 101 or 111.

**AST 491 Independent Study .....1-3**

**AST 492 Topics .....1-4**

**AST 492L Topics Lab .....0**

**AST 494 Internship .....1-12**

**AST 496 Field Experience .....1-12**

**AST 497 Cooperative Education .....1-12**

**AST 498 Undergraduate Research/Scholarship .....1-3**

## Dual Listed Courses

**AST 412-512 Hydraulic and Pneumatic Systems and Controls .....2**  
 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. Corequisite course AST 412L-512L.

**AST 412L-512L Hydraulic and Pneumatic Systems and Controls Lab .....0**  
 Corequisite course AST 412-512.

**AST 422-522 Environmental Control in Structures .....2**  
 Study of heat and moisture balance, gases, dust, and odors. Selection and design of fans, ducts, diffusers and efficient ventilation patterns. Corequisite course AST 422L-522L.

**AST 422L-522L Environmental Control in Structures Lab .....0**  
 Corequisite course AST 422-522.

**AST 482-582 Advanced Farm Engines .....2**  
 Operation, selection, care, adjustment, and new development of internal combustion engines as applied to farm power units. Corequisite course AST 482L-582L.

**AST 482L-582L Advanced Farm Engines Lab .....0**  
 Corequisite course AST 482-582.

## Graduate Courses

**AST 562 Advanced Topics in Natural Resource Technology .....2**

**AST 791 Independent Study .....1-3**

**AST 792 Topics .....1-4**

## AT (Athletic Training)

### Undergraduate Courses

**AT 164 Introduction to Athletic Training (COM) .....2**  
 A basic introductory course designed to acquaint students interested in athletic training with all aspects of the profession.

**AT 371 Athletic Training Clinical Experience I (COM) .....2**  
 Clinical application of course presented in AT 454-554. This course will enable the student athletic trainer to achieve an appropriate level of skill competency related to each area taught in AT 454-554 and according to the requirements established by the National Athletic Trainers' Association. Graded S/U. P, permission.

**AT 372 Athletic Training Clinical Experience II (COM) .....2**  
 Clinical application of course content presented in AT 456-556. 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. Instructor's consent required. Graded S/U.

**AT 373 Athletic Training Clinical Experience III (COM) .....2**  
 Clinical application of course content presented in AT 474-574. 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. Instructor's consent required. Graded S/U. P, permission.

**AT 374 Athletic Training Clinical Experience IV (COM) .....2**  
 Clinical application of course content presented in AT 464-564. 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 S/U.

**AT 471 Fall Clinical Experience .....1**  
 This course is designed to meet the clinical experience competencies required during fall activity. Clinical applications include physical examinations; fitting and maintaining football protective equipment; monitoring and management of environmental conditions; stretching and conditioning; and the evaluation and care of acute athletic injuries. Graded S/U. P, senior status and consent.

**AT 490 Seminar .....2**

## Dual Listed Courses

### **AT 441-541 Athletic Training Techniques I .....3**

This course is the first of the intermediate athletic training courses designed to meet all of the guidelines and competencies required by the National Athletic Trainers' Association. These courses should be taken in sequence. AT 441-541 includes: concepts and techniques relative to injury assessment and management, pathology of tissue injury and repair, mechanisms of injury, management of blood borne pathogens/soft tissue injuries/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 442-542 Athletic Training Techniques II .....3**

This course is the second of the intermediate athletic training courses designed to meet all of the guidelines and competencies required by the National Athletic Trainers' Association. These courses should be taken in sequence. AT 442-542 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, AT 441, permission.

### **AT 443-543 Athletic Training Techniques III .....3**

This course is the third of the intermediate athletic training courses designed to meet all of the guidelines and competencies required by the National Athletic Trainers' Association. These courses should be taken in sequence. AT 443-543 includes a combination of material. One section of the class is devoted to the prevention, recognition, and management of athletic injuries relative to head, face, throat, abdomen, and thorax. The remainder of the class includes material in regards to evaluation and care of general illnesses and dermatological disorders common to athletics, understanding the role of pharmaceuticals in athletics—both legal and banned substances, drug testing procedures, special issues related to women in athletics, and the athletic trainer's role in counseling athletes. P, AT 442, permission.

### **AT 444-544 Athletic Training Techniques IV.....3**

This course is designed to cover the athletic training competencies in organization and administration. It will cover knowledge, skills and values that an athletic trainer must possess to develop, administer, and manage a health care facility and associated venues that provide health care to athletes and others involved in physical activity. P, permission.

### **AT 454-554 Athletic Injury Assessment-Lower Extremity .....2**

This course is designed to have the student athletic trainers develop a sound understanding of the assessment of athletic related injuries and conditions occurring to the lower extremities. The course will incorporate anatomy of the lower extremity, the athletic related injuries or conditions which may occur, and evaluation techniques used to assess this area of the body.

### **AT 456-556 Athletic Injury Assessment-Upper Extremity .....2**

This course is designed to have the student athletic trainers develop a sound understanding of the assessment of athletic related injuries and conditions occurring to the upper extremities. The course will incorporate anatomy of the upper extremity, the athletic related injuries or conditions which may occur, and evaluation techniques used to assess this area of the body.

### **AT 464-564 Therapeutic Modalities in Athletic Training (COM) .....2**

This course is designed to have the student develop a sound understanding of the use of modalities in the treatment of the injured athlete. The class will be taught through lectures and demonstrations and provide for practical experience.

### **AT 474-574 Rehabilitation of Athletic Injuries (AW) .....2**

This course is designed to have the student develop a sound understanding of the use of exercise in the rehabilitation of the injured athlete. The class will be taught through lectures and demonstrations and provide for practical experience. P, permission.

## **AVIA (Aviation Education)**

### **Undergraduate Courses**

#### **AVIA 101 Introduction to General Aviation .....1**

Overview of the general aviation industry. This course provides an awareness of the magnitude of aviation activity not involved in commercial air carrier operations. The student will discover a multitude of career opportunities and recognize the role general aviation holds in support of the nation's commerce and air transportation. The student will study the evolution of the industry and recognize general economic, social and political factors affecting the future of aviation activity.

#### **AVIA 200 Aviation Safety.....3**

This course will introduce aviation safety principles as important aspects of air transportation. Topics will include regulatory issues, means of measuring air transportation safety, risk assessment, safety data analysis, use of technology in aviation safety, accident investigation, National Transportation Safety Board oversight of aviation safety, and other appropriate issues as arise.

#### **AVIA 201 Aviation Weather.....3**

This course is a study of the basic components of the earth's atmosphere and provides a basic foundation in the meteorological and environmental factors that influence the formation of the various weather patterns found in near and upper atmospheric levels over the continental United States and the Northern Hemisphere. Included in the course will be discussion on how weather influences the basic aerodynamics of an aircraft in-flight and the basic pilot-static instrument system. This course is intended for students who plan a career as professional pilots or a career in aviation operations or for an elective. There are no prerequisites for this course.

#### **AVIA 270 Private Pilot Theory.....3**

Aviation principles for the beginning aviator. Topics include aerodynamics, basic aircraft systems, aircraft performance computations, weight and balance computations, meteorology, radio navigation and communication techniques, cross-country preparation, pilot physiology, and emergency operations. Students completing this course will be ready to challenge the Federal Aviation Administration Private Pilot written and oral exams.

#### **AVIA 272 Private Pilot Flight I.....2**

Individual flight instruction for the FAA Private Pilot Certificate. Topics include aircraft preflight, weather briefings, basic flight maneuvers, and basic flight regulations. Students will complete, under the supervision of SDSU flight instructors, Stage 2 requirements of the Private Pilot Syllabus as a requirement for course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. Corequisite course AVIA 270.

#### **AVIA 273 Private Pilot Flight II .....3**

Individual flight instruction for the FAA Private Pilot Certificate. Topics include cross-country flight and flight planning, night operations, lost and emergency procedures, basic instrument flight control, and basic Air Route Traffic Control and Airport Tower operations. Student will obtain, under the supervision of SDSU flight instructors, the FAA Private Pilot Airplane Single Engine Land Certificate, as a requirement of course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. P, AVIA 270, AVIA 272.



**AVIA 295 Practicum.....1**  
 P, AVIA 370.

**AVIA 300 Human Factors in Aviation.....3**  
 This course will cover a basic, broad overview of human factors as they affect pilot and passenger safety. Topics will include pilot physiological and psychological issues as they relate to aviation safety, and the impact of the external environment upon these issues. The course will introduce the topic of crew resource management (CRM) and the importance of CRM to aviation safety, as well as a field trip to participate in altitude chamber training provided by the U.S. Air Force and Federal Aviation Administration. P, AVIA 200.

**AVIA 305 Introduction to Aviation Administration.....3**  
 This course is designed to familiarize the student with the organization and conduct of aviation operations involving the use of general aviation aircraft and services. The course will cover aspects of management involved in fixed base operations, corporate flight operations, and similar operations utilizing general aviation aircraft. Flight line operations, administrative considerations, aircraft maintenance operations, and decision-making will be covered during the course. Technological advances pertaining to general aviation operations will be discussed throughout the course. P, AVIA 200, ACCT 210.

**AVIA 370 Commercial Pilot Theory.....3**  
 Theory preparing students for commercial flight operations. Includes federal regulations, complex aircraft performance and operation, high performance aircraft characteristics, and safe operation of commercial aircraft in the US air transportation system. Student will successfully complete the FAA Commercial Pilot Certificate written examination as a requirement of course completion. P, AVIA 371, AVIA 372. Corequisite course AVIA 373.

**AVIA 371 Instrument Pilot Theory.....3**  
 Theory preparing students for FAA Instrument Rating. Topics include navigation principles and procedures, air traffic control procedures, applicable FAA regulations, and meteorological considerations for flight in the airspace system. Students completing this course will successfully complete the FAA Instrument Pilot written examination as a requirement for course completion. P, AVIA 273.

**AVIA 372 Instrument Flight.....2**  
 Individual flight instruction for the FAA Instrument flight rating. Students will obtain, under the supervision of SDSU flight instructors, the FAA Airplane Single Engine Land Instrument rating as a requirement for course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. P, AVIA 273. Corequisite course AVIA 371.

**AVIA 373 Commercial Flight I.....3**  
 Individual flight instruction for the FAA Commercial Pilot Certificate. Student will complete, under the supervision of SDSU flight instructors, Stage IV requirements of the Commercial Pilot Syllabus of instruction as a requirement for course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. P, AVIA 372. Corequisite course AVIA 370.

**AVIA 374 Commercial Flight II.....3**  
 Completion of individual flight instruction for the FAA Commercial Pilot Certificate. Students will obtain, under the supervision of SDSU flight instructors, the FAA Commercial Pilot Certificate as a requirement for course completion. Instructor consent is required for enrollment. Additional fees apply for aircraft rental and flight instruction. P, AVIA 373.

**AVIA 400 Air Transportation System.....3**  
 Advanced study of U.S. aviation issues to include: a historical perspective of the industry, regulatory aspects of the industry, general aviation, military aviation, commercial aviation, manufacturing, and other issues of interest to the air transportation industry. This will include local, state, national, and international aspects of the industry. Discussion of the services and challenges faced by the air transportation system will also be covered in this course. P, senior standing.

**AVIA 470 Flight Instructor Theory/Flight.....3**  
 Defines the responsibilities and role of the professional flight instructor in the process of flight training and general aviation development. The student will study the market of new aspiring pilots and learn how to attract and retain flight students as permanent general aviation customers. This course focuses on the practical aspects of teaching adults to fly. Students completing this course are prepared to challenge the FAA Fundamentals of Instruction knowledge exam. P, AVIA 374.

**AVIA 471 Additional Flight Rating.....1**  
 This course prepares the student to earn additional flight ratings not currently listed as separate courses in the CTE-AVED curriculum. Ratings may include the multi-engine, certified flight instructor instrument, and multi-engine instructor. This course must be completed through a formal flight contractor approved by SDSU. The course requires instructor approval prior to enrollment. Flight costs, in addition to tuition and fees, are the responsibility of the individual student. The student must hold applicable FAA certificate/rating as a pre-requisite for this course.

**AVIA 488 Student Flight Instruction.....3**  
 Supervised flight instruction in a post-secondary setting. P, AVIA 470 or equivalent FAA Flight Instructor Certification, AVIA 295, prior application, and permission of instructor.

**AVIA 494 Internship.....3**

## **BADM (Business Administration)**

### **Undergraduate Courses**

**BADM 260 Principles of Production and Operations Management.....3**  
 A broad analytical 'systems' viewpoint is used to develop competency in management decision-making and problem solving in operations setting in various businesses and especially manufacturing. This course involves the study of the production end of business, where resources are transferred into goods and services, and the management of operations through effective planning, implementing, and monitoring for continuous improvement. Crosslisted with MNET 260. P, one Math course except 021, 101, 100T.

**BADM 280 Personal Finance (COM).....3**  
 This course is a survey of individual investment opportunities. Topics include common and preferred stocks and corporate bonds, auto, life, and health insurance, home ownership, and will and estate planning.

**BADM 291 Independent Study (COM).....1-4**

**BADM 292 Topics (COM).....1-3**

**BADM 293 Workshop (COM).....1-3**

**BADM 310 Business Finance (COM).....3**  
 Business finance is an overview of financial theory including the time value of money, capital budgeting, capital structure theory, dividend policies, asset pricing, risk and return, the efficient markets hypothesis, bond and stock valuation, business performance evaluation and other financial topics. P, ACCT 211.

**BADM 334 Small Business Management (COM) .....3**  
 This course applies business policies and procedures to the small business environment. As such, it is designed for students contemplating management or ownership of a small business. Topics include the nature of the entrepreneur, financing and ownership options, marketing, government regulations, taxation, inventory control and other relevant business functions. P, BADM 260 or BADM 360 or BADM 369.

**BADM 336 Entrepreneurship I (COM) .....3**  
 This course is an introduction to the concepts, terminology, and process of new venture creation, operations and growth, as well as the introduction of entrepreneurial management practices into existing businesses. This course will assist in the identification of entrepreneurial opportunities and strategies and the role of personal factors (including creativity). Legal, ethical, and social responsibilities are emphasized. Crosslisted with ENTR 336.

**BADM 350 Legal Environment of Business (COM).....3**  
 This is a study of legal topics as they apply to the business environment. Topics include an introduction to the law, the U.S. Court system, legal process, government regulation, and criminal, tort, and contract issues.

**BADM 351 Business Law (COM) .....3**  
 This course involves a thorough study of the law of contracts, sales, product liability, agency, corporations and other selected topics. P, BADM 350.

**BADM 360 Organization and Management (COM).....3**  
 This course is a study of management, including the planning, direction, controlling and coordinating of the various activities involved in operating a business enterprise.

**BADM 370 Marketing (COM) .....3**  
 This course introduces the student to the basic concepts and practices of modern marketing. Topics include marketing and its linkages to business, consumer behavior, marketing research, strategy and planning, product and pricing decisions, distributions and promotion decisions, marketing management, and evaluation and control aspects for both consumer and industrial goods. Crosslisted with ECON 370.

**BADM 416 Commercial Bank Management (COM) .....3**  
 This course is an in-depth study of banking institutions, with special emphasis on commercial banks and their connection to the federal reserve system and other financial institutions. A risk management perspective is adopted, and the fast changing global regulatory and financial environments are discussed. P, ECON 330; BADM 360 or AGE 478.

**BADM 424 Operations Research (COM) .....3**  
 This course looks at quantitative tools and methods used in the decision making process of business organizations. Linear programming, decision making under uncertainty, simulation, inventory models, and queuing models will be studied. P, ECON 301, STAT 281.

**BADM 474 Personal Selling (COM).....3**  
 This course is a study of the skills needed to develop and manage long-term relationships with customers and suppliers. Emphasis is placed on relationship selling, presentation, prospecting, handling objectives and closing techniques with consideration given to differences in the global marketplace. P, BADM 370.

**BADM 482 Business Policy and Strategy (COM).....3**  
 This course is designed to develop an understanding of strategy formulation, implementation, and evaluation. It involves integrating all functional areas of business, analyzing the environment in which the firm operates, and choosing strategies that enable the firm to meet its objectives. P, BADM 310, BADM 350, BADM 360, BADM 370, and senior standing.

**BADM 483 Small Business Consulting (COM).....1-3**  
 This course is a consulting program whereby students, working under faculty guidance, assist businesses by researching and developing possible solutions to specific problems involved in business start-up and expansion. P, senior standing.

**BADM 489 Business Plan Writing and Competition (COM) .....1**  
 Students will write a business plan and present it to a panel of faculty and business community members. The top three business plan presenters will move on to a statewide competition. Crosslisted with ENTR 489.

**BADM 490 Seminar (COM).....3**

**BADM 491 Independent Study (COM) .....1-4**

**BADM 492 Topics (COM) .....1-4**

**BADM 494 Internship (COM) .....1-12**

**BADM 498 Undergraduate Research/Scholarship (COM).....1-4**

### Dual Listed Courses

**BADM 406-506 Accounting for Entrepreneurs (COM).....3**  
 Accounting concepts and practices for entrepreneurs/small business owners. Emphasis given to the use of accounting tools to solve small business problems. Crosslisted with ACCT 406-506 and ENTR 406-506.

**BADM 438-538 Entrepreneurship II (COM) .....3**  
 This course focuses on the process of screening an opportunity, drafting a personal entrepreneurial strategy, and understanding the business plan writing process. Building the entrepreneurial team and the acquisition and management of financial resources are emphasized along with venture growth, harvest strategies, and valuation.

**BADM 476-576 Marketing Research (COM).....3**  
 This course provides an in-depth study of the primary methodologies of marketing research. Emphasis is placed on collecting, analyzing, interpreting and presenting information for the purpose of reducing uncertainty surrounding marketing and management decisions. P, BADM 370 and MATH 281 or STAT 281. Crosslisted with ECON 476-576.

**BADM 493-593 Workshop (COM).....1-3**

### Graduate Course

**BADM 592 Topics.....1-3**

# BIOL (Biology)

## Undergraduate Courses

**BIOL 101 Biology Survey I (COM)** .....3  
 Study of the nature, diversity, and classification of life, ecology, cells and cell cycles, Mendelian and modern genetics evolution and evolution theory. Intended for those not majoring in biology. Corequisite course BIOL 101L.

**BIOL 101L Biology Survey I Lab (COM)**.....0  
 Laboratory experience that accompanies BIOL 101. Corequisite course BIOL 101.

**BIOL 103 Biology Survey II (COM)** .....3  
 Study of energetics; plant growth; development and reproduction; animal structure and function. Intended for those not majoring in biology. Duplicate credit for BIOL 103 and BIOL 153 not allowed. Corequisite course BIOL 103L.

**BIOL 103L Biology Survey II Lab (COM)**.....0  
 Laboratory experience that accompanies BIOL 103. Corequisite course BIOL 103.

**BIOL 105 Human Biology** .....3  
 Presents key biological principles that are characteristic of living things in general and human beings in particular, focusing on the application of these principles to the concerns of contemporary life. Not intended for life science majors. Duplicate credit for BIOL 105 and BIOL 101 or BIOL 151 not allowed.

**BIOL 142 Anatomy (COM)** .....3  
 An elementary study of the gross structure of the human body.

**BIOL 151 General Biology I (COM)** .....4  
 The introductory course for those majoring in biology and microbiology. Presents the concepts of cell biology, evolution, heredity, molecular genetics and ecology. Corequisite course BIOL 151L.

**BIOL 151L General Biology I Lab (COM)**.....0  
 Laboratory experience that accompanies BIOL 151. Corequisite course BIOL 151.

**BIOL 153 General Biology II (COM)**.....4  
 A continuation of BIOL 151, the introductory course for those majoring in biology and microbiology. Presents the concepts of animal and plant structure and function, energetics, and reproduction. P, BIOL 151. Corequisite course BIOL 153L. Duplicate credit for BIOL 103 and 153 not allowed.

**BIOL 153L General Biology II Lab (COM)** .....0  
 Laboratory experience that accompanies BIOL 153. Corequisite course BIOL 153.

**BIOL 200 Animal Diversity** .....4  
 Investigate all members of the animal kingdom comprising the living world focusing on diversity, systematics, reproductive patterns, principles of structure and function, ecology, and environmental relationships. P, BIOL 101 or BIOL 151. Corequisite course BIOL 200L.

**BIOL 200L Animal Diversity Lab**.....0  
 Laboratory experience that accompanies BIOL 200. Corequisite course BIOL 200.

**BIOL 202 Genetics and Organismal Biology** .....3  
 First course in a 2-semester sequence designed to teach students current concepts in genetics, cellular and molecular biology. This course prepares students in the biological sciences for advanced courses in their emphasis areas. Topics covered in this course include: mendelian inheritance; mitosis and meiosis; basic cell structure; chromosomal basis of inheritance and linkage; extra nuclear genes; chromosomal mutations; epistasis, alleles and the environment; gene function; genetic mapping; population genetics; quantitative genetics; evolution and natural selection. This course is designed to be taken in conjunction with BIOL 202L. P, BIOL 153 or BIOL 103; CHEM 114-114L. Corequisite course BIOL 202L.

**BIOL 202L Genetics and Organismal Lab** .....1  
 Laboratory experience that accompanies BIOL 202. Corequisite course BIOL 202.

**BIOL 204 Genetics and Cellular Biology** .....3  
 Second course in a 2-semester sequence designed to teach students current concepts in genetics, cellular and molecular biology. This course will prepare students in the biological sciences for advanced courses in their emphasis areas. Topics covered in this course include: DNA and chromosomal structure; mobile genetic elements; transcription; RNA processing; translation; enzymes and metabolism; membrane structure and function; respiration and photosynthesis; the endomembrane system and trafficking; cytoskeleton; cell signaling; genetic engineering and biotechnology. This course is designed to be taken in conjunction with BIOL 204L. One semester of Organic Chemistry is highly recommended. P, BIOL 202.

**BIOL 204L Genetics and Cellular Lab**.....1  
 Laboratory experience that accompanies BIOL 204. Corequisite course BIOL 204.

**BIOL 210 Human Physiology for Allied Health Professionals** .....4  
 Lectures, laboratory work and demonstrations of human physiological processes both normal and abnormal.

**BIOL 210L Human Physiology for Allied Health Professionals**.....0  
 Laboratory experience that accompanies BIOL 210.

**BIOL 221 Human Anatomy (COM)** .....4  
 Structures of various systems in the human body are presented as a structural basis for physiology. Corequisite course BIOL 221L.

**BIOL 221L Human Anatomy Lab (COM)**.....0  
 Laboratory experience that accompanies BIOL 221. Corequisite course BIOL 221.

**BIOL 290 Seminar** .....1

**BIOL 291 Independent Study (COM)**.....1-4

**BIOL 311 Principles of Ecology (COM)**.....3  
 Basic principles of ecology including the sub disciplines of physiological ecology, population ecology, community ecology, evolutionary ecology, and ecosystems ecology from both a theoretical and applied aspect.

**BIOL 325 Physiology (COM)** .....4  
 Basic cell physiology, neural, hormonal and neuroendocrine control systems. Coordinated body functions. P, take 8 credits from the subject CHEM. Corequisite course BIOL 325L.

**BIOL 325L Physiology Lab (COM)**.....0  
 Laboratory experience that accompanies BIOL 325. Corequisite course BIOL 325.

<b>BIOL 371 Genetics (COM)</b> .....	<b>3</b>
Principles governing the nature, transmission and function of hereditary material with application to plants, animals, humans, and microorganisms.	
<b>BIOL 373 Evolution (COM)</b> .....	<b>3</b>
Surveys evidence for biological evolution and the historical development of evolutionary theory, and examines genetic and other mechanisms responsible for life's diversity. P, BIOL 151.	
<b>BIOL 383 Bioethics (G)</b> .....	<b>4</b>
Ethical, social and policy dilemmas in medicine and biology. Crosslisted with PHIL 383. P, BIOL 101 or BIOL 151.	
<b>BIOL 440 Restoration Ecology</b> .....	<b>4</b>
Scientific principles involved in restoration of natural ecosystems on degraded and disturbed lands. An understanding of ecological principles is recommended prior to enrollment. Crosslisted with LA 440. Corequisite course BIOL 440L.	
<b>BIOL 440L Restoration Ecology Lab</b> .....	<b>0</b>
Corequisite course BIOL 440.	
<b>BIOL 465 Molecular Biology II Lab (COM)</b> .....	<b>2</b>
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, BIOL 462. Crosslisted with PS 465-565. Equivalent to PS 465.	
<b>BIOL 475 Water Quality in Agriculture</b> .....	<b>3</b>
Equivalent to PS 475. P, CHEM 106 and BIOL 101 or BIOL 151.	
<b>BIOL 490 Seminar (COM) (AW)</b> .....	<b>1</b>
<b>BIOL 491 Independent Study (COM)</b> .....	<b>1-4</b>
<b>BIOL 494 Internship (COM)</b> .....	<b>1-12</b>
<b>BIOL 496 Field Experience (COM)</b> .....	<b>1-12</b>
<b>BIOL 497 Cooperative Education (COM)</b> .....	<b>1-12</b>
<b>BIOL 498 Undergraduate Research/Scholarship (COM)</b> .....	<b>1-6</b>

### Dual Listed Courses

<b>BIOL 415-515 Mycology (COM)</b> .....	<b>3</b>
Comprehensive taxonomic survey of the kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship to fungi to human affairs. P, BIOL 151. Corequisite course BIOL 415L-515L. Crosslisted with PS 415-515.	
<b>BIOL 415L-515L Mycology Lab (COM)</b> .....	<b>1</b>
Laboratory experience that accompanies BIOL 415. Corequisite course BIOL 415-515.	
<b>BIOL 439-539 Biology of Aging</b> .....	<b>3</b>
Physical, sensory, and physiological changes with age, aging of cells and tissues. Cellular, developmental, endocrine and other theories of aging. Pathologies of aging. P, BIOL 325, physiology course.	
<b>BIOL 453-553 Advanced Genetics</b> .....	<b>3</b>
Procedures in genetic studies as they relate to molecular and classical genetic applications. Crosslisted with PS 453-553. P, BIOL 371.	
<b>BIOL 466-566 Environmental Toxicology and Contaminants</b> .....	<b>3</b>
This course will prepare students in the area of Ecological Effects of Toxic Substances and other contaminants. Wildlife toxicology and impacts of agriculture on the Northern Plains will be emphasized. Topics covered will include pesticides, heavy metals, aquatic and terrestrial ecotoxicity and other topics related to Wildlife Toxicology.	

<b>BIOL 480-580 Environmental Stress Physiology</b> .....	<b>3</b>
Physiological and cellular response of plants to environmental stresses. Crosslisted with HO 480-580 and PS 480-580.	
<b>BIOL 492-592 Topics (COM)</b> .....	<b>1-5</b>
<b>BIOL 492L-592L Topics Lab</b> .....	<b>0</b>

### Graduate Courses

<b>BIOL 645 Microimaging Techniques</b> .....	<b>3</b>
<b>BIOL 645L Microimaging Techniques Lab</b> .....	<b>0</b>
<b>BIOL 762 Eukaryotic Molecular Biology Lab</b> .....	<b>1</b>
<b>BIOL 773 Cytogenetics</b> .....	<b>3</b>
<b>BIOL 773L Cytogenetics Lab</b> .....	<b>0</b>
<b>BIOL 788 Biological Research Problem</b> .....	<b>1-3</b>
<b>BIOL 790 Seminar</b> .....	<b>1</b>
<b>BIOL 791 Independent Study</b> .....	<b>1-4</b>
<b>BIOL 792 Topics</b> .....	<b>1-6</b>

## BIOS (Biological Sciences)

### Graduate Courses

<b>BIOS 662 Advanced Molecular and Cellular Biology</b> .....	<b>6</b>
<b>BIOS 663 Advanced Concepts in Infectious Disease</b> .....	<b>6</b>
<b>BIOS 788 Master's Research Problems</b> .....	<b>2-3</b>
<b>BIOS 790 Seminar</b> .....	<b>1</b>
<b>BIOS 792 Topics</b> .....	<b>1-6</b>
<b>BIOS 798 Thesis</b> .....	<b>1-7</b>
<b>BIOS 890 Seminar</b> .....	<b>1</b>
<b>BIOS 898D Dissertation PhD</b> .....	<b>1-7</b>

## BIST

### Graduate Courses

<b>BIST 692 Topics for Biology Educators</b> .....	<b>1-12</b>
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## BOT (Botany)

### Undergraduate Courses

<b>BOT 201 General Botany (COM)</b> .....	<b>3</b>
A phylogenetic approach to the study of plant diversity and evolutionary relationships emphasizing structure and function of plant systems. P, BIOL 101 or BIOL 151. Corequisite course BOT 201L.	
<b>BOT 201L General Botany Lab (COM)</b> .....	<b>0</b>
Laboratory experience that accompanies BOT 201. Corequisite course BOT 201.	

<b>BOT 301 Plant Systematics (COM)</b> .....	4
Principles of phylogeny, classification, nomenclature, evolution; demonstrations, field study and laboratory practice in collection, preserving, and identifying plants. P, BIOL 101 or BIOL 151. Corequisite course BOT 301L.	
<b>BOT 301L Plant Systematics Lab (COM)</b> .....	0
Laboratory experience that accompanies BOT 301. Corequisite course BOT 301.	
<b>BOT 327 Plant Physiology (COM)</b> .....	4
Chemical and physical principles of plant function including water relations and energy metabolism; genetic, environmental and hormonal regulation of plant growth and development; and plant responses to stress. Corequisite course BOT 327L.	
<b>BOT 327L Plant Physiology Lab (COM)</b> .....	0
Laboratory experience the accompanies BOT 327. Corequisite course BOT 327.	
<b>BOT 419 Plant Ecology (COM) (G)</b> .....	4
Description of plant communities, their dynamics and instruction. Environmental factors and their relationship with plants. Field trips. P, BIOL 103 and BOT 201, or BIOL 153. Corequisite course BOT 419L.	
<b>BOT 419L Plant Ecology Lab (COM)</b> .....	0
Laboratory experience that accompanies BOT 419. Corequisite course BOT 419.	
<b>BOT 421 Plant Anatomy (COM)</b> .....	3
Anatomical organization of seed plants. P, BIOL 103 and BOT 201, or BIOL 153. Corequisite course BOT 421L.	
<b>BOT 421L Plant Anatomy Lab (COM)</b> .....	0
Laboratory experience that accompanies BOT 421. Corequisite course BOT 421.	
<b>BOT 491 Independent Study</b> .....	1-4
<b>BOT 492 Internship</b> .....	1-12
<b>BOT 496 Field Experience</b> .....	1-12
<b>BOT 498 Undergraduate Research/Scholarship</b> .....	1-4

### Dual Listed Courses

<b>BOT 405-505 Grasses and Grasslike Plants</b> .....	3
A systematic survey of grasses and grasslike plant of the northern Great Plains; field and lab practice in collection and identification of graminoid plants; discussion of unique biological aspects of grasses and grasslike plants that make them economically and ecologically significant. P, BIOL 101 or BIOL 151. Corequisite course BOT 405L-505L.	
<b>BOT 405L-505L Grasses and Grasslike Plants</b> .....	0
Laboratory experience that accompanies BOT 405-505. Corequisite course BOT 405-505.	
<b>BOT 412-512 Morphology of Non-Vascular Plants</b> .....	1-3
A systematic survey of vascular plants that grow in wetland habitats, and a study of their adaptations to life in the water. Field and laboratory practice in identification and recognition of common aquatic plants. P, consent of instructor. Corequisite course BOT 412L-512L.	
<b>BOT 412L-512L Morphology of Non-Vascular Plants Lab</b> .....	0
Laboratory experience that accompanies BOT 412-512. Corequisite course BOT 412-512.	

<b>BOT 413-513 Morphology of Vascular Plants</b> .....	3
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. Corequisite course BOT 413L-513L.	
<b>BOT 413L-513L Morphology of Vascular Plants Lab</b> .....	0
Laboratory experience that accompanies BOT 413-513. Corequisite course BOT 413-513.	
<b>BOT 492-592 Topics</b> .....	1-5

### Graduate Courses

<b>BOT 705 Aquatic Plants</b> .....	3
<b>BOT 705L Aquatic Plants Lab</b> .....	0
<b>BOT 715 Advanced Plant Ecology</b> .....	4
<b>BOT 715L Advanced Plant Ecology Lab</b> .....	0
<b>BOT 730 Plant Molecular Biology</b> .....	3
<b>BOT 781 Plant Biotechnology</b> .....	3
<b>BOT 781L Plant Tissue Culture Lab</b> .....	0
<b>BOT 788 Research Problems</b> .....	1-3
<b>BOT 791 Independent Study</b> .....	1-4
<b>BOT 792 Topics</b> .....	1-5

## CA (Consumer Affairs)

### Undergraduate Courses

<b>CA 150 Early Experience in Consumer Affairs</b> .....	1
Course introduces the various roles of consumer affairs professionals in business, public service, and government. Students will analyze personal skills and the level of knowledge needed to attain a position in the desired area of consumer affairs. Performance of volunteer service to the community is required.	
<b>CA 230 Consumer Behavior</b> .....	3
Understanding the cultural, economic, social, and psychological conditions that influence consumers to make marketplace selections perceived appropriate to them. Open to all students.	
<b>CA 289 Consumers and the Market</b> .....	3
Consumer issues as related to individuals, families, and the global community, and the investigation of problems facing the consumer throughout the life cycle. Issues relating to consumer information will include advertising, fraud, and decision-making to achieve consumer satisfaction.	
<b>CA 291 Independent Study</b> .....	1-3
<b>CA 292 Topics</b> .....	1-3
<b>CA 340 Work Family Interface (AW)</b> .....	3
The study and evaluation of decision making in relation to specific time, energy, and work patterns including balancing work and family issues of household production and work involvement. The course addresses policies and procedures of resource management in the workplace including supervision, recognition, and benefits. Relevant work, time and energy issues such as gender and culture in work patterns, time use and conflict management will be investigated.	

<b>CA 345 Foundations in Financial Planning for Individuals and Families</b> .....	3
Resource management related to the economic aspects of family financial planning and decision making. P, junior or consent.	
<b>CA 381 Professional Behavior at Work</b> .....	3
Social skills and professional conduct in a global workplace. Emphasis will be on interpersonal communication and cross-cultural interactions appropriate in the work environment.	
<b>CA 412 Strategies for Consumer Affairs Professionals</b> .....	4
Discussion and activities in preparation for professional internship experience. Includes workplace issues as related to professional ethics, diversity, employer/employee communications, professionalism, networking, leadership strategies, public policy, workplace politics, event planning, and volunteerism. P, 2.5 GPA; senior standing in Consumer Affairs or consent of instructor; CA 487. Corequisite course CA 412L.	
<b>CA 412L Strategies for Consumer Affairs Professionals Lab</b> .....	0
Corequisite course CA 412.	
<b>CA 421 Diversity in the Workplace</b> .....	3
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. Crosslisted with NFSH 421.	
<b>CA 442 Family Resource Management Lab</b> .....	3
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.	
<b>CA 480 Travel Studies</b> .....	1-5
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty, and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report.	
<b>CA 487 Transition to the Professional World</b> .....	1
Transition to the professional world will identify expectations for the world of work. Emphasis on effective written and verbal communication skills as related to work experiences, issue analysis, and goal setting for the future. Students will prepare for professional experiences such as internships, graduate school and professional positions upon graduation. P, senior standing or consent. Crosslisted with NFS 487.	
<b>CA 491 Independent Study</b> .....	1-3
<b>CA 494 Internship</b> .....	10
P, CA 487. Corequisite course CA 412-412L.	

### Dual Listed Courses

<b>CA 492-592 Topics</b> .....	1-3
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### Graduate Courses

<b>CA 595 Practicum</b> .....	3-6
<b>CA 604 Family Systems</b> .....	3
<b>CA 612 Financial Counseling</b> .....	3
<b>CA 620 Family Economics</b> .....	3

<b>CA 640 Fundamentals of Family Financial Planning</b> .....	3
<b>CA 660 Invest for Family's Future</b> .....	3
<b>CA 680 Insurance Planning for Families</b> .....	3
<b>CA 704 Estate Planning for Families</b> .....	3
<b>CA 715 Housing and Real Estate in FFP</b> .....	3
<b>CA 725 Family, Employee Benefits and Retirement Planning</b> .....	3
<b>CA 735 Personal Income Taxation</b> .....	3
<b>CA 745 Professional Practices in Financial Planning</b> .....	3
<b>CA 755 Financial Planning Case Study</b> .....	3
<b>CA 791 Independent Study</b> .....	1-3
<b>CA 792 Topics</b> .....	1-3

## CD (Community Development)

### Graduate Courses

<b>CD 601 Organizing for Community Change</b> .....	3
<b>CD 602 Community and Regional Economic Policy and Analysis</b> .....	3
<b>CD 603 Community Natural Resource Management</b> .....	3
<b>CD 604 Community Analysis</b> .....	3
<b>CD 605 Principles &amp; Strategies of Community Change</b> .....	3
<b>CD 610 Clusters and Regional Economic Development Workshop</b> .....	3
<b>CD 611 Impact Analysis</b> .....	1
<b>CD 613 Introduction to Native Community Development</b> .....	3
<b>CD 615 Wellness in Native Communities: Challenges and Opportunities</b> .....	1
<b>CD 616 Youth Development in Native Communities</b> .....	1
<b>CD 622 Local Economic Analysis</b> .....	1
<b>CD 624 Building Native Community and Economic Capacity</b> .....	3
<b>CD 633 Introduction to Environmental Law</b> .....	3

## CEE (Civil and Environmental Engineering)

### Undergraduate Courses

<b>CEE 106 Elementary Surveying</b> .....	4
Care and operation of instruments, concepts of horizontal and vertical control; measurement of horizontal distances, vertical angles and elevation differences. Coverage includes the definition and analysis of errors of measurement. Additional topics include: horizontal curves, traverse work and construction surveying. The course includes an introduction to the concepts and applications of GPS and GIS to surveying practice. P, GE 121, take MATH 120 or MATH 115. Corequisite course CEE 106L.	
<b>CEE 106L Elementary Surveying Lab</b> .....	0
Corequisite course CEE 106.	
<b>CEE 208 Engineering Surveys</b> .....	3
Principles of topographic surveys and mapping, CAD applications for the conversion of topographic field data to site mapping, subdivision surveys, additional applications beyond those in CEE 106 to construction and route surveys. P, CEE 106. Corequisite course CEE 208L.	

<b>CEE 208L Engineering Surveys Lab</b> .....0	<b>CEE 340 Engineering Geology</b> .....3
Corequisite course CEE 208.	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, CEE 216. Corequisite course CEE 340L.
<b>CEE 216 Materials</b> .....3	<b>CEE 340L Engineering Geology Lab</b> .....0
Basic structure of materials and its effect on material properties. Laboratory tests on materials, principles of concrete mixes. P, CHEM 112. Corequisite course CEE 216L.	Corequisite course CEE 340.
<b>CEE 216L Materials Lab</b> .....0	<b>CEE 346 Geotechnical Engineering (COM)</b> .....4
Corequisite course CEE 216.	Composition, structure, index, and engineering properties of soils, soil classification systems, introduction to soil engineering problems involving stability, settlement, seepage, consolidation, and compaction; and laboratory work on the determination of index and engineering properties of soils. Computer-aided graphics and word processing are required for lab reports. This course is cross-listed with MINE 346/346L. P, EM 321 and CEE 340. Corequisite course CEE 346L.
<b>CEE 225 Principles of Environmental Science and Engineering</b> .....3	<b>CEE 346L Geotechnical Engineering Lab (COM)</b> .....0
Introduction to the basic principles of environmental management, environmental science and engineering, and natural resources engineering. The class will be team taught by faculty from environmental management, civil and environmental engineering, agricultural and biosystems engineering, and agricultural systems technology programs. The course will teach the fundamental physical, biological, and chemical principles of environmental processes. The course will also explore the impact of humans and human activity on ecosystems in the environment. P, CHEM 106 or CHEM 112.	Corequisite course CEE 346.
<b>CEE 304 Land Surveying</b> .....3	<b>CEE 353 Structural Theory (COM)</b> .....3
Public land surveys, land subdivisions, land boundaries, land descriptions, state plane coordinates, legal aspects of land ownership, precise surveying methods such as triangulation, base line measurements. P, CEE 208.	Basic concepts in structural analysis of beams, trusses, and frames. Determination of governing load conditions for moving loads by use of influence lines. Development of basic virtual work concept to obtain deflections for beams, trusses, and frames. Introduction to slope deflection equations and the moment-distribution for analysis of indeterminate structure. P, EM 215/ MATH 321 or EM 215/MATH 321/ME 311.
<b>CEE 306 Photo Interpretation and Photogrammetry</b> .....3	<b>CEE 363 Highway and Traffic Engineering</b> .....3
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, CEE 208. Corequisite course CEE 306L.	Highway administration, traffic characteristics, highway standards, drainage, geometric design, construction methods. P, CEE 208.
<b>CEE 306L Photo Interpretation and Photogrammetry Lab</b> .....0	<b>CEE 423 Municipal Water Distribution and Collection System Design</b> .....3
Corequisite course CEE 306.	Design of municipal water distribution and collection systems utilizing modern design tools including the utilization of software to simulate system behavior in response to environmental changes. P, CEE 323 and EE 331. Corequisite course CEE 423L.
<b>CEE 311 Structural Materials Lab</b> .....1	<b>CEE 432 Hydraulic Engineering</b> .....3
Laboratory tests on structural materials and elements, and interpretation of test results. Careful laboratory techniques are emphasized. P, CEE 216. Corequisite course EM 321.	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.
<b>CEE 323 Water Supply and Wastewater Engineering</b> .....3	<b>CEE 455 Steel Design</b> .....3
Analysis of water and wastewater quality, water demands and wastewater flows; water and wastewater treatment process concepts; preliminary design of unit processes for municipal water and wastewater treatment systems, impacts of regulations on system design. P, CEE 225. Corequisite course CEE 323L	Limited states in design and the probabilistic nature of loads and resistance. Design of members subjected to tension, axial compression, bending and combined forces. Elementary concepts of frame design with an introduction to secondary effects. The importance of structural stability in design is stressed. Design of basic bolted and welded connections. P, CEE 353. Corequisite course CEE 455L.
<b>CEE 323L Water Supply and Wastewater Engineering Lab</b> .....0	<b>CEE 455L Steel Design Lab</b> .....0
Corequisite course CEE 323.	Corequisite course CEE 455.
<b>CEE 331 Fluid Mechanics Lab</b> .....1	<b>CEE 456 Concrete Theory and Design (COM)</b> .....3
Measurement of properties of common fluids, and tests on fluids in motion. Corequisite Course EM 331.	Properties and behavior of concrete and reinforcing steel. Analysis and design of structural slabs, beams, girders, columns, and footings with use of strength methods. Deflection of flexural members. Development of reinforcement. P, CEE 353.
<b>CEE 333 Hydrology</b> .....3	
Principles of hydrology. Components of the hydrological cycle including the impact of precipitation, evaporation, infiltration, ground water flow and surface runoff on flow routing, water availability, extreme flows and drainage systems. P, STAT 281 or STAT 381. Corequisite course CEE 333L.	



- CEE 457 Indeterminant Structures (COM) .....3**  
 Analysis of indeterminate structures by classical and matrix methods. The classical methods are the force method, the slope-deflection equations and the moment-distribution method. The classical methods also are used to determine influence lines for indeterminate structures. Stiffness matrices for truss and beam elements are derived and used to analyze trusses, beams and frames. P, CEE 353. Corequisite course CEE 457L.
- CEE 457L Indeterminant Structures Lab (COM).....0**  
 Laboratory experience that accompanies CEE 457. Corequisite course CEE 457.
- CEE 460 Senior Design I Environmental Science/Engineering.....1**  
 Development of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report for preliminary design and plan for second semester final design project.
- CEE 461 Senior Design II Environmental Science/Engineering .....2**  
 Completion of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report, and plans for final design project.
- CEE 464 Civil Engineering Capstone Design I (COM).....1**  
 Content will include major engineering design experience integrating fundamental concepts of mathematics, basic science, engineering science, engineering design, communication skills, humanities, and social science. P, senior standing.
- CEE 465 Civil Engineering Capstone Design II (COM) (AW).....2**  
 Content will include major engineering design experience integrating fundamental concepts of mathematics, basic science, engineering science, engineering design, communications skills, humanities, and social science. P, CEE 464.
- CEE 467 Transportation Engineering .....3**  
 Engineering principles in various common modes of transportation. P, CEE 363.
- CEE 482 Engineering Administration .....3**  
 Law of contracts, agency, and other legal aspects of engineering. Preparation of specifications. Economic aspects of engineering. P, senior standing. Equivalent to CM 475.
- CEE 483 Municipal Engineering .....3**  
 Design/construction of municipal facilities including subdivisions, drainage, streets, water and wastewater systems, and solid waste disposal. Duties and responsibilities of city engineer. P, CEE 208. Corequisite course CEE 483L.
- CEE 483L Municipal Engineering Lab.....0**  
 Corequisite course CEE 483.
- CEE 490 Seminar (COM).....1-3**
- CEE 491 Independent Study (COM) .....1-3**
- CEE 494 Internship .....1-6**
- CEE 496 Field Experience .....1-6**
- CEE 497 Cooperative Education .....1-6**

### Dual Listed Courses

- CEE 411-511 Bituminous Materials.....3**  
 Properties of bituminous materials including their compatibility with various types of aggregates. Asphalt mixes are designed and tested. Standards tests are performed on bituminous materials with emphasis on test results. Asphalt surface evaluation techniques. P, CEE 216. Corequisite course CEE 411L-511L.

- CEE 411L-511L Bituminous Materials Lab .....0**  
 Corequisite course CEE 411-511.
- CEE 422-522 Environmental Engineering Instrumentation.....3**  
 Analysis of water and waste water samples, using environmental laboratory instrumentation. Design of treatment facility process instrumentation and controls. P, CEE 423. Corequisite course CEE 422L.
- CEE 422L-522L Environmental Engineering Instrumentation Lab.....0**  
 Corequisite course CEE 422.
- CEE 424-524 Industrial Waste Treatment.....3**  
 Characteristics and composition of industrial wastes, sampling and methods of analysis of these wastes and remedial measures for treatment and disposal. P, CEE 423.
- CEE 429-529 Solid Waste Engineering and Management .....3**  
 Solid waste regulation and characterization. Design of disposal facilities, management of collection, transport, transfer, storage and disposal systems. Field trips to various disposal facilities required. P, CEE 346. Corequisite course CEE 429L-529L.
- CEE 429L-529L Solid Waste Engineering and Management Lab.....0**  
 Corequisite course CEE 429-529.
- CEE 435-535 Water Resources Engineering.....3**  
 Topics related to water resources engineering including: multiple purpose river development, economic analysis of flood control measures, aspects of water law, advanced topics related to surface and ground water hydrology and administrative aspects of water resources planning. P, CEE 432.
- CEE 443-543 Matrix Analysis of Structures.....3**  
 Theory and application of matrix methods in structural analysis. P, CEE 353.
- CEE 444-544 Precast Concrete Structures .....3**  
 Advantages of precast concrete. Structural and architectural precast elements. Building systems. Design concepts and structural design. Connections, specifications, and detailing. P, CEE 456.
- CEE 446-546 Advanced Geotechnical Engineering .....3**  
 Development of a fundamental understanding of engineering properties of soils and the factors controlling their magnitude and changes with time and environment. Development of why this knowledge is important and how it can be used in the solution of geotechnical and geoenvironmental problems. Students enrolling in CEE 546 will be held to a higher standard than those enrolling in CEE 446. P, CEE 346.
- CEE 447-547 Foundation Engineering (COM) .....3**  
 Application of the fundamental concepts of soil behavior to evaluation, selection, and design of shallow and deep foundation systems. Related topics such as temporary support systems for excavations and pile driving are also included. Students enrolling in CEE 547 will be held to a higher standard than those enrolling in CEE 447. P, CEE 346. Corequisite course CEE 447L-547L.
- CEE 447L-547L Foundation Engineering Lab.....0**  
 Corequisite course CEE 447-547.
- CEE 452-552 Prestressed Concrete .....3**  
 Theory and design of prestressed concrete including pre-tensioning and post-tensioning. P, CEE 456.
- CEE 458-558 Design of Timber Structures.....3**  
 Gravity and lateral loads, physical and mechanical properties of wood, properties of dimension lumber and glued laminated timber, design of beams and columns, properties of structural wood panels. Design of sheathing, diaphragms and shearwalls. Design of connections. P, CEE 353.



<b>CEE 459-559 Advanced Structural Mechanics</b> .....	3
Review of principal moments of inertia; relationship of plane stresses and strains; use of rosettes; shear center; unsymmetrical bending; theories of failure; curved beams and closed rings; thick-walled cylinders; beams on continuous elastic support, miscellaneous topics in structural analysis. P, CEE 353. Corequisite course CEE 459L-559L.	
<b>CEE 459L-559L Advanced Structural Mechanics Lab</b> .....	0
Corequisite course CEE 459-559.	
<b>CEE 472-572 Geosynthetics</b> .....	3
Detailed study of the types of geosynthetic materials used in environmental, geotechnical, and transportation engineering as well as how they are used and manufactured. Particular emphasis will be placed on erosion control, landfill, transportation, drainage, filtration and reinforcement applications. Students enrolling in CEE 572 will be held to a higher standard than those enrolling in CEE 472. P, CEE 346.	
<b>CEE 492-592 Topics (COM)</b> .....	1-3
<b>CEE 492L-592L Topics Lab</b> .....	0

### Graduate Courses

<b>CEE 623 Advanced Sanitary Engineering</b> .....	3
<b>CEE 625 Environmental Engineering Planning</b> .....	3
<b>CEE 632 Advanced Foundation Engineering</b> .....	3
<b>CEE 632L Advanced Foundation Engineering Lab</b> .....	0
<b>CEE 633 Open Channel Hydraulics</b> .....	3
<b>CEE 634 Fluvial Hydraulics</b> .....	3
<b>CEE 639 Geotechnical Testing</b> .....	3
<b>CEE 639L Geotechnical Testing Lab</b> .....	0
<b>CEE 654 Advanced Design of Steel Structures</b> .....	3
<b>CEE 656 Advanced Reinforced Concrete Design</b> .....	3
<b>CEE 664 Highway Capacity Analysis</b> .....	3
<b>CEE 690 Seminar</b> .....	0
<b>CEE 692 Topics</b> .....	1-3
<b>CEE 702 Advanced Civil and Environmental Engineering</b> .....	1-13
<b>CEE 702L Advanced Civil and Environmental Engineering Lab</b> .....	0
<b>CEE 721 Environmental Engineering</b> .....	3
<b>CEE 722 Hazardous/Toxic Waste Disposal</b> .....	3
<b>CEE 722L Hazardous/Toxic Waste Disposal Lab</b> .....	0
<b>CEE 724 Land Treatment of Wastes</b> .....	3
<b>CEE 724L Land Treatment of Waste Lab</b> .....	0
<b>CEE 725 Biological Principles of Environmental Engineering</b> .....	3
<b>CEE 726 Physical/Chemical Principles of Environmental Engineering</b> .....	3
<b>CEE 726L Physical/Chemical Principles of Environmental Engineering Lab</b> .....	0
<b>CEE 727 Water Treatment Plant Design</b> .....	3
<b>CEE 727L Water Treatment Plant Design Lab</b> .....	0
<b>CEE 728 Waste Water Treatment Plant Design</b> .....	3
<b>CEE 728L Waste Water Treatment Plant Design Lab</b> .....	0

<b>CEE 733 Water Resources Engineering</b> .....	3
<b>CEE 734 Surface Water Quality Model</b> .....	3
<b>CEE 737 Hydraulic Design</b> .....	3
<b>CEE 738 Advanced Hydraulics</b> .....	3
<b>CEE 738L Advanced Hydraulics Lab</b> .....	0
<b>CEE 749 Structural Dynamics</b> .....	3
<b>CEE 756 Reinforced Masonry Design</b> .....	3
<b>CEE 762 Pavement Management and Rehabilitation</b> .....	3
<b>CEE 762L Pavement Management and Rehabilitation Lab</b> .....	0
<b>CEE 765 Pavement Design</b> .....	3
<b>CEE 769 Design Steel and Concrete Bridges</b> .....	3
<b>CEE 787 Research</b> .....	1-9
<b>CEE 788 Engineering Research or Design Paper</b> .....	1-2
<b>CEE 790 Seminar</b> .....	1
<b>CEE 791 Independent Study</b> .....	1-3
<b>CEE 792 Topics</b> .....	1-3
<b>CEE 792L Topics Lab</b> .....	0
<b>CEE 798 Thesis</b> .....	1-7

### CEX (Center of Excellence)

#### Undergraduate Courses

<b>CEX 491 Independent Study (COM)</b> .....	1-4
<b>CEX 494 Internship (COM)</b> .....	1-8

### CHEM (Chemistry)

#### Undergraduate Courses

<b>CHEM 106 Chemistry Survey (COM)</b> .....	3
A one-semester survey of chemistry. Not intended for those needing an extensive chemistry background. Introduction to the properties of matter, atomic structure, bonding, stoichiometry, kinetics, equilibrium, states of matter, solutions, and acid-base concepts. P, MATH 101 or higher (102, 115, 120, 121, 123, 125, 281, or placement). Corequisite course CHEM 106L.	
<b>CHEM 106L Chemistry Survey Lab (COM)</b> .....	1
Laboratory designed to accompany CHEM 106. Corequisite course CHEM 106.	
<b>CHEM 108 Organic and Biochemistry (COM)</b> .....	4
A survey of the chemical principles important to biological systems. For students who do not plan to take additional chemistry. Not a prerequisite for any 200 level and above course. P, CHEM 106. Corequisite course CHEM 108L.	
<b>CHEM 108L Organic and Biochemistry Lab (COM)</b> .....	1
Laboratory designed to accompany CHEM 108. P, CHEM 106L. Corequisite course CHEM 108.	

- CHEM 112 General Chemistry I (COM)**.....3  
An introduction to the basic principles of chemistry for students needing an extensive background in chemistry (including chemistry majors, science majors, and pre-professional students). Completion of a high school course in chemistry is recommended. Corequisite course CHEM 112L and MATH 102.
- CHEM 112L General Chemistry I Lab (COM)** .....1  
Laboratory designed to accompany CHEM 112. Corequisite course CHEM 112.
- CHEM 114 General Chemistry II (COM)**.....3  
A continuation of CHEM 112. An introduction to the basic principles of chemistry for students needing an extensive background in chemistry. P, CHEM 112, MATH 102 or higher (115, 120, 121, 123, 125, 281). Corequisite course CHEM 114L.
- CHEM 114L General Chemistry II Lab (COM)**.....1  
Laboratory designed to accompany CHEM 114. P, CHEM 112L. Corequisite course CHEM 114.
- CHEM 120 Elementary Organic Chemistry** .....3  
Compounds of carbon with emphasis on those of interest to students of Agriculture, Family and Consumer Sciences. Not a prerequisite for any 200 level and above course. P, CHEM 106 or CHEM 112. Corequisite course CHEM 120L.
- CHEM 120L Elementary Organic Chemistry Lab**.....1  
Corequisite course CHEM 120.
- CHEM 326 Organic Chemistry I (COM)** .....3  
A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. P, CHEM 114, minimum 4 credits. Corequisite course CHEM 326L.
- CHEM 326L Organic Chemistry I Lab (COM)**.....1-2  
Laboratory designed to accompany CHEM 326. Corequisite course CHEM 326.
- CHEM 328 Organic Chemistry II (COM)**.....3  
A continuation of CHEM 326. A systematic treatment of the chemistry of carbon compounds, including nomenclature, structure-reactivity relationships, reaction mechanisms, synthesis, and spectroscopy. P, CHEM 326. Corequisite course CHEM 328L.
- CHEM 328L Organic Chemistry II Lab (COM)**.....1-2  
Laboratory designed to accompany CHEM 328. P, CHEM 326L. Corequisite course CHEM 328.
- CHEM 332 Analytical Chemistry (COM)** .....2-4  
Fundamental concepts and principles of quantitative chemical analysis including quantitative chemical equilibrium calculations and error analysis applied to the evaluation of experimental measurements and data. P, CHEM 114, minimum 4 credits. Corequisite course CHEM 332L.
- CHEM 332L Analytical Chemistry Lab (COM)**.....1-2  
Laboratory to accompany CHEM 332. Also, laboratory to accompany CHEM 230 at SDSMT. P, CHEM 114L. Corequisite course CHEM 332.
- CHEM 342 Physical Chemistry I (COM) (AW)**.....3  
A study of the fundamental principles governing the behavior of chemical systems. Topics covered in the two-semester sequence include thermodynamics, chemical kinetics, quantum mechanics, and statistical mechanics. P, CHEM 332 and MATH 123. Corequisite course CHEM 342L.
- CHEM 342L Physical Chemistry I Lab (COM)**.....1  
Laboratory designed to accompany CHEM 342. Corequisite course CHEM 342.
- CHEM 344 Physical Chemistry II (COM)** .....3  
A continuation of Physical Chemistry I. A study of the fundamental principles governing the behavior of chemical systems. P, CHEM 342. Corequisite course CHEM 344L.
- CHEM 344L Physical Chemistry II Lab** .....1  
Corequisite course CHEM 344.
- CHEM 381 Techniques in Clinical Laboratory Technology** .....3
- CHEM 382 Techniques in Clinical Laboratory Technology I** .....2  
Introduction to techniques used in the clinical laboratory including urinalysis, hematology and clinical chemistry. Corequisite course CHEM 382L.
- CHEM 382L Techniques in Clinical Laboratory Technology I Lab** ....1  
Corequisite course CHEM 382.
- CHEM 383 Techniques in Clinical Laboratory Technology II (AW)**.....3  
Continuation of 382. P, CHEM 382/382L.
- CHEM 434 Instrumental Analysis (COM)**.....2-3  
Theory and application of modern instrumental methods to chemical analysis. P, CHEM 328, CHEM 332, CHEM 344. Corequisite course CHEM 434L.
- CHEM 434L Instrumental Analysis Lab (COM)** .....1-2  
Laboratory designed to accompany CHEM 434. Corequisite course CHEM 434.
- CHEM 452 Inorganic Chemistry (COM)** .....3  
Theoretical and periodic aspects of inorganic chemistry. P, CHEM 332. Corequisite course CHEM 452L.
- CHEM 452L Inorganic Chemistry Lab (COM)**.....1  
Synthesis and characterization of inorganic compounds. P, CHEM 328L. Corequisite course CHEM 452.
- CHEM 464 Biochemistry I (COM)**.....3  
A study of the fundamental principles governing the behavior of biochemical systems. Topics covered in the two semester sequence include the study of proteins, lipids and carbohydrates, metabolic processes, biological oxidation and reduction processes, molecular aspects of DNA replication and repair pathways, transcription and RNA processing, and protein translation. P, CHEM 326. Corequisite course CHEM 464L.
- CHEM 464L Biochemistry I Lab (COM)** .....1  
Laboratory designated to accompany CHEM 464. P, CHEM 326L. Corequisite course CHEM 464.
- CHEM 465 Biochemistry II (COM)** .....3  
A continuation of CHEM 464. P, CHEM 464.
- CHEM 482 Environmental Chemistry (COM)**.....3-4  
Examination of the chemistry and chemical processes of the environment, including the role of chemistry in current environmental issues. P, CHEM 326.
- CHEM 491 Independent Study (COM)** .....1-9
- CHEM 492 Topics (COM)**.....1-4
- CHEM 494 Internship (COM)**.....1-4
- CHEM 498 Undergraduate Research/Scholarship (COM) (AW)**.....1-6

## Dual Listed Courses

CHEM 416-516 Chemical Communication Skills .....	2
Searching chemical literature by traditional and computer assisted methods; techniques of written and oral communication of chemical information.	

## Graduate Courses

CHEM 622 Advanced Organic Chemistry I.....	3
CHEM 632 Advanced Analytical Chemistry .....	3
CHEM 642 Advanced Physical Chemistry .....	3
CHEM 654 Advanced Inorganic Chemistry.....	3
CHEM 662 Principles of Biochemistry .....	2-5
CHEM 691 Independent Study.....	1-4
CHEM 710 Philosophy of Science .....	2
CHEM 711 Chemical Education Research .....	2
CHEM 713 Qualitative Research Methods.....	2
CHEM 714 Quantitative Research Methods .....	2
CHEM 715 Chemistry Instruction in Higher Education .....	2
CHEM 722 Synthesis of Natural Products .....	3
CHEM 724 Structural Determination of Organic Compounds.....	3
CHEM 724L Structural Determination of Organic Compounds Lab.....	0
CHEM 725 Polymer Chemistry .....	4
CHEM 725L Polymer Chemistry Lab.....	0
CHEM 726 Advanced Organic Chemistry II .....	3
CHEM 728 Bioorganic Chemistry.....	3
CHEM 731 Advanced Environmental Chemistry.....	3
CHEM 732 Aquatic Chemistry .....	3
CHEM 733 Atmospheric Chemistry.....	3
CHEM 734 Environmental Surface Chemistry.....	3
CHEM 735 Analytical Spectroscopy.....	3
CHEM 736 Chromatography and Separation.....	3
CHEM 738 Electroanalytical Chemistry .....	3
CHEM 741 Quantum Chemistry I .....	3
CHEM 742 Quantum Chemistry II.....	3
CHEM 744 Chemical Thermodynamics .....	3
CHEM 745 Statistical Thermodynamics.....	3
CHEM 748 Chemical Kinetics .....	3
CHEM 752 Descriptive Inorganic Chemistry .....	3
CHEM 752L Descriptive Inorganic Chemistry Lab.....	0
CHEM 753 Organometallic Chemistry .....	3
CHEM 764 Biochemistry I.....	3
CHEM 766 Biochemistry II.....	3

CHEM 767 Biophysical Chemistry.....	3
CHEM 768 Plant Biochemistry .....	3
CHEM 772 Seminar Preparation.....	1
CHEM 781 Bioinorganic Chemistry .....	3
CHEM 790 Seminar .....	1
CHEM 792 Topics .....	1-6
CHEM 798 Thesis .....	1-7
CHEM 898D Dissertation PhD.....	1-12

## CHRD (Counseling and Human Resource Development)

### Dual Listed Courses

CHRD 430-530 Gender Issues in Counseling .....	3
CHRD 471-571 Gerontology Issues in Counseling.....	3

### Graduate Courses

CHRD 601 Introduction to Professional Issues & Ethics.....	1
CHRD 602 Research and Evaluation in Counseling.....	3
CHRD 610 Developmental Issues in Counseling.....	3
CHRD 651 Mental Health and Personality Development.....	3
CHRD 661 Theories of Counseling.....	3
CHRD 690 Seminar .....	1-3
CHRD 691 Independent Study .....	1-3
CHRD 692 Topics .....	1-3
CHRD 693 Workshop .....	1-3
CHRD 700 Public School Administration.....	3
CHRD 701 Professional Issues & Ethics II.....	1
CHRD 706 Counseling the Victim .....	3
CHRD 713 Administration and Management of Mental Health Organizations .....	3
CHRD 716 Human Resource Management in Business and Industry.....	3
CHRD 721 School Counseling.....	3
CHRD 722 Administration and Management of School Counseling Programs.....	3
CHRD 723 Counseling the Family.....	3
CHRD 731 Multicultural Counseling and Human Relations .....	3
CHRD 736 Appraisal of the Individual.....	3
CHRD 742 Career Counseling and Planning .....	3
CHRD 751 Overview of Rehabilitation & Mental Health Counseling .....	3
CHRD 752 Medical and Psychological Aspects of Disability.....	3

<b>CHRD 753 Case Management Principles and Plan Development</b> .....	3
<b>CHRD 755 Clinical Diagnosis and Treatment Planning</b> .....	4
<b>CHRD 756 Counseling the Addictive Client</b> .....	3
<b>CHRD 757 Advanced Testing: Intellectual Assessment</b> .....	3
<b>CHRD 759 Advanced Testing: Personality Assessment</b> .....	3
<b>CHRD 766 Group Counseling</b> .....	3
<b>CHRD 770 Student Development: Theory and Practice</b> .....	3
<b>CHRD 771 Student Personnel Services</b> .....	3
<b>CHRD 772 Administration and Leadership in Student Affairs</b> .....	3
<b>CHRD 785 Pre-Practicum</b> .....	3
<b>CHRD 786 Counseling Practicum</b> .....	3-5
<b>CHRD 787 Group Counseling Practicum</b> .....	3
<b>CHRD 788 Research Problems in Counseling and Guidance</b> .....	1-3
<b>CHRD 791 Independent Study</b> .....	1-3
<b>CHRD 794 Internship</b> .....	2-6
<b>CHRD 798 Thesis</b> .....	1-6

## CHST

<b>CHST 601 Chemistry Topics for Educators</b> .....	1-12
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## CJUS (Criminal Justice)

### Undergraduate Courses

<b>CJUS 201 Introduction to Criminal Justice (COM)</b> .....	3
Overviews the criminal justice institutions involved in the operations of criminal law including the police, the attorney, the bail system, the trial, the guilty plea, sentencing, corrections and an analysis of criminal law in terms of why certain kinds of conduct are criminal in our society.	
<b>CJUS 203 Policing in a Free Society (COM)</b> .....	3
Presents the role of law enforcement within the criminal justice system, including law enforcement organizations and functions of separate operational units. Also examines the role of the police in a democratic society, covering concepts such as police services, crime deterrence, discretion and enforcement policies.	
<b>CJUS 331 Civil Rights and Liberties</b> .....	3
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. Crosslisted with POLS 330.	
<b>CJUS 412 Criminal Prosecution and Defense (COM)</b> .....	3
Presents a behavioral and legal analysis of criminal case concepts, such as initial appearance, bail, preliminary hearing, grand jury, arraignment, suppression hearings, trial and sentencing, emphasizing bail reform, plea bargaining, screening, diversion, speedy trial, insanity defense, discovery, and the role of the defense attorney, prosecutor, and judge. The court system is examined as a social institution of human actors, exercising discretion within the boundaries of the law.	

<b>CJUS 431 Criminal Law (COM)</b> .....	3
Examines the substantive criminal law, exploring the larger issues concerning the relationship of the individual to the state through analyzing such topics as the nature of criminal liability and the functions and justifications for criminal punishment, legal limitations upon criminalization, and the general principles of criminal liability, such as the "Act" and "State of Mind" requirements, specific offenses against persons and property, the law of attempt, the law of complexity, and conspiracy.	
<b>CJUS 433 Criminal Procedure (COM)</b> .....	3
Constitutional analysis of the criminal procedures, focusing primarily on the fourth, fifth, and sixth amendments, respectively, the right to be free from unreasonable search and seizure, the privilege against self-incrimination, and the right to counsel. Examines the need to protect individual defendants from abuse at the hands of the state while enhancing law enforcement efficiency.	
<b>CJUS 436 Juvenile Justice (COM)</b> .....	3
Examines the separate system created in our society to handle juvenile justice, tracing the historical and philosophical development of the juvenile justice system and inspecting the various stages of the juvenile justice process as well as critical issues currently facing the system.	

### Dual Listed Courses

<b>CJUS 491-591 Independent Study (COM)</b> .....	1-3
<b>CJUS 492-592 Topics (COM)</b> .....	3

## CM (Construction Management)

### Undergraduate Courses

<b>CM 101 Introduction to Construction</b> .....	1
Introduction to the construction industry and the concept of being a construction management professional as well as the ethics required of a person with influence on the construction industry. A variety of ideas are presented to the students to assist in their career choice.	
<b>CM 200 Construction Management Off Campus Orientation</b> .....	0
CM enrollment sustaining	
<b>CM 210 Construction Surveying</b> .....	3
The study of construction surveying including typographic surveys and mapping elements of photogrammetry, land and construction surveys, principles of curve and quantity calculations and other advanced topics in surveying. P, GE 121, MATH 115 or MATH 120. Corequisite course CM 210L.	
<b>CM 210L Construction Surveying Lab</b> .....	0
Corequisite course CM 210.	
<b>CM 216 Construction Materials</b> .....	3
Source, processing, and applications of construction materials. P, MATH 115 or MATH 120.	
<b>CM 232 Plans, Specification, and Blueprint Reading</b> .....	3
The study of the basic concepts of construction plan, specification and blueprint reading by requiring the student to do actual quantity takeoff using both traditional hand methods and computer enhanced procedures. P, GE 121.	
<b>CM 291 Independent Study</b> .....	1-3
<b>CM 292 Topics</b> .....	1-3

**CM 320 Construction Soil Mechanics** .....3  
 Introduces updated information developed in research and practices for application to construction operations. An overview of the nature of soil materials and their engineering properties is coupled with simple, direct examples of analysis to show how common construction methods and operation may be controlled or influenced. Corequisite course CM 320L.

**CM 320L Construction Soil Mechanics Lab**.....0  
 Corequisite course CM 320.

**CM 321 Strength of Materials**.....3  
 The study of the material properties of wood and metal and the associated characteristics of thermal, torsional, shear and bearing stress, strain, and deformation. P, GE 241 . Corequisite course CM 321L.

**CM 321L Strength of Materials Lab** .....0  
 Corequisite course CM 321.

**CM 332 Building Construction Methods and Systems** .....3  
 The study of the structural and finish systems that make up a building and the related methods of implementation. P, junior standing or instructor approval, CM 232.

**CM 333 Mechanical, Electrical, Plumbing Systems** .....3  
 The study of mechanical, electrical, plumbing, and fire protection systems, design considerations, and system components in a modern building. P, junior standing or instructor approval, PHYS 111.

**CM 353 Construction Structures**.....3  
 The study of materials as used in the design process. Concrete, timber, steel, and composite structures and underlying mechanical and physical properties will be covered. P, PHYS 111.

**CM 374 Heavy Construction Methods and Systems**.....3  
 The study of the systems involved in heavy construction and the equipment and methods required to implement them. P, junior standing or instructor approval.

**CM 400 Risk Management and Construction Safety** .....3  
 Causes and effects of risk loss in construction and methods of minimizing risk with effective management strategies. What is construction safety and why we need to effectively manage it. P, senior standing. Crosslisted with GE 425 and MNET 365.

**CM 410 Construction Project Management and Supervision** .....3  
 The study of the ethical, procedural, and supervisory concepts involved with the execution of a construction project. P, senior standing.

**CM 443 Construction Planning and Scheduling** .....3  
 Planning and scheduling construction projects. Both manual methods and computer programs will be used to schedule activities, control cost and manage resources. P, CM 451.

**CM 451 Cost Estimating I / Building Construction** .....3  
 The study of the procedures and methods required to determine the value of a building construction project with associated bidding procedures. P, CM 232.

**CM 455 Residential Construction**.....3  
 The study of the residential construction process including design, documentation, and construction. Prerequisites: GE 123, CM 332, CM 352, CM 353.

**CM 473 Construction Law and Accounting (AW)**.....3  
 Statutes and common law as it applies to the construction industry; Accounting, cost control, finance will be covered. P, senior standing or instructor approval, CM 352, BADM 350.

**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 482.

**CM 491 Independent Study** .....1-3

**CM 492 Topics** .....1-3

**CM 493 Workshop** .....0-3

**CM 494 Internship** .....1-3

**CM 497 Cooperative Education** .....1-3

## CSC (Computer Science)

### Undergraduate Courses

**CSC 105 Introduction to Computers (COM)** .....3  
 Overview of computer applications with emphasis on word processing, spreadsheets, database, presentation tools and internet-based applications.

**CSC 110 Introduction to Ethical/Legal Issues of Information Technology** .....3  
 This course explores key social, cultural, legal, ethical and policy issues associated with the use of technology in modern society. The course will focus on the sociological features of technology, influences on society and culture, the legal and ethical issues of various technological-based activities, and the current status of policies governing technology use in our global society.

**CSC 112 Principles of Internet Applications** .....3  
 This course provides students with a conceptual and practical understanding in the effective and critical use of the Web and other Internet services through the application of problem-based activities. Includes a general grounding in interacting with the Internet, using e-mail, news and web-resources, basic HTML, as well as social and security issues.

**CSC 130 Visual Basic Programming (COM)**.....3  
 Fundamentals of programming using Visual Basic. Focus on problem solving, visual design, and programming concepts. Topics include sequence, selection, repetition, procedures, and functions.

**CSC 150 Computer Science I (COM)**.....3  
 An introduction to computer programming. Focus on problem solving, algorithm development, design, and programming concepts. Topics include sequence, selection, repetition, functions, and arrays.

**CSC 205 Advanced Computer Applications (COM)**.....3  
 This course covers advanced topics in word processing and spreadsheet applications such as macros, advanced functions, graphics, merging, linking, and transferring data. The course emphasizes the efficient use of software packages. Operating systems/environment topics are also addressed. P, CSC 105 or consent.

**CSC 213 Introduction to Programming W/Fortran** .....3  
 FORTRAN programming for engineering and computer science majors. P, MATH 115.

**CSC 218 Introduction to C/C++/Unix for Engineers**.....3  
 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.

<b>CSC 241 Computer Logic</b> .....3	<b>CSC 331 Cobol II (COM)</b> .....3
An introduction to computer operating principles, computer based number systems, and Boolean logic gates. A more advanced study of Boolean logic and Boolean algebra. An introduction to simplifying Boolean functions using Boolean algebra and other simplification techniques. An introduction to computer logic design and analysis. P, CSC 150.	Advanced structured COBOL programming with arrays; table look-ups; subprograms; sequential file processing; sorting and merging; indexed file processing; text manipulations; debugging; and on-line applications. P, CSC 330.
<b>CSC 250 Computer Science II (COM)</b> .....3	<b>CSC 346 Object Oriented Programming (COM)</b> .....3
Problem solving, algorithm design, standards of program style, debugging and testing. Extension of the control structures and data structures of the high-level language introduced in CSC 150. Elementary data structures and basic algorithms that include sorting and searching. Topics include more advanced treatment of functions, data types such as arrays and structures, and files. P, CSC 150.	The study of object oriented methodologies using a modern language such as C++ or Java. Advanced data structures, I/O and file management will be implemented using polymorphism, inheritance, overloading and encapsulation. P, CSC 300.
<b>CSC 291 Independent Study (COM)</b> .....1-5	<b>CSC 354 Introduction to Systems Programming</b> .....3
<b>CSC 292 Topics (COM)</b> .....1-5	The study of macros, subroutines, subroutine linkage, conditional assembly, input-output, interrupt processing, assemblers, loaders and linkers. P, CSC 300, CSC 314.
<b>CSC 294 Internship</b> .....1-6	<b>CSC 391 Independent Study (COM)</b> .....1-5
<b>CSC 300 Data Structures (COM)</b> .....3	<b>CSC 392 Topics (COM)</b> .....1-5
A systematic study of data structures and the accompanying algorithms used in computing problems; structure and use of storage; methods of representing data; techniques for implementing data structures; linear lists; stacks; queue; trees and tree traversal; linked lists; and other structures. P, CSC 250.	<b>CSC 445 Introduction to Theory of Computation (COM)</b> .....3
<b>CSC 303 Ethical and Security Issues in Computing (G)</b> .....3	Introduction to a series of models for computation and their relationship to formal languages that are useful in the definition of programming languages along with a look at the theoretical limits of computers. Topics include finite and pushdown automata, Turing machines, grammars, decidability and computational complexity. P, CSC 250, MATH 253, MATH 316.
This course will cover the code of ethics adopted by the major computer science societies and the consequences of violating the code. Laws affecting computer and information processing as well as the varied interpretations of those laws will be covered. It also provides students with a fundamental knowledge of computer security including security terminology, software and hardware vulnerabilities, and encryption.	<b>CSC 446 Compiler Construction</b> .....3
<b>CSC 314 Assembly Language (COM)</b> .....3	Structure of algorithmic, conversational, list processing and string manipulation languages. Concepts and facilities of programming languages; structure of compilers, introduction to formal languages and parsing. P, CSC 300, CSC 445.
A thorough introduction to assembly language programming and processor architecture. A study of low-level programming techniques, and the layout of a typical computer. The student will gain insight into the memory layout, registers run-time stack, and global data segment of a running program. P, CSC 250.	<b>CSC 456 Operating Systems (COM)</b> .....3
<b>CSC 317 Computer Organization and Architecture (COM)</b> .....3	A study of the functions and structures associated with operating systems with respect to process management, memory management, auxiliary storage management, and processor management. Topics include concurrent and distributed computing, deadlock, real and virtual memory, job and processor scheduling, security and protection. P, CSC 300, CSC 314.
A course in computer organization with emphasis on the hierarchical structure of computer systems. Covers such topics as: components of computer systems and their configuration, design of basic digital circuits, the microprogram level, the conventional machine level, the operating system level, assembly language, address modes, interpreters/translators, computer arithmetic. P, EE 245-245L.	<b>CSC 461 Programming Languages (COM)</b> .....3
<b>CSC 325 Management Information Systems (COM)</b> .....3	This course consists of two parts. The first part introduces how programming languages are designed, including an introduction to the concepts of parsing and compiling. Issues related to implementation such as type checking, binding, and memory management are discussed. Secondly, the course will survey the spectrum of programming languages paradigms, including traditional imperative, object oriented, functional, and logic languages. P, CSC 300.
Introduction to the application of information technology in organizations, roles of managers and staff professionals in developing and using information systems with current and future technology.	<b>CSC 470 Software Engineering (COM)</b> .....3
<b>CSC 330 Cobol I (COM)</b> .....3	An introduction to the software engineering process, including lifecycle phases, problem analysis, specification, project estimation and resource estimations, design, implementation, testing/maintenance, and project management. In particular, software validation and verification as well as scheduling and schedule assessment techniques will be discussed. P, CSC 300.
Introduction to structured COBOL programming: input, output, and reformatting; arithmetic program design; report writing; intrinsic functions; conditional branching; condition-names; iteration; control breaks; program maintenance; validity checking; and interactive programming. P, CSC 150 or CSC 213.	<b>CSC 480 Methods of Teaching Computer Science</b> .....3
	The principles, methods and theories in teaching computer science subjects to secondary school students will be studied. P, CSC 300.

**CSC 481 Systems Analysis (COM)** .....3  
 Systems analysis covers concepts, skills, methodologies, techniques, tools and perspectives essential for systems analysts to successfully design information systems. Topics include requirements specifications, object-oriented analysis and design using the unified modeling language and project management.

**CSC 484 Database Management Systems (COM)** .....3  
 The study of formalized database design. This course will focus on relational model design and the use of SQL. Students will use a modern relational database to implement designs and learn the basics of data management. P, CSC 300.

**CSC 485 Software Engineering II (AW)** .....3  
 The course is designed to illustrate the principles discussed in CSC 470. The students will be team leaders on a project that involves the system analysis, design, integration, testing, and maintenance of a large, real world software system. The students will also document the process of the real world software development. P, CSC 470.

**CSC 490 Seminar (COM)**.....1-3

**CSC 491 Independent Study (COM)** .....1-4

**CSC 494 Internship (COM)** .....1-8

**CSC 496 Field Experience (COM)** .....1-3

**CSC 497 Cooperative Education** .....1-6

**CSC 498 Undergraduate Research/Scholarship (COM)**.....1-6

### Dual Listed Courses

**CSC 422-522 GUI Programming (COM)**.....3  
 This course is event-driven graphical user interface (GUI) programming will cover topics such as C++ programming for Windows.

**CSC 433-533 Computer Graphics (COM)**.....3  
 Graphical programming concepts. Display media and device characteristics. Point, line, and circle plotting. Coordinating systems and transformations. Polygon clipping and filling. Spline methods, hidden surface elimination, and shading. P, CSC 300, MATH 125.

**CSC 447-547 Artificial Intelligence (COM)**.....3  
 Concepts in Artificial intelligence: programming in languages such as Prolog or LISP; knowledge representation; search algorithms. P, CSC 250.

**CSC 474-574 Computer Networks**.....3  
 Analysis of current and future computer networks with emphasis on the OSI model. Local and wide area networks. TCP/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, CSC 300.

**CSC 492-592 Topics (COM)**.....1-5

### Graduate Courses

**CSC 630 Principles of Data Base System Design** .....3

**CSC 643 System Analysis and Design** .....3

**CSC 705 Design and Analysis of Computer Algorithms** .....3

**CSC 710 Structure and Design of Programming Languages** .....3

**CSC 720 Theory of Computation** .....3

**CSC 740 Management Information Systems**.....3

**CSC 750 Recent Advances in Parallel Process** .....3

**CSC 770 Software Engineering Management** .....3

**CSC 787 Research** .....1-9

**CSC 788 Research Report/Design Paper** .....1-2

**CSC 790 Seminar** .....1

**CSC 791 Independent Study** .....1-3

**CSC 792 Topics**.....1-3

**CSC 798 Thesis**.....1-7

## CSCA (Computer Science Application)

### Undergraduate Courses

**CSCA 120 Introduction to Microsoft Windows**.....1  
 Basic information needed for effective computer use is presented. Course content includes: working with menus, directories and subdirectories, creating, naming, deleting and batch files. Techniques for working with the hard disk are included. P, CSCA 100 or permission of instructor.

**CSCA 292 Topics (COM)**.....1-5

## CSS (Computational Science and Statistics)

### Graduate Courses

**CSS 701 Foundations of Applied Mathematics (COM)**.....3

**CSS 702 Elements of Computational Science (COM)** .....3

**CSS 703 Statistical Modeling and Computing (COM)** .....3

**CSS 704 Computing Paradigms (COM)** .....3

**CSS 890 Seminar in Computational Science and Statistics (COM)**.....1

**CSS 891 Independent Study Computational Science and Statistics (COM)** .....1-3

**CSS 892 Topics in Computational Science and Statistics (COM)**.....1-3

**CSS 898 Dissertation Research (COM)** .....1-36

**CSS 899 Dissertation Sustaining (COM)** .....0

## CTE (Career and Technical Education)

### Undergraduate Courses

**CTE 105 Principles of Career and Technical Education** .....1-3  
 A study of career and technical education terminology, service areas, instructional programs and basic principles of vocational technical education.

**CTE 189 Technical Specialty: .....1-32**  
 (Name of technical program.) Granted to students who have: 1. successfully completed approved coursework related to a Technical Specialty from a vocational technical institute or school; 2. documentation of a chronological history of relevant occupational work experience leading to identifiable competencies completed in a Technical Specialty approved by granting institution; 3. successfully passed an occupational competency evaluation, such as: National Occupational Competency Testing Institute (NOCTI) exam for a specific Technical Specialty; and 4. validated military experiences that are related to a technical specialty.

**CTE 201 Mentorship/Practicum I .....2**  
 This course is the first class in a two-year mentorship/practicum program designed for new faculty entering secondary and post-secondary education. Course content will focus on teaching and learning, philosophy, curriculum development, assessment and evaluation, program planning and management, and individual and organizational development.

**CTE 202 Mentorship/Practicum II .....2**  
 This course is the second class in a two-year mentorship/practicum program designed for new faculty entering secondary and post-secondary education. Course content will focus on teaching and learning, philosophy, curriculum development, assessment and evaluation, program planning and management, and individual and organizational development, but at higher cognitive, affective, and psychomotor levels than CTE 201.

**CTE 208 Occupational Internship I .....1-3**  
 Coordinated work experience in an occupation related to a specific vocational education content area. Prior application is required. P, permission of instructor.

**CTE 251 Occupational Analysis .....1-3**  
 An analysis breakdown of a trade or occupation to determine units for instruction.

**CTE 295 Practicum .....1**

**CTE 301 Mentorship/Practicum III .....2**  
 This class is the third class in a two-year mentorship/practicum program designed for new faculty in their second year in secondary and post-secondary education. Course content will focus on teaching and learning, philosophy, curriculum development, assessment and evaluation, program planning and management, and individual and organizational development, but at higher cognitive, affective, and psychomotor levels than CTE 201 and 202. Emphasis will be placed on developing leadership skills and abilities in the education profession.

**CTE 302 Mentorship/Practicum IV .....2**  
 This course is the fourth class in a two-year mentorship/practicum program designed for new faculty in their second year in secondary and post-secondary education. Course content will focus on teaching and learning, philosophy, curriculum development, assessment and evaluation, program planning and management, and individual and organizational development, but at higher cognitive, affective, and psychomotor levels than CTE 201, 202 and 301. Emphasis will be placed on developing leadership skills and abilities in the education profession.

**CTE 308 Occupational Internship II .....1-3**  
 Coordinated work experience in an occupation related to a specific vocational education content area. Coordinated plan must build upon CTE 208 and substantiate a progressive educational experience. Prior application is required. P, prior approval of instructor.

**CTE 311 Career and Technical Adult Education .....1-3**  
 Objectives, principles, methods and practices to be used in the teaching of adult classes. Emphasis will be placed upon classes for retraining and upgrading adults in skilled or technical occupations.

**CTE 312 Technical Education .....1-3**  
 Technical education programs are studied in regard to their development, curriculum content, equipment, and staff requirements.

**CTE 313 Organization and Coordination of Cooperative Educational Programs .....3**  
 The development of an effective cooperative relationship between school based coordinator and the business/industrial sponsor; the selection, orientation and training of sponsors; reporting and record keeping; the evaluation and selection of students; and program evaluation.

**CTE 314 The Special Needs Learner .....3**  
 Introduction to vocational education for learners with special needs. Historical and current issues and trends, including review of existing programs.

**CTE 352 Instructional Resources Development .....2**  
 Study of instructional materials, sources and application; emphasis on principles for making resources useful to CTE teachers. Construction and application of materials required.

**CTE 371 Laboratory Organization and Management .....1-3**  
 The basic elements of organizing and managing a vocational program, the selection of equipment, faculty development, legal responsibilities of laboratory instructors, inventory, storage control and safety.

**CTE 380 Technical Industrial Training ..... 5-6**  
 (Registration is initiated by submitting CTE Form No. 149 to the Coordinator of Vocational Technical Teacher Education.) Manufacturers, industries, and service firms offer many special technical courses that are available to vocational trade, industrial and technical instructors or prospective instructors. Some of these courses are suitable for college credit, and upon approval credit may be granted. The following guidelines are used to award such credit: 1. The student must submit CTE Form No. 149 to receive approval for registration. 2. The student must make all the necessary arrangements with the industrial firm offering the industrial training session. 3. Credit is awarded on the basis of one-half credit for twenty hours of attendance.

**CTE 405 Philosophy of Career and Technical Education .....2**  
 Overview of vocational-technical and practical arts education, its place in the community and school; organization and characteristics of instructional programs at secondary, post-secondary and adult levels in agriculture, family and consumer sciences education, business and office, industrial, health, and distributive education; career education; legislation; and current trends and issues. For prospective teachers and guidance personnel. P, sophomore in education.

**CTE 408 Occupational Internship III .....1-3**  
 Coordinated work experience in an occupation related to a specific vocational education content area. Coordinated plan must build upon CTE 308 and substantiate a progressive educational experience. Prior application is required. P, prior approval of instructor.

**CTE 438 Industrial Safety .....2**  
 Industrial accident prevention considering the nature and extent of the accident problem. Emphasis upon the development of a safety program for instructional programs and industrial management.



**CTE 457 Instructional Technology .....2**  
 Visual aids used in vocational and technical education and their relationship to the various occupational areas.

**CTE 472 Public Relations and Advisory Committee.....1-3**  
 Techniques and media for communicating with the public information on different types of advisory committees used in vocational technical education and industrial firms.

**CTE 474 Industrial Conference Leading.....1-3**  
 Methods, procedures and techniques utilized by the vocational technical educator in arranging and conducting conferences with industrial personnel.

**CTE 475 Vocational Youth Organizations.....1-3**  
 Methods of establishing organizations at the local level.

**CTE 477 Job Analysis and Employee Evaluation.....3**  
 Analyzing jobs and evaluating employee performance for purposes of training, promotion, salary adjustments, and establishing hiring criteria.

**CTE 488 Student Teaching .....8**  
 Full time off-campus supervised teaching in a secondary or post-secondary Vocational Technical setting for 10 weeks. Student teaching fee assessed.

**CTE 490 Seminar .....2-3**

## Dual Listed Courses

**CTE 419-519 Methods of Teaching.....3**  
 This course will feature lesson presentation and methods of delivering instruction in vocational technical education. The course is designed for individuals who are presently teaching in the vocational technical education field. Content builds upon existing knowledge of the program participants in order to increase comprehension of the field of vocational technical education. Instructional techniques appropriate for vocational technical education are developed based on models identified in competency-based or performance-based education. Special emphasis is placed upon teaching methods which coexist with a performance-based philosophy. Participants are actively involved in current teaching assignments which creates an enormous opportunity for reflection and debate.

**CTE 420-520 Entrepreneurship in Career and Technical Education...3**  
 This course is designed to help educators in all areas of vocational education to incorporate basic concepts of entrepreneurship into the curriculum. Topics include: small business plans, government regulations, site locations, record keeping, financing, legal considerations, business promotions, managing human resources, small business contributions to the economy and economic development, educational resources for entrepreneurship, placement of the entrepreneurship concept in vocational education programs and review of basic concepts related to entrepreneurship such as business ownership options and entrepreneur characteristics.

**CTE 425-525 Development of Career and Technical Education Thought and Practice .....3**  
 Philosophy, origins, and development of vocational, technical and practical arts, educations at adult, postsecondary, secondary, and pre-vocational levels. Current and emerging principles, practices, and issues are stressed.

**CTE 430-530 Cooperative Education Coordination Techniques.....3**  
 This course emphasizes the organization of cooperative work experience in vocational education programs: agriculture, marketing education, health occupations, family consumer sciences education, business education, and trade and industrial. Emphasizes strategies and techniques for coordinating classroom instruction with on-the-job work experience. Topics include: program organization, coordinator responsibilities, student selection, placement, advisory councils, public relations, training stations, training plans, legal aspects, and program and student evaluation.

**CTE 440-540 Curriculum Design in Career and Technical Education (AW) .....3**  
 A development process of selection, organization and management of instructional content and supplemental materials; development of objectives; the integration of teaching/learning strategies; implementation of evaluation measures.

**CTE 463-563 Technical and Industrial Experience.....1-4**  
 This course is designed for Career and Technical Educators. The purpose of this course is to aid the educator in staying current with new technologies and methodologies occurring in business and industry. Approval is required from the Coordinator of Career and Technical Education (CTE) at least two weeks prior to the educational experience. To receive graduate credit a student will need to complete a paper reviewing the educational experience. Complete details on receiving undergraduate and graduate credit for the Technical and Industrial Experiences course are included in the application materials. (Appropriate forms and related paperwork can be acquired from the Coordinator of CTE.)

**CTE 491-591 Independent Study.....1-4**

**CTE 492-592 Topics .....1-3**

## Graduate Courses

**CTE 700 Technology in Career Education .....3**

**CTE 720 Entrepreneurship Career Education.....3**

**CTE 731 Administration and Supervision of Career Education.....3**

**CTE 751 Curriculum in Home Economics Education .....2**

**CTE 761 Evaluation in Home Economics.....2**

**CTE 776 Curriculum in Agricultural Education .....2**

**CTE 788 Research Problems.....1-2**

**CTE 790 Seminar .....1-3**

**CTE 791 Independent Study.....1-3**

**CTE 792 Topics.....1-3**

**CTE 794 Internship .....1-3**

**CTE 798 Thesis .....5**

## DANC (Dance)

### Undergraduate Courses

**DANC 130 Dance Fundamentals .....1**  
 Basic skills course required of all physical education and public recreation majors. Includes analysis, skill development, and leadership of round, folk, square and social dances, traditional and contemporary.

<b>DANC 131 Movement 1</b> .....	<b>2</b>
The basic principles of human movement as they apply to the individual, the actor, the dancer and the musician.	
<b>DANC 132 Movement 2</b> .....	<b>2</b>
The advanced principles of human movement as they apply to the individual, actor, dancer and the musician. P, DANC 131.	
<b>DANC 230 Technique 1</b> .....	<b>1</b>
Technical dance training in basic structures of Classical Ballet and Jazz.	
<b>DANC 231 Technique 2</b> .....	<b>1</b>
Technical dance training in basic structures of Modern and Tap dance.	
<b>DANC 240 Multicultural Dance Activities</b> .....	<b>1</b>
Folk dances from around the world, including cultural background, costumes, skill differences for elementary, middle and high school, or adults.	
<b>DANC 241 Creative Movement for Children</b> .....	<b>2</b>
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.	
<b>DANC 241L Creative Movement for Children Lab</b> .....	<b>0</b>
<b>DANC 330 Technique 3</b> .....	<b>1</b>
Technical dance training in intermediate and advanced structures of Classical Ballet and Jazz. P, DANC 230 or Instructor Consent.	
<b>DANC 331 Technique 4</b> .....	<b>1</b>
Technical dance training in intermediate and advanced structures of Modern and Tap Dance. P, Technique 2 or Instructor Consent.	
<b>DANC 420 Techniques of Teaching Dance</b> .....	<b>2</b>
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, DANC 130, DANC 240.	
<b>DANC 430 Composition and Choreography</b> .....	<b>1</b>
Methods of creating dance choreography. P, DANC 230 and 231, or DANC 330 and 331, or Instructor Consent.	
<b>DANC 431 Dance for the Musical Theatre</b> .....	<b>1</b>
Dance exploration in many genres of dance for the musical theatre. P, DANC 230 and 231, or DANC 330 and 331, or Instructor Consent.	
<b>DANC 491 Independent Study</b> .....	<b>1-3</b>
P, consent.	
<b>DANC 492 Topics</b> .....	<b>1-5</b>

## **DCOM (Communication Disorders)**

### **Undergraduate Courses**

<b>DCOM 112 Voice and Articulation</b> .....	<b>3</b>
The study of vocal production and phonology/articulation.	
<b>DCOM 131 Introduction to Communication Disorders</b> .....	<b>3</b>
A study of the basic processes of speech, language, and hearing, and the major speech, language and hearing disorders.	

<b>DCOM 211 Phonetics</b> .....	<b>3</b>
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.	
<b>DCOM 212 Language Development</b> .....	<b>3</b>
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.	

## **DS (Dairy Science)**

### **Undergraduate Courses**

<b>DS 101 Opportunities in Dairy Science</b> .....	<b>1</b>
An introduction to the diversity of Dairy Science and career opportunities; resume development and goal setting for a profession in Dairy Science.	
<b>DS 130 Introduction to Dairy Science</b> .....	<b>3</b>
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. Corequisite course DS 130L.	
<b>DS 130L Introduction to Dairy Science Lab</b> .....	<b>0</b>
Corequisite course DS 130.	
<b>DS 202 Dairy Products Judging</b> .....	<b>1</b>
Quality of milk, cheddar cheese, ice cream, and cottage cheese.	
<b>DS 212 Dairy Cattle Evaluation</b> .....	<b>2</b>
Fundamental aspects of evaluation of dairy cattle for type; type classification of dairy cattle.	
<b>DS 231 Dairy Foods</b> .....	<b>3</b>
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.	
<b>DS 301 Dairy Microbiology</b> .....	<b>3</b>
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. Corequisite course DS 301L.	
<b>DS 301L Dairy Microbiology Lab</b> .....	<b>0</b>
Corequisite course DS 301.	
<b>DS 311 Dairy Cattle Judging</b> .....	<b>1</b>
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, DS 212.	
<b>DS 313 Technical Control of Dairy Products I</b> .....	<b>3</b>
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, DS 130, CHEM 106. Corequisite course DS 313L.	
<b>DS 313L Technical Control of Dairy Products I Lab</b> .....	<b>0</b>
Corequisite course DS 313.	

<b>DS 321 Dairy Product Processing I</b> .....	<b>5</b>
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, DS 130, DS 313 (or concurrent), and MICR 231, or consent. Corequisite course DS 321L.	
<b>DS 321L Dairy Product Processing I Lab</b> .....	<b>0</b>
Corequisite course DS 321.	
<b>DS 322 Dairy Product Processing II</b> .....	<b>5</b>
Processing or manufacturing of relatively nonperishable dairy products such as butter, cheese, dried milk, casein, lactose, and anhydrous milk fat. P, DS 130, DS 313 (or concurrent), and MICR 231, or consent. Corequisite course DS 322L.	
<b>DS 322L Dairy Product Processing II Lab</b> .....	<b>0</b>
Corequisite course DS 322.	
<b>DS 401 Advanced Dairy Products Judging</b> .....	<b>1-2</b>
Quality evaluation of dairy products. Includes participation for alternate team members in the regional collegiate dairy products evaluation contest. Alternate team members take course for 1 credit. Team members who participate in both the regional and national contests take course for 2 credits. P, DS 202 and written consent. Maximum of 3 credits.	
<b>DS 411 Dairy Breeds and Breeding</b> .....	<b>2</b>
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, DS 130.	
<b>DS 412 Dairy Farm Management</b> .....	<b>4</b>
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, DS 130 or consent. Corequisite course DS 412L.	
<b>DS 412L Dairy Farm Management Lab</b> .....	<b>0</b>
Corequisite course DS 412.	
<b>DS 421 Dairy Plant Management</b> .....	<b>3</b>
General costs, buildings, equipment, merchandising, personnel, other management factors of dairy processing plants. P, junior standing or consent.	
<b>DS 422 Technical Control of Dairy Products II</b> .....	<b>4</b>
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, DS 313, and CHEM 108 or 120. Corequisite course DS 422L.	
<b>DS 422L Technical Control of Dairy Products II Lab</b> .....	<b>0</b>
Corequisite course DS 422.	
<b>DS 432 Dairy Cattle Feeding</b> .....	<b>3</b>
Practical considerations involved in feeding dairy cattle. P, AS 233.	
<b>DS 490 Seminar (AW)</b> .....	<b>1</b>
<b>DS 491 Independent Study</b> .....	<b>1-3</b>
<b>DS 492 Topics</b> .....	<b>1-4</b>
<b>DS 494 Internship</b> .....	<b>3-12</b>
<b>DS 496 Field Experience</b> .....	<b>3-12</b>
<b>DS 497 Cooperative Education</b> .....	<b>3-12</b>
<b>DS 498 Undergraduate Research/Scholarship</b> .....	<b>1-6</b>

## Dual Listed Courses

<b>DS 413-513 Physiology of Lactation</b> .....	<b>3</b>
Anatomy, physiology, and biochemistry of mammary glands. Factors affecting quality and quantity of milk.	
<b>DS 452-552 Environmental Management of Dairy Systems</b> .....	<b>3</b>
Discussion of environmental issues concerning dairy farms and dairy manufacturing plants with a focus on nutrient balances, by-product usage, odors, social consequences, and government policies which affect the dairy industry. P, Junior standing or consent.	
<b>Graduate Courses</b>	
<b>DS 711 Ruminology</b> .....	<b>3</b>
<b>DS 722 Advanced Dairy Microbiology</b> .....	<b>3</b>
<b>DS 722L Advanced Dairy Microbiology Lab</b> .....	<b>0</b>
<b>DS 731 Lab Techniques in Dairy Science</b> .....	<b>3</b>
<b>DS 791 Independent Study</b> .....	<b>1-4</b>
<b>DS 792 Topics</b> .....	<b>1-4</b>
<b>DS 798 Thesis</b> .....	<b>1-7</b>
<b>DS 898D Dissertation-Ph.D.</b> .....	<b>1-12</b>

## ECE (Early Childhood Education)

### Undergraduate Courses

<b>ECE 150 Early Experience</b> .....	<b>2</b>
Experimental-based introduction to professional contexts within early childhood education (ECE) and/or human development and family studies (HDFS). Students serve as volunteers in community-based human services and educational settings, shadowing professionals to better understand professional roles and opportunities. Corequisite course ECE 150L.	
<b>ECE 150L Early Experience Clinical Experience</b> .....	<b>0</b>
Corequisite course ECE 150.	
<b>ECE 220 Health, Safety and Nutrition of Young Child</b> .....	<b>3</b>
Exploration of school health, safety, first aid/CPR, disease control and nutrition; development of health and nutrition policies and standard in early childhood settings based on current public policy; creating a healthy and safe school environment for young children; exploration of materials and methods for teaching health, safety and nutrition in early childhood.	
<b>ECE 227 Human Development and Personality I: Childhood</b> .....	<b>3</b>
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.	
<b>ECE 228 Observation and Participation in Early Childhood (COM)</b> .....	<b>2</b>
Observation and participation in a pre-school setting under supervision of a professional practitioner. P, HDFS 227 with a minimum grade of "C."	
<b>ECE 228L Observation and Participation in Early Childhood Lab (COM)</b> .....	<b>1</b>
Accompanies ECE 228.	

**ECE 292 Topics.....1-3**

**ECE 361 Methods and Materials/Early Childhood Education (AW) ...5**  
 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. Admission to PS II concurrent with 362. P, HDFS 227, ECE 228. Corequisite course ECE 361L.

**ECE 361L Methods Lab .....0**  
 Corequisite course ECE 361.

**ECE 362 Early Childhood Education Curriculum .....5**  
 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, Admission to PS II; concurrent with 361; HDFS 227, ECE 228. Corequisite course ECE 362L.

**ECE 362L Curriculum Lab .....0**  
 Corequisite course ECE 362.

**ECE 364 Parent/Child Relationships in a Professional Context .....3**  
 The focus of this course is effective communication with families through a parent education needs assessment, parent education programs, conferencing, parental involvement in schools, newsletter development, and interaction with other agencies for referral purposes. P, HDFS 227.

**ECE 365 Emergent Literacy in Birth to Eight Education .....3**  
 This course will focus on language and emergent literacy development of children from infancy to age 8. Focus will be on providing authentic, developmentally appropriate activities that are integrated across the curriculum. Students will learn to evaluate developmentally appropriate literature for young children (birth to 8). A lab experience will enable students to develop and implement strategies for classroom teaching and for linking classroom learning and home literacy.

**ECE 365L Emergent Literacy in Birth to Eight Education Lab.....0**

**ECE 371 Infant and Toddler: Developmentally Appropriate Practices (COM).....3**  
 This course is a study of developmentally appropriate practices for infants/toddlers (aged birth to 3 years). Students will learn developmentally appropriate learning environments and experiences for infants and toddlers that facilitate development and learning in the cognitive, language, physical, social/emotional, and aesthetic domains. The health, safety, and nutritional needs of infants and toddlers will also be studied and applied. P, ECE 228-228L, HDFS 227. Corequisite course ECE 371L.

**ECE 371L Infant and Toddler: Developmentally Appropriate Practices Lab .....0**  
 Corequisite course ECE 371.

**ECE 400 Orientation to Elementary Education Programs.....0**  
 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.

**ECE 441 Professional Issues in Child and Family Studies .....3**  
 Study of professional issues in the Child and Family Studies field. Course materials are inclusive of public policy, advocacy, leadership, professional development and ethics and workplace issues.

**ECE 455 Administration and Supervision of Early Childhood Setting .....3**

Exploration of issues surrounding the administration of early childhood programs including identification of community needs, evaluation and appropriate use of space, equipment and materials, and policy and legal responsibilities. Exploration of staff selection, training and supervision. P, ECE 228, ECE 361, ECE 362.

**ECE 465 Introduction to Developmental Assessment of Young Children .....3**

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, HDFS 227, ECE 228. Corequisite course ECE 488.

**ECE 468 Early Intervention in Family-Centered Practices .....3**

An overview of current theories, issues and practices in early intervention including: historical, philosophical and attitudinal attributes, early intervention legislation, and service delivery models. Teaming with families and other professionals will be emphasized with attention to cultural sensitivity and family-centered practices. P, HDFS 241, ECE 361, ECE 362, ECE 364.

**ECE 470 Early Childhood Inclusion Strategies .....3**

An introduction to teaching strategies and curriculum adaptations to include children who have disabilities in 0-5 early childhood educational settings. An overview of the following current early childhood intervention issues will be covered: risk determinants, disability characteristics, medical issues, assistive technology, and other resources both online and traditional. Family-centered practices will be emphasized.

**ECE 473 Orientation to K-2 Student Teaching.....2**

This course is designed to prepare students for the professional role of teaching in kindergarten through second grade. Students study professional issues related to early childhood and elementary education. Course materials are inclusive of public policy, advocacy, leadership, professional development, ethics, and workplace issues. Corequisite course ECE 488-3.

**ECE 478 Integrated Curriculum in Birth-to-Age Eight Education.....4**

This course is designed to support the teacher candidate in the semester immediately preceding the K-1-2 student teaching experience. Topics of study include integration of curricula, primary-grade issues and trends, models of teaching, reflective practice, teacher as researcher, critical thinking, problem solving, and impact of current and new legislation on teaching and learning. P, senior standing, admission into PS 111, consent of instructor. Corequisite course ECE 488-3.

**ECE 478L Integrated Curriculum in Birth-to-Age Eight Education Lab.....0**

**ECE 480 Travel Studies.....1-5**

This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report.

**ECE 487 Orientation to Child and Family Services Practices .....1**  
 Orientation to Child and Family Services Practicum will identify expectations of the experience. Students will develop written and verbal communication skills necessary to obtain a practicum and work site. Students will investigate and locate an appropriate practicum site and set professional and educational goals for the practicum experience.

**ECE 488 Student Teaching (COM) .....1-12**  
 Students preparing for teaching in the early childhood setting will observe, participate, and teach under the supervision of the regular classroom teacher in an approved early childhood setting. An additional "Mandatory Fee" applies to this course.

**ECE 495 Practicum (COM) .....1-12**

## Dual Listed Courses

**ECE 491-591 Independent Study .....1-3**

**ECE 492-592 Topics .....1-3**

## Graduate Courses

**ECE 543 Child Inquiry .....2**

**ECE 601 Orientation in Graduate Study .....1**

**ECE 645 Contemporary Perspectives in Early Childhood Education .....3**

**ECE 665 Parent Education: Theory and Issues .....3**

**ECE 676 Early Childhood Education Administration and Practicum .....1-4**

**ECE 700 Research Methods .....4**

**ECE 700L Research Methods Studio .....0**

**ECE 711 Child Development Theory and Application .....3**

**ECE 788 Individual Research and Study .....1-7**

**ECE 790 Seminar .....1-3**

**ECE 791 Independent Study .....1-3**

**ECE 792 Topics .....1-3**

**ECE 794 Internship .....1-7**

**ECE 798 Thesis .....1-7**

## ECON (Economics)

### Undergraduate Courses

**ECON 101 Global Economy (G) .....3**  
 A study of basic economic principles presented from a global perspective and focused at individuals with little or no previous economic skills. Topics include: modern economic systems, foreign exchange rates, import and export trade, labor flows, government policy, and consumer behavior and welfare. (Not a substitute for ECON 201 or ECON 202.)

**ECON 201 Principles of Microeconomics (COM) .....3**  
 Principles of Microeconomics studies basic economic concepts as they relate to consumer, worker, and business decisions. Emphasis is given to satisfaction maximizing behavior by individuals and profit maximization by firms. Market structures are thoroughly analyzed regarding their effect on price, output, and competitiveness. P, MATH 102 or 115 or 120 or 121 or 123 or 125 or 281.

**ECON 202 Principles of Macroeconomics (COM) (G) .....3**  
 Principles of Macroeconomics considers the economy as a whole; how its sectors interact, and how monetary and fiscal policy can influence output, inflation, interest rates, unemployment, poverty, debt, and other factors. P, MATH 102 or 115 or 120 or 121 or 123 or 125 or 281.

**ECON 292 Topics .....1-4**

**ECON 301 Intermediate Microeconomics (COM) .....3**  
 intermediate microeconomics examines more advanced microeconomic theory, then applies it to consumers' and businesses' consumption, pricing, and output decisions in various types of markets. P, ECON 201, MATH 121.

**ECON 302 Intermediate Macroeconomics (COM) .....3**  
 Intermediate macroeconomics examines more advanced macroeconomic theories, then uses them to understand the determinants of national output, prices, interest rates, and employment under various conditions, and to evaluate effectiveness of monetary and fiscal policies. P, ECON 202; MATH 102 or 115 or 120 or 121 or 123 or 125 or 281..

**ECON 330 Money and Banking (COM) .....3**  
 Money and banking examines the historical development of money, the bank system, and the federal reserve in the United States. The course studies interest rate determination and how monetary policy affects rates and the economy. P, ECON 201, ECON 202.

**ECON 370 Marketing .....3**  
 Marketing; market organization and cooperative marketing functions; pricing; efficiency, and role and management of marketing activities. Crosslisted with BADM 370. P, ECON 201.

**ECON 405 Comparative Economic Systems (COM) .....2-3**  
 Comparative economic systems studies the characteristics of modern economic systems and the significant thought and experience that have influenced their emergence and development. It uses the U.S. as a benchmark for comparing developed and developing economies in terms of output per capita, social welfare, income distribution, and other conditions. P, ECON 201, ECON 202.

**ECON 423 Statistics II (COM) .....3**  
 Statistics II studies probability, point and interval estimation, test of hypotheses, multiple regression and correlation, chi-square analysis, and analysis of variance. P, MATH 121, STAT 281.

**ECON 428 Mathematical Economics .....3**  
 Mathematical methods in introductory calculus and linear algebra. Applications to economic analysis. Static and dynamic partial and general equilibrium models, production functions, activity analysis, distribution, cycles, growth, mathematical programming, and model building. P, ECON 301, ECON 302, MATH 121.

**ECON 433 Public Finance (COM) (AW) .....3**  
 Public finance focuses on the role of the public sector in the United States economy. It uses economic analysis to examine when government intervention in a market economy might be justified and to evaluate public spending and taxes. P, ECON 201, ECON 202.

**ECON 453 Risk Management-Personal and Business**.....3  
 Protection against or adaptation to risk and uncertainty. Principles and practices of fire, casualty, surety and life insurance and other risk management techniques.

**ECON 467 Labor Law and Economics** .....3  
 History and development of the U.S. labor movement; the labor market in a market economy from firm's and union's viewpoint; collective bargaining; public policy toward collective bargaining. P, ECON 201 or ECON 202, junior standing.

**ECON 490 Seminar (COM)** .....1-3

**ECON 492 Topics (COM)**.....1-4

**ECON 494 Internship (COM)**.....1-6

**ECON 496 Field Experience** .....1-3

**ECON 498 Undergraduate Research/Scholarship (COM)** .....1-4

### Dual Listed Courses

**ECON 403-503 History of Economic Thought (COM)**.....3  
 History of economic thought surveys the historical development of economic theory from ancient to modern times. The writings of Aristotle, Adam Smith, Marx, and Marshall provide part of the diverse menu of economic thought. P, ECON 201, ECON 202.

**ECON 420-520 Economics of the Public Sector** .....3  
 (offered on demand) Governmental operations, policies, and revenues as related to employment, productivity and economic welfare. Alternatives that would affect social services, education, commerce and trade, fiscal policies, and quality of life. P, ECON 201 or consent.

**ECON 431-531 Managerial Economics**.....3  
 Applications of microeconomic theory, statistics and other quantitative methods to analysis and solution of decision making problems confronted by managers of agribusiness, commercial and manufacturing enterprises. Topics include economic analysis of demand, production, cost, market structure, government regulation, risk, and capital budgeting. P, ECON 301, MATH 121, STAT 281.

**ECON 440-540 Economics of International Sector**.....3  
 International flow of trade and balance of payments. Monetary and fiscal policies. Trade controls and their effect upon the agricultural and domestic economics. Significant current developments in trade and finance. P, ECON 201, ECON 202, ECON 330 or consent.

**ECON 450-550 Industrial Organization (COM)**.....3  
 Industrial organization studies how different industry structures influence firm performance and business practices, and how government policies affect competitiveness and the economy. P, ECON 201, ECON 202.

**ECON 460-560 Economic Development (G)**.....3  
 Developing and developed national economies. Factors impacting economic development. Role of public policies in development. Agricultural and rural development issues emphasized. P, ECON 201, ECON 202, or consent.

**ECON 472-572 Resource and Environmental Economics (COM)** .....3  
 Resource and environmental economics surveys the allocation and conservation of natural resources from a perspective of optimal use and sustainability. Emphasis is placed on environmental economics including the problems of pollution, population, and economic growth. Methods for evaluating projects and programs are considered. P, ECON 201.

**ECON 476-576 Marketing Research** .....3  
 Marketing problems confronting agribusinesses and businesses. Descriptive and analytical techniques in a research methods approach. Marketing research techniques. Crosslisted with BADM 476. P, ECON 370, STAT 281.

**ECON 491-591 Independent Study (COM)**.....1-4

**ECON 493-593 Workshop** .....1-3

### Graduate Courses

**ECON 601 Economics Study in Industrial Management**.....3

**ECON 610 Financial Management**.....3

**ECON 624 Advanced Mathematical Economics** .....3

**ECON 653 Advanced Market Research**.....3

**ECON 660 Operations Management**.....3

**ECON 691 Independent Study** .....1-3

**ECON 692 Topics** .....1-4

**ECON 703 Advanced Macroeconomics**.....3

**ECON 704 Advanced Microeconomics**.....3

**ECON 705 Econometrics** .....3

**ECON 707 Research Methodology in Applied Economics**.....2

**ECON 782 Personnel and Labor Relations** .....3

**ECON 788 Research Paper** .....1-2

**ECON 792 Topics** .....1-4

**ECON 798 Thesis** .....1-7

## EDAD (Educational Administration)

### Graduate Courses

**EDAD 700 Introduction to School Administration** .....3

**EDAD 707 The Principalship** .....2

**EDAD 708 Elementary Principalship Practicum**.....1

**EDAD 709 Secondary Principalship Practicum**.....1

**EDAD 710 Elementary School Administration** .....3

**EDAD 711 Secondary School Administration** .....3

**EDAD 715 Supervision** .....3

**EDAD 730 School Finance**.....2

**EDAD 732 School Buildings and Grounds** .....2

**EDAD 735 School Law**.....3

**EDAD 788 Research Problems in Educational Administration** .....2

**EDAD 790 Seminar** .....1-3

**EDAD 791 Independent Study** .....1-3

**EDAD 792 Topics** .....1-3

**EDAD 793 Workshop**.....1-3

**EDAD 794 Internship** .....1-6

## EDER (Education Evaluation and Research)

### Dual Listed Courses

EDER 492-592 Topics .....1-3

### Graduate Courses

EDER 691 Independent Study .....1-3

EDER 711 Educational Assessment .....3

EDER 761 Informational Literacy .....3

EDER 763 Educational Inquiry .....3

EDER 788 Research Problems in Education.....1-2

## EDFN (Education Foundations)

### Undergraduate Courses

EDFN 193 Workshop .....1

EDFN 293 Workshop.....1

EDFN 338 Foundations of American Education (COM) .....1-2

A survey of the goals, history, organization, and philosophy of pre-K-12 American education, with emphasis on teaching as a profession; contemporary issues and practices, legal and ethical responsibilities, and attributes of effective teachers.

EDFN 365 Computer-Based Technology and Learning (COM) .....2-3

Prepares students to integrate computers into the curriculum by exploring the evolving uses and expectations of technology as a teaching and learning tool. Course objectives based on ISTE standards.

EDFN 366 Teaching Using Video Conferencing (COM) .....1

This course is an introduction to distance teaching methods, including designing lessons, best practices, and classroom management for distance education classrooms. Emphasis will be placed on videoconferencing classrooms and online learning.

EDFN 393 Workshop (COM) .....1

EDFN 420 History and Philosophy of Education.....2

An overview of the history of education coupled with the development and application of educational philosophy in contemporary practice.

EDFN 475 Human Relations (COM).....3

Focuses on characteristics, contributions, and strengths of a pluralistic society; various cultural perspectives and specific information about cultures, the dehumanizing impact of biases and negative stereotypes; and the human relations approach to teaching.

EDFN 487 Instructional Designer Roles (course will be discontinued 12/31/05) .....1

Designing and delivering instructional design plans. Synthesizing the rationale and basis for making a decision in designing instruction. Developing and refining evaluation instruments. Practical application of instructional design process.

EDFN 489 Professional Issues in Education .....1

EDFN 496 Field Experience .....1

### Dual Listed Courses

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

Group processes and issues in affective education at the middle school/junior high level. Topics for study are group processes, interdisciplinary team planning, cooperative learning, student advisory programs, self-esteem building, and student/teacher relationships. 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

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

Examines curriculum methods and materials for gifted and talented children and youth. Students will be exposed to various programming models, IEP development, differentiated curricular concepts, as well as skills in self-directed learning.

EDFN 452-552 Foundations of Reading.....3

Description of normal process of development in reading skills and techniques which may be used in remedying deviations which hinder readers in speed or comprehension. Recommended for graduate students in Language Skills and Communications programs.

EDFN 458-558 Literacy Assessment and Remediation.....3

General nature of causes of reading disability; principles of diagnosis and use of instruments; basic principles of individual remediation; case studies; evaluation of progress of the disabled reader; adaptation of techniques to classroom. P, EPSY 302.

EDFN 460-560 Applied Linguistics for Teaching English as a Second Language.....3

The study of social and linguistic structures which undergird different discourse forms. Emphasis will be on discourse forms which are particularly important for full participation in U.S. culture such as the rhetoric of public and school interactions. Crosslisted with LING 460-560.

EDFN 461-561 Cultural and Psychological Perspectives in the Acquisition of English as a Second Language.....3

Addresses the social and cognitive processes involved in the acquisition of a second language including developmental influences.

EDFN 462-562 Teaching Language Arts for English as Second Language Across the Curriculum .....3

The teaching of reading and writing to students with limited English proficiency. Emphasis will be on reading and writing as it pertains to performance in educational and public settings.

EDFN 463-563 Methods of Teaching English as Second Language .....3

Develops the central concepts, tools of inquiry, and structure of teaching English to students with limited English proficiency. Includes the evaluation of instructional processes, learning resources, curriculum, and programs. Emphasis will be on teaching students to use English in educational and public settings. Crosslisted with ENGL 463-563.

EDFN 492-592 Topics (COM) .....1-3

## Graduate Courses

EDFN 590 Seminar (COM).....	1-3
EDFN 605 Computers in the Classroom.....	2
EDFN 648 Learning Styles .....	3
EDFN 691 Independent Study .....	1-3
EDFN 700 Exceptional Learners .....	3
EDFN 725 Education in a Pluralistic Society .....	3
EDFN 727 Group Processes.....	3
EDFN 730 Current Issues in Education.....	3
EDFN 745 Effective Teaching: Theory into Practice.....	3
EDFN 747 Curriculum: Theory and Practice .....	2
EDFN 750 Technology in Education.....	3
EDFN 751 Teaching Reading Across Disciplines.....	3
EDFN 754 Clinical Practice in Reading.....	1-3
EDFN 790 Seminar (COM).....	1-3
EDFN 792 Topics (COM) .....	1-3
EDFN 794 Internship.....	1-6

## EE (Electrical Engineering)

### Undergraduate Courses

EE 101 Introduction to Electrical Engineering.....	1
This course provides an introduction to the concepts of electrical engineering. It provides an opportunity for students to be exposed to circuit theory, electronics, microprocessors, sensors, electric power, and control systems in a hands-on setting. It is designed to help students decide if electrical engineering is an appropriate career choice.	
EE 220 Circuits I (COM).....	3
This course is designed to provide the electrical engineering students with an understanding of the basic concepts of the profession. Topics covered include resistive circuits, transient circuits, and sinusoidal analysis. Students also investigate essential principles by conducting laboratory experiments related to the topics studied in the classroom. P-spice is used to analyze electrical circuits using personal computers. P, "C" or better in MATH 125.	
EE 220L Circuits I Lab (COM) .....	1
Accompanies EE 220.	
EE 221 Circuits II (COM) .....	3
This course is designed to provide the electrical engineering student with an understanding of the basic concepts of the profession. Topics covered include resistive circuits, transient circuits, and sinusoidal analysis. Students also investigate essential principles by conducting laboratory experiments related to the topics studied in the classroom. P-spice is used to analyze electrical circuits using personal computers. P, MATH 321 and "C" or better in EE 220.	
EE 221L Circuits II Lab (COM).....	1
Accompanies EE 221.	

EE 245 Digital Systems .....	3
The fundamental concepts of analysis and design of digital circuits including combinational and sequential logic design using TTL, CMOS, PLD's and software tools. Corequisite course EE 245L, and CSC 150 or 218.	
EE 245L Digital Systems Lab.....	1
Laboratory topics which enhance the design concepts of the lecture course, EE 245. Corequisite course EE 245.	
EE 260 Electronic Materials.....	3
Introduction to the materials, processes and designs used for the fabrication of electronic devices and packaging. P, CHEM 112, PHYS 213. Corequisite course EE 220.	
EE 260L Electronic Materials Lab .....	1
An introduction to microelectronic fabrication techniques including evaporative and sputter deposition, photolithography, mask design, and packaging. This course is an elective laboratory course for EE 260. EE 260 must either be taken concurrently or else is a prerequisite to this course.	
EE 292 Topics (COM).....	1-3
EE 300 Basic Electrical Engineering I .....	2
Circuit analysis and measurement concepts applicable to dc and sinusoidal ac electrical systems, including Ohm's Law and Kirchoff's Laws. Non-EE students. P, MATH 125, PHYS 213.	
EE 300L Basic Electrical Engineering I Lab.....	1
Hands-on exposure to electrical components, circuits, test equipment and safety issues. Experiments are designed to reinforce the theoretical concepts presented in EE 300. For non-EE students. Corequisite course EE 300.	
EE 302 Basic Electrical Engineering II.....	2
Introduction to analog and digital electronic devices and applications. For non-EE students. P, EE 300, EE 300L.	
EE 302L Basic Electrical Engineering II Lab .....	1
Hands-on exposure to electronic devices, analog and digital circuits, and electrical measurement issues. Experiments are designed to reinforce the theoretical concepts presented in EE 302. For non-EE students. Corequisite course EE 302.	
EE 310 Probabilistic Methods in Electrical Engineering.....	3
Basic probability and random variables. Applications to system reliability and effect of tolerance specifications. Description of engineering systems and problems using nondeterministic modeling. P, EE 316.	
EE 315 Linear Control Systems .....	3
Feedback control systems by operational and differential methods. Topics include differential and Laplace system modeling, Nyquist and Routh-Hurwitz stability analysis, and cascade PID/lead/lag and state-space feedback compensation design using root-locus, Bode and Ackermann's pole-placement methods. P, EE 316.	
EE 316 Signals and Systems I (COM).....	3
Description of deterministic signals through use of Fourier Series, Fourier and Laplace transforms. System descriptions and response treated by differential equations and transform theory. P, "C" or better in EE 221.	
EE 317 Signals and Systems II (COM) .....	3
Continuation of EE 316 emphasizing discrete time signals and systems. Includes difference equations, discrete Fourier transforms, and Z transform.	



**EE 320 Electronics I (COM)** .....3  
 Presents concepts of electronic devices and circuits including modeling of semiconductor devices, analysis and design of transistor biasing circuits, and analysis and design process is emphasized. Students are introduced to methods for designing circuits that still meet specifications even when there are statistical variations in the component values. P, "C" or better in EE 221.

**EE 320L Electronics Lab I (COM)** .....1  
 Accompanies EE 320.

**EE 321 Electronics II** .....3  
 Design and analysis concepts for linear and digital electronic circuits. Emphasis on integrated circuit design. P, EE 320. Corequisite course EE 321L.

**EE 321L Electronics Lab II** .....1  
 Experimental design and analysis of electronic circuits. Corequisite course EE 321.

**EE 347 Microcontroller Systems Design** .....3  
 Hardware concepts, organization and design of microcomputer systems, including single-chip microcomputers. Principles of microcomputer programming and operation using machine and assembly language. P, EE 245 and either CSC 218 or 250. Corequisite course EE 347L.

**EE 347L Microcontroller Systems Design Lab** .....1  
 Laboratory topics which enhance the design concepts of the concurrent lecture course, EE 347. Corequisite course EE 347.

**EE 360 Electronic Devices** .....3  
 Introduction to microelectronic devices, semiconductor and junction theory, semiconductor devices, other solid-state devices. P, EE 260. Corequisite course EE 320.

**EE 385 Electromagnetics** .....4  
 Experimental results of Coulomb, Ampere, and Faraday, classical field theory. Forces, potentials, energy storage and dissipation are all treated for static fields. Faraday's induction law, Maxwell's displacement current, and a complete description of the time-varying fields given by Maxwell's equations. P, EE 221, MATH 225.

**EE 422 Engineering Economy** .....2  
 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, EE 385. Corequisite course EE 430L.

**EE 430L Energy Laboratory** .....1  
 Experimental work with energy transfer and energy conversion devices. Corequisite course EE 430.

**EE 434 Power Systems** .....3  
 Basic parameters of transmission lines. Representation of power systems, symmetrical components, network equations and solutions, load-flow studies and load-flow control, and symmetrical faults on synchronous machines. P, EE 385.

**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 (COM)** .....2  
 This course will focus on the design process and culminate with the EE faculty approval of design projects (including schematics and parts lists) for EE 465. Typical topics included are the development of a product mission statement, identification of the customer and customer needs, development of target specifications, consideration of alternate designs using a decision matrix, project management techniques, legal and ethical issues, FCC verification and certification, uses of probability and statistics for reliable design, interpretation of data sheets, and component selection. P, senior standing. Corequisite course EE 464L.

**EE 464L Senior Design I Research (COM)** .....0  
 Accompanies EE 464.

**EE 465 Senior Design II (COM) (AW)** .....2  
 Sequel to EE 464 Senior Design I. Seniors build and test design project in simulated environment incorporating engineering standards and realistic constraints. Requirements include laboratory notebook, progress reports, final oral presentation and written report. P, EE 464. Corequisite course EE 465L.

**EE 465L Senior Design II Research** .....0  
 Lab experiences to accompany EE 465.

**EE 470 Communications Engineering** .....3  
 Modulation and detection methods including circuit analysis and design for digital and analog communication systems are presented. P, EE 316, EE 320.

**EE 491 Independent Study (COM)** .....1-3

**EE 497 Cooperative Education** .....1-3

**EE 498 Undergraduate Research/Scholarship** .....1-3

### Dual Listed 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 420-520 Electronics III** .....3  
 Selected topics in the design of analog and digital electronics. Provides increased understanding of theory, simulation, and application of semiconductor devices. P, EE 321-321L, EE 245. Corequisite course EE 420L-520L.

**EE 420L-520L Electronics Lab III** .....1  
 Experimental design and analysis of analog and digital electronic circuits. Corequisite course EE 420-520.

**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, EE 321, EE 316.

**EE 433-533 Computer Analysis Power Systems** .....3  
 Concepts used in formulating load flow and fault study problems and stability analysis of power systems using computer solutions. P, EE 434 or consent.

<b>EE 436-536 Hybrid PV Power Systems</b> .....	<b>3</b>
Fundamentals of hybrid photovoltaic power systems. Topics may include: an overview of energy and electricity use; solar resource characteristics; load assessment; the fundamentals of solar cells, batteries, power electronics, and generators and other power sources; power system design; the National Electric Code; and energy economics. P, EE 321, EE 360.	
<b>EE 436L-536L Hybrid PV Power Systems Lab</b> .....	<b>1</b>
This lab provides practical experience in the design of hybrid photovoltaic power systems. Corequisite course EE 436.	
<b>EE 440-540 VLSI Design (COM)</b> .....	<b>3</b>
Provides an introduction to the technology and design of VLSI integrated circuits. Topics include MOS transistors, switch and gate logic, scalable design rules, speed and power considerations, floor planning, layout techniques, and design tools. (Design content -two credits) P, EE 245 and EE 320. Corequisite course EE 440L-540L.	
<b>EE 440L-540L VLSI Design Lab</b> .....	<b>0</b>
Accompanies EE 440-540.	
<b>EE 450-550 Biomedical Signal Processing</b> .....	<b>3</b>
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, EE 317.	
<b>EE 454-554 Biomedical Instrumentation and Electrical Safety</b> .....	<b>3</b>
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, EE 321.	
<b>EE 460-560 Sensor Theory and Design</b> .....	<b>3</b>
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, EE 360. Corequisite course EE 460L-560L.	
<b>EE 460L-560L Sensor Theory and Design Lab</b> .....	<b>0</b>
Corequisite course EE 460-560.	
<b>EE 471-571 Fiber Optic Communications</b> .....	<b>3</b>
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. Corequisite course EE 471L-571L.	
<b>EE 471L-571L Fiber Optic Communications Lab</b> .....	<b>1</b>
This laboratory reinforces the theoretical concepts presented in the lecture course, EE 471-571. Topics include basic knowledge and skills needed for handling and testing optical fibers, characteristics of optical components, fiber optic communication systems and fiber optic sensing systems. Corequisite course EE 471-571.	
<b>EE 475-575 Digital Image Processing</b> .....	<b>3</b>
Introduction to the fundamentals of digital image processing. Topics include image formation, transforms, enhancement, restoration, compression, and analysis. P, EE 317 or consent.	
<b>EE 492-592 Topics (COM)</b> .....	<b>1-3</b>

## Graduate Courses

<b>EE 570 Digital Communication Systems</b> .....	<b>3</b>
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<b>EE 615 Linear Systems Theory</b> .....	<b>3</b>
<b>EE 620 Advanced Digital Hardware</b> .....	<b>3</b>
<b>EE 660 Electric Properties of Materials</b> .....	<b>3</b>
<b>EE 670 Information and Signal Processing</b> .....	<b>3</b>
<b>EE 685 Microwave Theory</b> .....	<b>3</b>
<b>EE 691 Independent Study</b> .....	<b>1-3</b>
<b>EE 692 Topics</b> .....	<b>1-3</b>
<b>EE 788 Engineering Research or Design Paper</b> .....	<b>1-2</b>
<b>EE 790 Seminar</b> .....	<b>1</b>
<b>EE 791 Independent Study</b> .....	<b>1-9</b>
<b>EE 792 Topics</b> .....	<b>1-3</b>
<b>EE 798 Thesis</b> .....	<b>1-7</b>

## EET (Electronics Engineering Technology)

### Undergraduate Courses

<b>EET 100 Survey of Electronics</b> .....	<b>4</b>
Nonmathematical survey of fundamental electronic components and circuits. Corequisite course EET 100L.	
<b>EET 100L Survey of Electronics Lab</b> .....	<b>0</b>
Corequisite course EET 100.	
<b>EET 114 DC Concepts</b> .....	<b>4</b>
Direct Current Circuits. Topics covered are basic laws and theorems directed toward resistive circuits. Kirchoff's Laws, series and parallel circuits. Corequisite course EET 114L.	
<b>EET 114L DC Concepts Lab</b> .....	<b>0</b>
Corequisite course EET 114.	
<b>EET 116 AC Concepts</b> .....	<b>4</b>
Alternating Current Circuits. Study of series and parallel circuits, network analysis, capacitance, inductance, and impedance. P, EET 114. Corequisite course EET 116L.	
<b>EET 116L AC Concepts Lab</b> .....	<b>0</b>
Corequisite course EET 116.	
<b>EET 122 Introductory Circuits</b> .....	<b>4</b>
The course provides a foundation in the theory and operation of semiconductor devices including solid-state diodes, bipolar junction and field effect transistors and other components related to discrete active circuits. Troubleshooting, schematic interpretation, and measurement techniques will be covered. P, EET 114. Corequisite course EET 122L.	
<b>EET 122L Introductory Circuits Lab</b> .....	<b>0</b>
Corequisite course EET 122.	
<b>EET 200 EET-Off Campus Orientation</b> .....	<b>0</b>
EET enrollment sustaining.	
<b>EET 220 Advanced Circuits</b> .....	<b>4</b>
A study in the operation of active devices and their applications. Primary focus is on regulators, multivibrators, timers, and microcontrollers. Troubleshooting methods, measurement techniques, introductory circuit board design and soldering fundamentals are also explored. P, EET 122. Corequisite course EET 220L.	

<b>EET 220L Advanced Circuits Lab</b> .....0 Corequisite course EET 220.	<b>EET 320 Analog Devices</b> .....4 Detailed overview of operational amplifier circuits, linear and switching power supplies, advanced linear circuit applications, and analog system design considerations.. P, EET 220, MATH 123 or MATH 121. Corequisite course EET 320L.
<b>EET 222 Radio Frequency Systems I</b> .....4 Radio wave propagation, transmission line theory, and antennas, and practical applications of each. Emphasis is placed on conduction of radio waves from a source to a load and its propagation through space. P, EET 220. Corequisite course EET 222L.	<b>EET 320L Analog Devices Lab</b> .....0 Corequisite course EET 320.
<b>EET 222L Radio Frequency Systems I Lab</b> .....0 Corequisite course EET 222.	<b>EET 324 Radio Frequency Systems II</b> .....4 Complex resonant circuits, antenna arrays, impedance matching devices, transmission lines and microwave components. Emphasis is placed on antenna systems and related components. The student is given the opportunity to study the operation and theory of a variety of electronic instruments used in industry. P, EET 222. Corequisite course EET 324L.
<b>EET 230 Introductory Digital</b> .....4 Binary and hexadecimal number systems, switching theory, Boolean Algebra, logic diagrams, Karnaugh mapping, counter circuits, and pulse circuits. P, EET 114. Corequisite course EET 230L.	<b>EET 324L Radio Frequency Systems II Lab</b> .....0 Corequisite course EET 324.
<b>EET 230L Introductory Digital Lab</b> .....0 Corequisite course EET 230.	<b>EET 330 Microprocessors</b> .....4 Design and usage of the microprocessor in microcomputers and process control applications. Includes concepts, properties and basic architectures of Intel-type microprocessors. Programming on an assembly language level. P, EET 232-232L. Corequisite course EET 330L.
<b>EET 232 Advanced Digital</b> .....4 More advanced digital theory and circuits coverage. Programmable digital circuits, memory mapping, and basic architecture of Intel microprocessor/microcomputer circuits. P, EET 230. Corequisite course EET 232L.	<b>EET 330L Microprocessors Lab</b> .....0 Corequisite course EET 330.
<b>EET 232L Advanced Digital Lab</b> .....0 Corequisite course EET 232. P, EET 230L.	<b>EET 370 Computer Systems</b> .....4 A course to familiarize students with hardware/software configurations, installations, usage, and basic troubleshooting techniques of past and current personal computers. P, EET 330. Corequisite course EET 370L.
<b>EET 240 Techniques of Servicing</b> .....2 The practical aspects of servicing many types of electronic equipment. The latest techniques and equipment will be available for demonstration and laboratory usage. P, EET 220.	<b>EET 370L Computer Systems Lab</b> .....0 Corequisite course EET 370.
<b>EET 251 Electricity and Electronics I</b> .....3 The course is designed to provide students with a background and understanding of the essential topics in AC/DC circuits, electrical circuit materials, electrical energy and sources of electricity, basic circuits and their analysis, magnetism, and applications of motors, generators, and power distribution. P, 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, or MATH 102. Corequisite course EET 251L. Crosslisted with MNET 251.	<b>EET 422 Video Systems</b> .....4 The study of circuits used in television and video displays. Color and monochrome video systems are studied simultaneously. Modern digital TV standards studied. P, EET 320. Corequisite course EET 422L.
<b>EET 251L Electricity and Electronics I Lab</b> .....0 Corequisite course EET 251.	<b>EET 422L Video Systems Lab</b> .....0 Corequisite course EET 422.
<b>EET 252 Electricity and Electronics II</b> .....3 This course is the continuation of EET 251 and is designed to provide students with a background and understanding of the essential topics in semiconductor devices, semiconductor power supply and technology, and semiconductor amplifiers and their applications. Other topics include digital logic, integrated circuits, oscillators, AM/FM communications, TV signal transmissions, and computer structure and operations. P, EET 251. Corequisite course EET 252L. Crosslisted with MNET 252.	<b>EET 426 Communication Systems</b> .....4 Study of transmitter and receiver circuits. Principles of modulation and demodulation are investigated. Basic fiber optics are discussed. Basic telephone circuits, both analog and digital are studied. P, EET 320. Corequisite course EET 426L.
<b>EET 252L Electricity and Electronics II Lab</b> .....0 Corequisite course EET 252.	<b>EET 426L Communication Systems Lab</b> .....0 Corequisite course EET 426.
<b>EET 291 Independent Study</b> .....1-3	<b>EET 428 Advanced Communication Systems</b> .....4 Complex radio systems including repeaters, mobile telephone, and paging systems. Systems design and troubleshooting techniques are studied as well as microwave and basic radar. P, EET 426. Corequisite course EET 428L.
<b>EET 292 Topics</b> .....1-3	<b>EET 428L Advanced Communication Systems Lab</b> .....0 Corequisite course EET 428.
<b>EET 293 Workshop</b> .....0-3	<b>EET 380 Prototype Techniques</b> .....4 A lecture-laboratory course to acquaint the student with procedures used to prototype and construct circuits used in electronics. Topics include metal chassis pre-fabrication, printed circuit board layout and production, design techniques for audio and RF circuits and final test procedures. Project management techniques will be introduced and followed in the student's projects. P, EET 320. Corequisite course EET 440L.
<b>EET 296 Field Experience</b> .....1-3	

**EET 440L Prototype Techniques Lab** .....0  
 Corequisite course EET 440.

**EET 451 Industrial Electronics and Control**.....3  
 This course teaches industrial motion control (servomechanisms) and process control (instrumentation) systems. The course describes the concepts and the operation of electronic devices, circuits, systems, and applications used in industry. P, EET 252 or EET 320. Corequisite course EET 451L. Crosslisted with MNET 451.

**EET 451L Industrial Electronics and Control Lab** .....0  
 Corequisite course EET 451.

**EET 453 Manufacturing Automation**.....3  
 The course offers advanced topics in manufacturing automation including automation hardware/software, system design and integration, and management techniques for improving design and manufacturing operations. Hands-on lab activities provide the students the opportunity to develop and program automated systems. Corequisite course EET 453L. Crosslisted with MNET 453.

**EET 453L Manufacturing Automation Lab** .....0  
 Corequisite course EET 453. Crosslisted with MNET 453L.

**EET 470 Project Management (AW)**.....2  
 Basic theory, application, and techniques of project management applied to technical projects. A team-oriented, collaborative approach to building and testing products, developing and managing processes, and/or conducting applied research. Must take EET 471/471L in spring semester. Crosslisted with MNET 470. P, instructor consent. Corequisite course EET 470L.

**EET 470L Project Management Lab** .....0  
 Crosslisted with MNET 470L. Corequisite course EET 470.

**EET 471 Capstone Experience (AW)**.....1  
 Conclusion of technical projects started in EET 470 Project Management. Teams document and present the results of the implemented projects. P, EET 470/470L.

**EET 471L Capstone Experience Lab** .....0

**EET 472 Networking I** .....4  
 The study of personal computer systems, concentrating on Intel-type personal computers, networking and data connections from a software and management point of view. Microsoft NT and Novell are explored. P, EET 370. Corequisite course EET 472L.

**EET 472L Networking I Lab** .....0  
 Corequisite course EET 472.

**EET 474 Networking II**.....4  
 Further study of personal computer systems, concentrating on Intel-type personal computers, networking and data communications from a software and management point of view. Microsoft NT and Novell are explored. P, EET 472. Corequisite course EET 474L.

**EET 474L Networking II Lab** .....0  
 Corequisite course EET 474.

**EET 488 Technology Certification**.....1  
 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.

**EET 491 Independent Study** .....1-3

**EET 492 Topics**.....1-3

**EET 493 Workshop**.....0-3

**EET 494 Internship**.....1-8

**EET 496 Field Experience**.....1-3

**EET 497 Cooperative Education** .....1-8

## ELED (Elementary Education)

### Undergraduate Courses

**ELED 488 K-8 Student Teaching (COM)** .....2-16  
 Students preparing for teaching in the elementary school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved elementary school. An additional "Mandatory Fee" applies to this course.

**ELED 495 Practicum (COM)**.....1-12

### Dual Listed Courses

**ELED 493-593 Workshop**.....1-3

### Graduate Courses

**ELED 748 Elementary Curriculum Practicum**.....1

**ELED 773 Elementary School Curriculum** .....3

## EM (Engineering Mechanics)

### Undergraduate Courses

**EM 214 Statics (COM)**.....3  
 The study of the effects of external forces acting on stationary rigid bodies in equilibrium. Vector algebra is used to study two and three dimensional systems of forces. Trusses, frames and machines, shear and moment in beams, friction, centroids, moments of inertia, and mass moments of inertia are discussed. P, MATH 123, PHYS 211.

**EM 215 Dynamics (COM)** .....3  
 Newton's laws of motion are applied to particles and rigid bodies. Absolute and relative motion; force, mass and acceleration; work and energy; and impulse and momentum. P, EM 214.

**EM 216 Statics and Dynamics (COM)**.....3-4  
 Statics: The study of effects of external forces acting on stationary rigid bodies in equilibrium. Frames and machines, friction, centroid and moments of inertia on areas and mass are discussed. Dynamics: Newton's laws of motion are applied to particles and rigid bodies. Topics considered are absolute and relative motion; force, mass, and acceleration (or particles and rigid bodies); work and energy; and impulse and momentum (of particles). P, MATH 125, PHYS 211 or consent.

**EM 321 Mechanics of Materials (COM)**.....3  
 Basic concepts of stress and strain that result from axial, transverse, and torsional loads on bodies loaded within the elastic range. Shear and moment equations and diagrams, combined stresses, Mohr's circle; beam deflections; and column action and equations. P, EM 214.

**EM 331 Fluid Mechanics (COM).....3**  
 An introduction to the static and dynamic properties of real and ideal fluids, application of continuity, energy, and momentum principles to laminar, turbulent, compressible, and incompressible flows; and laminar and turbulent flow of fluids in closed conduits and around immersed bodies. P, EM 215, MATH 321 for CEE majors; EM 215, MATH 321, ME 311 for ME majors. Corequisite course CEE 331- CE majors only.

## Dual Listed 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, EM 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, EM 321, MATH 331.

**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 and Shells.....3**

**EM 631 Advanced Fluid Mechanics .....3**

**EM 641 Finite Element Analysis.....3**

## ENGL (English)

### Undergraduate Courses

**ENGL 003 English as a Second Language: Grammar Review and Intermediate Composition.....3**  
 Conversation, listening, and reading comprehension, vocabulary and idioms, grammar review and intermediate composition.

**ENGL 013 English as a Second Language: More Complex Structural Patterns and Advanced Composition.....3**  
 Conversation, listening, and reading comprehension, vocabulary and idioms, more complex structural patterns, and advanced composition. P, ENGL 003 or placement.

**ENGL 023 English as a Second Language: Listening and Reading, Grammar, Comprehension .....5**  
 A multi-skills course preliminary to ENGL 003 and ENGL 013. Reading and listening comprehension, vocabulary building, pronunciation, grammar and sentence structure, and formal and informal written and spoken English. A major focus will be written and oral sources. P, placement or permission of the instructor. May be required instead of or in addition to other English courses.

**ENGL 031 Basic Writing I.....1**  
 Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation. (Taught only as needed.)

**ENGL 032 Basic Writing II.....2**  
 Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

**ENGL 033 Basic Writing III .....3**  
 Intensive work in grammar and usage, punctuation, and paragraph development. Does not count toward graduation.

**ENGL 101 Composition I .....3**  
 Practice in the skills, research, and documentation needed for effective academic writing. Analysis of a variety of academic and non-academic texts, rhetorical structures, critical thinking, and audience will be included. P, ENGL 032, 033, or placement.

**ENGL 151 Introduction to English Studies .....3**  
 This course, required of all first year English majors, will provide students with the background and professional skills to read critically and write analytically about literary texts. Students will learn to write from a variety of critical and theoretical stances. In addition, the course provides training in research methods for the discipline, including use of print and electronic sources, and in MLA documentation style. Students will generate bibliographies, source studies, and both documented and undocumented critical papers. Papers will be based on readings from poetry, fiction, and drama.

**ENGL 201 Composition II.....3**  
 Study of and practice in writing persuasive prose, with the aim to improve writing skills in all disciplines. P, ENGL 101.

**ENGL 210 Introduction to Literature .....3**  
 Readings in fiction, drama, and poetry to acquaint students with literature and aesthetic form. P, ENGL 101.

**ENGL 211 World Literature I (G).....3**  
 Selected works of world literature in translation from ancient times through the Renaissance. P, ENGL 101.

**ENGL 212 World Literature II (G) .....3**  
 Selected works of world literature in translation since the Renaissance. ENGL 211 and 212 need not be taken in sequence. P, ENGL 101.

**ENGL 221 British Literature I (G).....3**  
 A chronological survey of British literature from Old English through the 18th century.

**ENGL 222 British Literature II (G) .....3**  
 A chronological survey of British literature from the 19th century to the present. ENGL 221 and 222 need not be taken in sequence.

**ENGL 240 Juvenile Literature .....3**  
 A survey of the history of literature written for children and adolescents, and a consideration of the various types of juvenile literature.

**ENGL 241 American Literature I.....3**  
 Background to and survey of major works from the beginnings to the Civil War.

**ENGL 242 American Literature II .....3**  
 Background to and survey of major works from the Civil War to the present. ENGL 241 and 242 need not be taken in sequence.

**ENGL 248 Women in Literature.....3**  
 Study of literature by and about women from early times to the present. Crosslisted with WMST 248. P, ENGL 101.

**ENGL 249 Literature of Diverse Cultures**.....3  
 Study of the literature of the world's peoples to appreciate ethnicity and cultural diversity. Course materials may range from early times to the present and may also include literature from Asia, Africa, South America, and Australia, as well as works from Native American, African American, Hispanic, Chicano, Jewish, Scandinavian, etc., sources. Accepted as humanities credit.

**ENGL 250 Science Fiction** .....3  
 A survey of short stories and novels from the 19th century to the present.

**ENGL 256 Literature of the American West**.....3  
 A study of the literature produced in our region, centered on the Great Plains, including that of Native Americans, both oral and written; of pioneers; immigrants; and farmers; Western literature, and current writers. P, ENGL 101.

**ENGL 268 Literature:** .....3  
 Introductory literature course focusing on one genre such as fiction, poetry, drama, etc. The genre will be identified each semester as, for example, "Literature: Fiction," or "Literature: Poetry," etc. May be repeated with different genre and content. P, ENGL 101.

**ENGL 277 Technical Writing in Engineering**.....3  
 Study and practice of technical writing in Engineering and related disciplines. P, ENGL 101 and GE 101 or consent.

**ENGL 330 Shakespeare** .....3  
 Representative comedies, tragedies, and histories of Shakespeare. P, ENGL 101.

**ENGL 334 English Drama:** .....3  
 Course content can be any period or type of English drama; the period or type will be identified each semester as, for example, "English Drama: Renaissance" or "English Drama: Contemporary," etc. May be repeated with different name and content.

**ENGL 335 English Novel:** .....3  
 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 356 American Poetry:** .....3  
 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  
 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  
 Course content can be any period or type of American novel; the period or type will be identified each semester as, for example, "American Novel: Contemporary" or "American Novel: Gothic," etc. May be repeated with different name and content.

**ENGL 379 Technical Communication (AW)**.....3  
 Study of and practice in writing of a technical nature. P, ENGL 201.

**ENGL 383 Creative Writing**.....3  
 Study and practice in the techniques of writing fiction, poetry, and/or drama. P, ENGL 201 and 12 credits from the subject ENGL.

**ENGL 410 Mythology and Literature (AW)**.....3  
 Origin and development of myths. Their importance in classical literature and their influence in literature, drama, music, psychology, and art.

**ENGL 411 Bible As Literature** .....3  
 Analysis of Old and New Testament texts in their historical and philosophical contexts, which are literary in form (that is, lyric, dramatic, epic, and narrative) for their aesthetic and ethical meanings. P, ENGL 101.

**ENGL 424 7-12 Language Arts Methods (AW)**.....3  
 Techniques, materials, and resources for teaching English language and literature to middle and secondary school students. Required of students in the English Education Option.

**ENGL 445 American Indian Literature**.....3  
 Traditional oral literature and autobiographies of American Indians. Crosslisted with AIS 351.

**ENGL 447 American Indian Literature of the Present** .....3  
 Twentieth-century autobiography, fiction, and poetry by Native American authors. Crosslisted with AIS 352.

**ENGL 479 Capstone Course and Writing in the Discipline: (AW)**.....3  
 An in-depth study of selected major author(s), works(s), or other aspects of literary history; incorporates a review of current methods of literary criticism and an intensive focus on research and writing within the discipline. To be taken in the student's final on-campus Spring semester. P, English major.

**ENGL 484 Literary Criticism** .....3  
 The theory and practice of various critical approaches to literature. P, ENGL 101.

**ENGL 490 Seminar** .....1-4

**ENGL 494 Internship**.....1-12

### Dual Listed Courses

**ENGL 422-522 Age of Chaucer** .....3  
 Literature of the later medieval period, especially the 14th century, with some attention to continental works. Major focus on Geoffrey Chaucer, with reading in middle English.

**ENGL 423-523 Old and Middle English Literature** .....3  
 Emphasizing pre-Norman heroic and Christian literature, the work of Chaucer and his contemporaries, and folk literature such as the ballads.

**ENGL 427-527 Advanced Shakespeare** .....3  
 Selected plays of Shakespeare and significant Shakespearean criticism.

**ENGL 428-528 English Renaissance/16th Century Literature**.....3  
 Major writers of the 16th and early 17th centuries, excluding Shakespeare.

**ENGL 434-534 18th Century English Literature**.....3  
 British poetry, prose, drama, fiction, and criticism, 1660-1800.

**ENGL 437-537 English Romantic Literature** .....3  
 English literature of the Romantic movement (1789-1832).

**ENGL 438-538 English Victorian Literature**.....3  
 English literature of the Victorian period (1830-1900).

**ENGL 439-539 Modern English Literature** .....3  
 English literature from 1900 to 1945.

**ENGL 440-540 Contemporary English Literature** .....3  
 English literature since WWII.

<b>ENGL 453-553 American Renaissance</b> .....3	
An analysis of the major American writers from 1820-1865.	
<b>ENGL 454-554 American Realism and Naturalism</b> .....3	
American literature of the realist and naturalist movements of the late 19th and early 20th centuries.	
<b>ENGL 459-559 American Literature Between the Wars</b> .....3	
American literature of the modernist movement from 1917 to 1945.	
<b>ENGL 460-560 Contemporary American Literature</b> .....3	
American literature since WWII.	
<b>ENGL 463-563 Methods of Teaching English as a Second Language</b> .....3	
Develops the central concepts, tools of inquiry, and structure of teaching English to students with limited English proficiency. Includes the evaluation of instructional processes, learning resources, curriculum, and programs. Emphasis will be on teaching students to use English in educational and public settings. Crosslisted with EDFN 463-563. P, EDFN 460 or LING 460.	
<b>ENGL 481-581 Travel Studies</b> .....1-5	
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.	
<b>ENGL 483-583 Advanced Creative Writing</b> .....3	
Advanced study of the writing process with the emphasis on refining technique and style in a genre of the student's choice, fiction, creative nonfiction, and drama. P, ENGL 383.	
<b>ENGL 491-591 Independent Study</b> .....1-5	
<b>ENGL 492-592 Topics</b> .....1-5	

## Graduate Courses

<b>ENGL 704 Introduction to Graduate Studies</b> .....3	
<b>ENGL 705 Seminar in Teaching Composition</b> .....3	
<b>ENGL 710 Seminar in Rhetoric</b> .....3	
<b>ENGL 724 Seminar in English Literature to 1660</b> .....3	
<b>ENGL 725 Seminar in English Literature since 1660</b> .....3	
<b>ENGL 728 Seminar in American Literature to 1900</b> .....3	
<b>ENGL 729 Seminar in American Literature since 1900</b> .....3	
<b>ENGL 742 Seminar in American Indian Literature</b> .....3	
<b>ENGL 755 Seminar in Minority Literature</b> .....3	
<b>ENGL 791 Independent Study</b> .....1-3	
<b>ENGL 792 Topics</b> .....1-4	
<b>ENGL 798 Thesis</b> .....1-7	

## ENTR (Entrepreneurial Studies)

### Undergraduate Courses

<b>ENTR 202 Human Resource Operations in Entrepreneurship</b> .....1	
Study of human resource issues and regulations and how they impact operations and work flow efficiencies.	
<b>ENTR 203 Intellectual Property in Entrepreneurship</b> .....1	
Students will learn of mechanisms for the protection of ideas, products or services from unauthorized use. Students will also understand the relative merits of patents, trademarks, and copyrights and learn of ways to make such mechanism work for them.	
<b>ENTR 204 Finance/ Venture Capital in Entrepreneurship</b> .....1	
Study of the various financing options and their requirements that are available to help grow a business including traditional financing, angel investors, venture capital and government programs.	
<b>ENTR 205 Legal Issues/Business Structure/Risk Management</b> .....1	
Legal Issues: Legal structure of your business; government regulations dealing with business taxation, employees, consumer protection, commerce, zoning, bankruptcy, and the environment; contract and lease terms and requirements.	
<b>ENTR 206 Taxation in Entrepreneurship</b> .....1	
Study of the Internal Revenue Code sections and provisions that apply to individuals conducting business under sole proprietorship, partnership, s-corporation and/or limited liability company form of organization. Sales and Use tax reporting requirements.	
<b>ENTR 207 Financial Analysis/Record Keeping/Accounting in Entrepreneurship</b> .....1	
How to use professionals and software packages to set up accounting systems that can be used for regulatory requirements as well financial analysis. Using financial analysis to assist in making business decisions.	
<b>ENTR 208 E commerce in Entrepreneurship</b> .....1	
This course provides a basic technical introduction to build "virtual" Internet-based businesses in creating opportunities and marketing plans. It investigates some different facets of electronic commerce and pertinent basic technologies to develop strategies.	
<b>ENTR 301 Marketing/Promotion in Entrepreneurship</b> .....1	
Marketing: Define marketing and market(s); analyze the customer and competition, develop strategies using the 4-P's of marketing--product, price, promotion, and place; learn the basics of collecting information and conducting market research.	
<b>ENTR 302 International &amp; Global Marketing in Entrepreneurship</b> ...1	
This module will examine opportunities, risk, and reward involved in marketing products and services in the global market as compared t the domestic market as well as an analysis of business types that have the potential for success outside the United States.	
<b>ENTR 304 Strategy/Pricing/Location in Entrepreneurship</b> .....1	
Students will learn concepts and theories in marketing strategies; the techniques used for pricing products based on development costs and market demand, and the affects of location on sales, strategy and development.	
<b>ENTR 305 Selling in Entrepreneurship</b> .....1	
Students will learn to identify and develop communication skills to promote products in regards to consumer needs and desires.	

**ENTR 306 The Harvest in Entrepreneurship.....1**  
 Discussion and analysis of various methods for harvesting a business including succession of planning, licensing, franchising, and when to sell a business.

**ENTR 336 Entrepreneurship I (COM) .....3**  
 This course is an introduction to the concepts, terminology, and process of new venture creation, operation and growth, as well as the introduction of entrepreneurial management practices into existing businesses. New ventures include public and non-profit institutions as well as for profit businesses. This course will assist in the identification of entrepreneurial opportunities and strategies and the role of personal factors (including creativity). Legal, ethical, and social responsibilities are emphasized.

**ENTR 489 Business Plan Writing and Competition (COM) .....1**  
 Students will write a business plan and present it to a panel of faculty and business community members. The top three business plan presenters will move on to a statewide competition. Crosslisted with BADM 489.

### Dual Listed Courses

**ENTR 406-506 Accounting for Entrepreneurs (COM) .....3**  
 Accounting concepts and practices for entrepreneurs/small business owners. Emphasis given to the use of accounting tools to solve small business problems.

**ENTR 438-538 Entrepreneurship II (COM) .....3**  
 This course focuses on the process of screening an opportunity, drafting a personal entrepreneurial strategy, and understanding the business plan writing process. Building the entrepreneurial team and the acquisition and management of financial resources are emphasized along with venture growth, harvest strategies, and valuation.

## ENVM (Environmental Management)

### Undergraduate Courses

**ENVM 225 Principles of Environmental Science and Engineering.....3s**  
 Introduction to the basic principles of environmental management, environmental science and engineering, and natural resources engineering. The class will be team taught by faculty from environmental management, civil and environmental engineering, agricultural and biosystems engineering, and agricultural systems technology programs. The course will teach the fundamental physical, biological, and chemical principles of environmental processes. The course will also explore the impact of humans and human activity on ecosystems in the environment. P, CHEM 106 or CHEM 112.

**ENVM 275 Introduction to Environmental Science (G) .....3**  
 Presents an introduction and review of the factors influencing the quantity, quality and distribution of resources within the environment, uses of the environment and relation to human population size and demographics, effects of natural and human disturbances on the environment and economic and political considerations for environmental management. P, CHEM 112 ; BIOL 101 or 103, or BIOL 151 or 153.

**ENVM 390 Seminar .....1**

**ENVM 460 Senior Design I Environmental Science and Engineering .....1**  
 Development of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report for preliminary design and plan for second semester final design project.

**ENVM 461 Senior Design II Environmental Science and Engineering.....2**  
 Completion of a comprehensive interdisciplinary environmental science and engineering project design. Written and oral report, and plans for final design project.

**ENVM 498 Undergraduate Research/Scholarship .....1-4**

### Dual Listed Courses

**ENVM 425-525 Disturbance Ecology .....4**  
 Introduction to basic concepts of disturbance ecology. Demonstration and discussion of linkages between basic biology and management of natural resources. Introduction to field and laboratory techniques for monitoring and assessment of ecological responses to pollution and other forms of disturbance. P, BIOL 153, BIOL 311. Corequisite course ENVM 425L-525L.

**ENVM 425L-525L Disturbance Ecology Lab .....0**  
 Corequisite course ENVM 425-525.

### Graduate Courses

**ENVM 592 Topics.....1-7**

**ENVM 692 Topics.....1-7**

## EPSY (Educational Psychology)

### Undergraduate Courses

**EPSY 302 Educational Psychology (COM).....3**  
 A comprehensive study of the fundamental psychological facts, principles and theories that apply to the nature of the learner and the learning process.

**EPSY 422 Psychology of Adolescence (COM) .....3**  
 A study of the behavior and development of middle and secondary level students.

### Dual Listed Courses

**EPSY 442-542 Serving Students with Learning Disabilities .....3**  
 Examines the identification and assessment of learning disabilities in students. Provides a variety of teaching and learning strategies. Includes both federal and state laws, rules, and guidelines.

### Graduate Courses

**EPSY 526 Psychology of the Early Adolescent Learner.....3**

**EPSY 550 Gifted and Talented.....3**

**EPSY 552 Enhancing Creativity .....3**

**EPSY 723 Adolescent Psychology .....3**

**EPSY 740 Advanced Educational Psychology .....3**

**EPSY 761 Testing Practicum: Intellectual Assessment.....2**

**EPSY 762 Testing Practicum: Personality Assessment.....3**

**EPSY 763 Testing Practicum: Projective Techniques.....2**



## 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, EURS 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, EURS 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, EURS 311.

**EURS 492 Topics .....1-3**

## FCS (Family and Consumer Sciences)

### Undergraduate Courses

**FCS 101 FCS-Professional Foundations .....1**  
 Introduction to the Family and Consumer Science profession: orientation to careers and college and university resources.

**FCS 292 Topics .....1-3**

**FCS 310 Leadership for Families and the Food System .....3**  
 Principles of leadership within the unique contexts of agriculture, biological sciences, family and consumer sciences. Topics covered include definitions and approaches to the study of leadership, leadership styles, gender and ethnic diversity, leadership in groups, ethical issues, mission statements, and emerging leadership issues. Crosslisted with ABS 310.

**FCS 495 Practicum .....2-6**

### Dual Listed Courses

**FCS 491-591 Independent Study .....1-3**

**FCS 492-592 Topics.....1-3**

## FCSE (Family and Consumer Sciences Education)

### Undergraduate Courses

**FCSE 292 Topics.....1-3**

**FCSE 331 Work Force Preparation in Family and Consumer Sciences .....2**  
 Strategies for developing curriculum and designing methods of instruction for teaching employability skills, career decision making and occupational areas of family and consumer sciences. A field experience will be included.

**FCSE 411 Philosophy and Methods Family and Consumer Sciences (AW) .....4**  
 The philosophical foundations and history of vocational family and consumer sciences programs in school systems. The learner and the constructivist learning 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**  
 Planning and developing instruction for various types of family and consumer sciences programs to meet the needs of selected age groups in structured situations. Professionalism, workplace environment/issues and job seeking skills will be addressed in preparation for a career in an educational setting. P, Professional Semester II and 2.6 GPA in professional classes and 2.5 GPA overall; FCSE 411. Corequisite course FCSE 412L.

**FCSE 412L Preparation for Student Teaching and Extra Practice Lab.....0**  
 Corequisite course FCSE 412.

**FCSE 421 Adult Education .....3**  
 Theories, strategies and trends related to working with diverse adult audiences within the context of family and consumer sciences. Experience in working with adults will be included. Open to all majors.

**FCSE 473 Supervised Student Teaching .....10**  
 A minimum of ten weeks of the second part of Spring Semester. Roles and responsibilities of the vocational family and consumer sciences teacher. Teaching under supervision at least two subject areas of family and consumer sciences in an approved school. P, 2.6 GPA in professional classes and 2.5 GPA overall, and senior standing in family and consumer sciences; FCSE 412.

**FCSE 480 Travel Studies** .....1-5  
 This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report.

**FCSE 496 Field Experience**.....1-12

### Dual Listed Courses

**FCSE 491-591 Independent Study**.....1-3

**FCSE 492-592 Topics** .....1-3

### Graduate Courses

**FCSE 741 Supervision of Family and Consumer Sciences Education** .....2

**FCSE 751 Curriculum of Family and Consumer Sciences Education** .....2

**FCSE 791 Independent Study**.....1-3

**FCSE 792 Topics**.....1-3

## FREN (French)

### Undergraduate Courses

**FREN 101 Introductory French I (COM) (G)**.....4  
 Fundamentals of language structure and introduction to French culture enabling students to converse, read, and write simple French. Class work may be supplemented with required aural/oral practice outside of class.

**FREN 102 Introductory French II (COM) (G)** .....4  
 Fundamentals of language structure and introduction to French culture enabling students to converse, read, and write simple French. Class work may be supplemented with required aural/oral practice outside of class. P, FREN 101.

**FREN 201 Intermediate French I (COM)** .....4  
 Goals of the introductory course continued. Emphasis on cultural and intellectual aspects of French life and literature. Class work may be supplemented with required aural/oral practice outside of class. P, FREN 102.

**FREN 202 Intermediate French II (COM)** .....4  
 Continues FREN 201. Laboratory as required. P, FREN 201.

**FREN 310 French Language Skills (COM) (AW)**.....3  
 A video and computer-assisted, advanced level course designed to strengthen and expand oral comprehension, conversation and composition within the context of contemporary French culture. P, FREN 202.

**FREN 333 Topics in Francophone Culture (COM)** .....3  
 Overview of the historical events in Francophone civilizations as they relate to contemporary culture. Second semester emphasizes contemporary Francophone culture and civilization. P, FREN 202.

**FREN 350 Business Communications in French (COM)** .....3  
 An introduction to the language of business and business practices in French-speaking countries. Included are commercial terminology, business forms, office correspondence and the common expressions used in a business setting. P, FREN 202.

**FREN 353 Exploring Literature in French (COM)** .....3  
 Study of literary texts from throughout the French-speaking world. P, FREN 202.

**FREN 385 Travel Study Abroad Francophone (COM) (G)**.....1-6  
 Offered to students engaged in an approved program of studies under faculty supervision. Hours of credit as contracted with instructor and approved by the cooperating institutions.

**FREN 450 Business French II (COM)** .....3  
 An advanced course in the language of business in French-speaking countries. Graded readings in commerce and marketing, finance and accounting, and economics. P, FREN 202.

**FREN 491 Independent Study (COM)**.....1-3

**FREN 492 Topics (COM)** .....1-3

**FREN 493 Workshop (COM)** .....1-6

**FREN 498 Undergraduate Research/Scholarship (COM)** .....3

### Graduate Courses

**FREN 591 Independent Study** .....1-3

## GE (General Engineering)

### Undergraduate Courses

**GE 101 Introduction to Engineering and Technology** .....1  
 Students are introduced to the concept of being a professional and the ethics required of a professional person. A breadth of ideas are presented to the students which helps them in their career choice.

**GE 120 Engineering Drawing/CAD**.....3  
 This course will cover the fundamentals of technical drawing including design processes, geometric construction, multi-view projection, dimensioning, sectional views, auxiliary views, and assembly and working drawings. Integral to this course is the use of Computer-Aided Drawing (CAD) in both 2D and 3D modes emphasizing visualization concepts. P, 1 course from subject MATH, except MATH 021, MATH 101, MATH 100T. Corequisite course GE 120L.

**GE 120L Engineering Drawing/CAD Lab** .....0  
 Corequisite course GE 120.

**GE 121 Engineering Design Graphics I** .....1  
 A course in graphical communication, expression and interpretation. The ability to visualize in three dimensions is developed through shape description, sketching and multi-view projection exercises. The emphasis is on visualization and free hand sketching. Also includes Engineering, Mechanical, and Architectural scales, geometric constructions, use of instruments, dimensioning, and sectional views. Corequisite: one MATH course except for 021, 101, 100T.

<b>GE 122 Engineering Design Graphics II</b> .....1	
This course provides a basic in graphical descriptive geometry as applied to solving spatial problems. Graphical conventions including but not limited to section, scales, and dimensions are also covered. P, GE 121.	
<b>GE 123 Computer Aided Drawing</b> .....1	
A course with Major emphasis on 2-dimensional drafting skills and 3-dimensional solid modeling utilizing microcomputer software. All work requires a “hands-on” approach. P, GE 121 or ID 130 or LA 120.	
<b>GE 200 Engineering-Off Campus Orientation</b> .....0	
Engineering College Enrollment Sustaining.	
<b>GE 225 Survey of Machine Tool Applications</b> .....1	
A survey course introducing machine tools and their applications. Automation in machining and CNC programming and operations are also topics addressed in this course.	
<b>GE 231 Technology and Society</b> .....3	
An examination of technological change by means of current problems and case studies. The creation and utilization of tools, machines, materials, techniques and technical systems will also be studied, as well as their environmental impacts.	
<b>GE 241 Applied Mechanics</b> .....3	
Basic Statics, dynamics, and two-dimensional analysis of stress and strain. Laboratory verification of fundamental principles of structural and machine elements. P, 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, MATH 102; 1 course from subject PHYS, except courses PHYS 101, PHYS 101L. Crosslisted with MNET 241.	
<b>GE 291 Independent Study</b> .....1-3	
<b>GE 292 Topics</b> .....1-3	
<b>GE 293 Workshop</b> .....0-3	
<b>GE 294 Internship</b> .....1-3	
<b>GE 296 Field Experience</b> .....1-6	
<b>GE 469 Project Management</b> .....3	
A Team-Oriented and Project-Based course providing the students the additional opportunities to conduct research, build and test products, and manage projects in a team environment. Record keeping, documentation, team evaluations, and presentations are parts of course activities. Corequisite course GE 469L. Crosslisted with MNET 469 and EET 469.	
<b>GE 469L Project Management Lab</b> .....0	
Corequisite course GE 469. Crosslisted with EET 470L and MNET 470L.	
<b>GE 494 Internship</b> .....1-3	
<b>GE 496 Field Experience</b> .....1-6	

### Dual Listed Courses

<b>GE 410-510 Human Factors in Design</b> .....3	
P, MATH 102.	
<b>GE 425-525 Occupational Safety and Health Management</b> .....3	
This course covers methods to implement and manage a safe work environment. Study will address OSHA standards and other related governmental regulations, hazard recognition and control, accident cost assessment, ergonomics, and emphasis on a proactive approach to accident prevention. Crosslisted with MNET 365 and CM 400.	
<b>GE 491-591 Independent Study</b> .....1-3	

<b>GE 492-592 Topics</b> .....1-3	
<b>GE 493-593 Workshop</b> .....0-3	

### Graduate Courses

<b>GE 569 Project Management</b> .....2-3	
<b>GE 601 Technical Studies in Industrial Management</b> .....3	
<b>GE 603 Designing the Work Place for Production</b> .....3	
<b>GE 620 Industrial Safety</b> .....3	
<b>GE 650 Manufacturing Systems Management</b> .....3	
<b>GE 670 Research Methods in Management</b> .....3	
<b>GE 690 Seminar</b> .....1-3	
<b>GE 691 Independent Study</b> .....1-3	
<b>GE 692 Topics</b> .....1-3	
<b>GE 693 Workshop</b> .....0-3	
<b>GE 696 Field Experience</b> .....1-6	
<b>GE 788 Research Problems/Projects</b> .....1-2	
<b>GE 791 Independent Study</b> .....1-9	
<b>GE 792 Topics</b> .....1-3	
<b>GE 798 Thesis</b> .....1-7	

## GEOG (Geography)

### Undergraduate Courses

<b>GEOG 101 Introduction to Geography (COM)</b> .....3	
The course presents a broad, introductory overview of geographic concepts, themes, and elements designed to help students better understand and analyze the world from a geographic perspective. It provides a background to Earth’s physical and human elements and systems. It also emphasizes the unique quality of world regions, and the spatial interaction of people, elements, and regions, as well as major global and regional problems and prospects.	
<b>GEOG 131 Physical Geography I</b> .....4	
An introduction to the physical patterns of the Earth. Location, Earth-sun relationships, portrayal of the Earth, cartographic analysis, weather and climate phenomena, along with the scientific method and consideration of cultural diversity factors from the Native American and other perspectives. Corequisite course GEOG 131L.	
<b>GEOG 131L Physical Geography I Lab</b> .....0	
Corequisite course GEOG 131.	
<b>GEOG 132 Physical Geography II</b> .....4	
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. Corequisite course GEOG 132L.	
<b>GEOG 132L Physical Geography II Lab</b> .....0	
Corequisite course GEOG 132.	

**GEOG 200 Introduction to Human Geography (G).....3**  
 Systematic study of world culture from perspective of five integrating themes: cultural region, cultural diffusion, cultural ecology, cultural integration, and cultural landscape. Topics include population, agriculture, political and economic systems, religion and language, folk and popular culture, and ethnicity.

**GEOG 210 World Regional Geography (COM) (G) .....3**  
 A survey of the Earth from a broad global framework through the differentiation of the world in terms of both natural and human environmental features and characteristics on a regional basis.

**GEOG 212 Geography of North America (COM).....3**  
 A regional and topical analysis of the geographic patterns of the United States and Canada. Focus is upon the interaction of groups of people with the natural environment to produce regional differentiation. Geographic aspects of the physical geography, population, culture groups, economy, settlement systems, land division, and use of natural resources.

**GEOG 219 Geography of South Dakota (G).....3**  
 Provides an in-depth study of the physical, cultural, and economic characteristics of the state, including an analysis of past, present, and prospective cultures and economies, dating from early Native American settlement through the present time period.

**GEOG 270 Middle East Survey.....3**  
 This will be a team-taught course, utilizing the expertise of faculty with disciplinary knowledge relevant to the Middle East, and also the expertise of faculty from the Middle East. The following departments contributed guest lectures when this course was taught as an experimental course: Geography, Visual Arts, Military Science, Economics, Psychology, English, and Philosophy and Religion. Students had an opportunity to visit with Sunni and Shi'ite Muslims and Christians from the region, and Arabs, Iranians and Kurds. The textbooks are selected to compensate for the lack of on-campus expertise in the political history of the Middle East. Crosslisted with REL 270.

**GEOG 310 Soil Geography and Land Use Interpretation (G).....2**  
 Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Field trip. May count toward Geography major. Crosslisted with PS 310. P, consent of instructor. Corequisite course GEOG 310L.

**GEOG 310L Soil Geography and Land Use Interpretation Studio .....1**  
 Corequisite course GEOG 310.

**GEOG 320 Regional Geography: .....3**  
 Geographic description and analysis of selected world regions. Physical and cultural conditions and landscapes, as well as their interrelationships and importance, are emphasized. Course may be repeated under different regional topics. The specific region studied will change each semester.

**GEOG 337 Atmospheric Sciences.....3**  
 Systematic methodological investigation of the meteorological elements (weather, climate, altitude, etc.) and their effects on geographic features.

**GEOG 338 Astrogeography.....2**  
 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 Geomorphology .....3**  
 A study of the relationship of landforms and how they are impacted by human activity. Changes in land-use evolution through time and how this has impacted the landscape.

**GEOG 343 Environmental Disasters and Human Hazards.....3**  
 An in-depth examination of various geophysical events (earthquakes, volcanic eruptions, tsunamis, earth failures), meteorological events (floods, severe storms – tornados, hurricanes, blizzards, lightning) and human induced disasters (technological failures involving dams, nuclear power plants, etc.). Attention given to people's responses and their interactions with the environment plus prevention and amelioration efforts.

**GEOG 351 Economic Geography.....3**  
 World wide distribution of economic activities and their physical bases. Agriculture, mining and manufacturing industries and their important commercial products and role in world trade.

**GEOG 358 Political Geography.....3**  
 The geographic factors are studied which influence current international relations and the policies of nations and political units with consideration given to aspects of geopolitics, racial and ethnic groupings, religions, and languages, boundaries, and territorial changes.

**GEOG 363 Rural Geography.....3**  
 Character of American countryside as shaped by private and public decision-making processes. Case studies of major U.S. and European rural planning efforts to understand the present landscape and the problems of rural populations.

**GEOG 365 Land Use Planning.....3**  
 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, GEOG 200 and GEOG 212, or GEOG 219.

**GEOG 382 Geographic Research Methods (AW).....3**  
 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**  
 History and principles of cartography. Emphasis on field mapping; map projections; cartographic design; map interpretations; and exercises in map making. Corequisite course GEOG 383L.

**GEOG 383L Cartography Studio.....0**  
 Corequisite course GEOG 383.

**GEOG 384 Advanced Cartography.....3**  
 This course provides advanced cartographic training techniques as applied to practical applications in field mapping, the production of map projections, cartographic design, and map making. P, GEOG 383. Corequisite course GEOG 384L.

**GEOG 384L Advanced Cartography Studio.....0**  
 Corequisite course GEOG 384.

**GEOG 388 Geodesy.....3**  
 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 measurements of terrestrial gravitation. P, MATH 115, 120 or consent.

**GEOG 400 Cultural Geography (COM).....3**  
 A detailed analysis of the concept of culture in a geographical context, including such applications as culture and nature, cultural growth and change, cultural universals, culture and economy, cultural relativity, cultural landscape, culture region, and cultural conflict.

**GEOG 405 Historical Geography** .....3  
 Historical periods portrayed against geographical background.

**GEOG 425 Population Geography** .....3  
 Geographic analysis of such population characteristics as: numbers and distribution; growth and change; composition; mortality, fertility, and theories of population change; policy and family planning; migration and mobility; population, environment, food supply, and human well being. Problems and prospects are considered in the context of each topic.

**GEOG 433 World Crop and Soil Resources**.....3  
 Crosslisted with PS 433. May count toward Geography major.

**GEOG 447 Geography of the Future** .....3  
 A futuristic analysis of Earth's natural environmental elements, natural resources, population and settlement, and cultural institutions at the global, national, and state levels.

**GEOG 454 Site Selection and Development**.....3  
 Analysis of geographic factors involved in selection of locations and sites for manufacturing, commercial and agricultural enterprises.

**GEOG 461 Urban Geography**.....3  
 Geography of cities: types, functions, and distribution of world cities. Special emphasis on planning of cities in the U.S.

**GEOG 464 Local and Regional Planning** .....3  
 Regional planning with particular reference to the upper Mid-West.

**GEOG 467 Geography of the American Indian**.....3  
 Study of the geography of the American Indians under three primary topics; loss of Indian lands; development of the Indian reservation system; historical and contemporary land use issues. Crosslisted with AIS 467.

**GEOG 483 Air Photo Interpretation**.....3  
 Development of skills and techniques involved in the interpretation of aerial photographs showing physiography, land use, industrial, commercial and military functions. P, consent. Corequisite course GEOG 483L.

**GEOG 483L Air Photo Interpretation**.....0  
 Various computer softwares and other laboratory equipment will be applied to the methods and principles of air photo interpretation. Corequisite course GEOG 483.

**GEOG 484 Remote Sensing**.....3  
 Applications of remote sensing. Development of remote sensing; instrumentation; and techniques and methodology that will aid in the determination of need and proper utilization of our physical and cultural resources. P, consent. Corequisite course GEOG 484L.

**GEOG 484L Remote Sensing** .....0  
 Hands-on experience using various software and the application of methods and principles of remote sensing. Corequisite course GEOG 484.

**GEOG 485 Quantitative Remote Sensing** .....3  
 This course will concentrate on the digital processing and visualization of various types on remotely sensed imagery. Image sources, characteristics, formats and analysis techniques will be explored as well as the integration of remotely sensed imagery with GIS and GPS datasets. P, GEOG 484. Corequisite course GEOG 485L.

**GEOG 485L Quantitative Remote Sensing Lab**.....0  
 Corequisite course GEOG 485.

**GEOG 486 Computer Mapping** .....3  
 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  
 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 491 Independent Study (COM)** .....1-4

**GEOG 491L Independent Study Lab**.....0

**GEOG 492 Topics (COM)** .....1-5

**GEOG 494 Internship** .....1-12

**GEOG 495 GISc-CE Practicum**.....3

**GEOG 496 Field Experience** .....1-12

### Dual Listed Courses

**GEOG 415-515 Environmental Geography**.....3  
 Geographical aspects of environmental issues including historical geography of environmental problems, global driving forces, land ethics and stewardship, environmental externalities, population, resources, climate change, and environmental restoration. Focus on connections between human and natural systems; consequence chains between cause and effect; impact of time and space on problem perception, analysis, and solution; and natural and human laws. Term paper required.

**GEOG 481-581 Field Geography**.....3  
 All geographic data are field based. This field-oriented course typically will focus upon various aspects of the physical, historical, and cultural aspects of eastern South Dakota. Emphasis will be on the observation, collection, organization, analysis, and interpretation field derived data to answer geographic questions.

**GEOG 482-582 Travel Studies**.....1-4  
 This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**GEOG 488-588 Geographic Information Systems II** .....3  
 This course introduces advanced tools and techniques of data creation, data integration, mapping, and spatial analysis in geographic information systems (GIS). It provides basic approaches for solving problems of data integration including format identification, conversion, and registration. It gives a conceptual base to many methods and techniques associated with vector and raster-based spatial analysis. It provides an in-depth examination of the functions and capabilities of Arc View Desktop GIS, its extensions and ARC/INFO GIS software. It introduces basic concepts and practical applications of global positioning systems (GPS) technology in GIS especially in creating GIS-compatible data sets. This course gives hands-on experience with PC and UNIX workstations, tablet digitizers, scanners, printers and plotters, GPS equipment, digital camera systems and all supporting software. Students work with real applications and are expected to complete an individual/small group project during the course.

**GEOG 489-589 Geographic Information Systems III .....3**  
 This course introduces many of the basic concepts of raster modeling in geographic information systems (GIS) with special emphasis on construction and use of digital elevation models (DEMs) in GIS. It provides an in-depth examination of the functions and capabilities of Arc View Desktop GIS extensions (Spatial Analyst and 3D Analyst) and ARC/INFO GRID GIS software. Building on the skills and techniques learned in GIS I and GIS II courses, it gives a conceptual base to many of the quantitative methods associated with raster-based GIS spatial analysis. Topics include raster data formats and sources, data conversion, merging and projecting raster data sets, DEM displays including image drapes and other visualizations, overlay functions, hydrologic modeling tools and applications, visual analyses, friction and dispersion models and change detection studies. Students are expected to complete an individual/small group project in Arc View or ARC/INFO with a raster data component during the course.

**GEOG 490-590 Seminar .....1-4**

### Graduate Courses

**GEOG 620 Advanced Regional Studies in Geography .....1-4**

**GEOG 692 Topics.....1-4**

**GEOG 710 Evolution of Geographic Thought.....3**

**GEOG 714 Research and Writing .....3**

**GEOG 732 Geomorphology .....3**

**GEOG 734 Climatology .....3**

**GEOG 742 Cultural Geography .....3**

**GEOG 752 Urban Geography.....3**

**GEOG 765 Advanced Studies in Land Utilization .....1-4**

**GEOG 770 Advanced Geographic Techniques .....1-4**

**GEOG 785 Quantitative Methods in Geography.....3**

**GEOG 786 Geographic Information Systems .....3**

**GEOG 788 Research Paper in Geography .....1-3**

**GEOG 790 Seminar .....1-4**

**GEOG 791 Independent Study .....1-4**

**GEOG 794 Internship.....1-3**

**GEOG 798 Thesis.....1-7**

### GER (German)

#### Undergraduate Courses

**GER 101 Introductory German I (COM) (G).....4**  
 Becoming sensitized to authentic listening, speaking, reading, writing and culture skills at the elementary level. Introduction to basic functional grammar and sentence structure.

**GER 102 Introductory German II (COM) (G) .....4**  
 Continued emphasis on authentic listening, speaking, reading, writing, and culture skills at the elementary level. P, GER 101.

**GER 201 Intermediate German I (COM).....3**  
 Develop active listening skills, functional language skills, reading skills related to student learners immediate environment, guided free writing and understanding of interrelationships of language and culture. P, GER 101 and GER 102.

**GER 202 Intermediate German II (COM) .....3**  
 Develop interactive listening and speaking skills toward initiating and responding to simple statements and questions, ability to understand selected descriptive readings to include literature of various types, and continued refinement of language and culture, traditions, customs, folklore, etc. P, GER 101, GER 102, GER 201.

**GER 311 Composition and Conversation I (COM) .....2**  
 Oral and written work. Grammar review and composition; emphasis on German conversation. Maybe taken concurrently with GER 411. P, GER 202 or consent.

**GER 312 Composition and Conversation II (COM) .....2**  
 Oral and written work. Grammar review and composition; emphasis on German conversation. Maybe taken concurrently with GER 412. P, GER 202 or consent.

**GER 380 Deutschland Heute (COM) .....3**  
 An examination of contemporary German society, politics, country and people. Taught in German. P, GER 311, GER 312.

**GER 411 Advanced Composition and Conversation I (COM) .....3**  
 Conversational work, oral reports, discussion, diction. Maybe taken concurrently with GER 311. P, GER 202.

**GER 412 Advanced Composition and Conversation II (COM) .....3**  
 Conversational work, oral reports, discussion, diction. Maybe taken concurrently with GER 312. P, GER 202.

**GER 433 German Civilization I (COM) (AW).....3**  
 The culture of the German-speaking countries from beginning to modern times including literary and artistic trends, governmental structures, and the life and customs of the people. Reading and discussions in German. P, GER 202.

**GER 434 German Civilization II (COM) (AW) .....3**  
 The culture of the German-speaking countries from the beginning to the 18th century and then to modern times including literary and artistic trends, and customs. Reading and discussion in German.

**GER 453 Survey of German Literature I (COM).....3**  
 Main currents of German literature from the earliest times to the age of Goethe.

**GER 454 Survey of German Literature II (COM) .....3**  
 The main currents of German literature from Romanticism to the present.

**GER 491 Independent Study (COM) .....1-3**

**GER 492 Topics (COM) .....3**

#### Graduate Courses

**GER 591 Independent Study .....1-3**

## **GERO (Gerontology)**

### **Undergraduate Courses**

**GERO 201 Introduction to Gerontology.....3**  
Introduction and overview of the field of gerontology. Interdisciplinary focus on aging process, community resources, diversity, health care and caregiving, retirement, death and bereavement, public policy and professional issues. Required course for gerontology minors.

### **Dual Listed Courses**

**GERO 491-591 Independent Study.....1-3**  
**GERO 492-592 Topics.....1-3**

## **GLST (Global Studies)**

### **Undergraduate Courses**

**GLST 201 Global Studies I (G).....3**  
This introductory course investigates globalization from multiple perspectives. Understanding of worldviews and the development of skills to work effectively in a cross-cultural setting are stressed. Techniques for accessing and analyzing varied sources of information about globalization will be emphasized. No prerequisites or corequisites.

**GLST 401 Global Studies II (G).....1**  
Capstone course for the Global Studies major. Includes analysis of the source or cause of global problems and self-analysis through an individual portfolio. P, GLST 201.

## **GS (General Studies)**

### **Undergraduate Courses**

**GS 100 University Experience.....1**  
The primary purpose of this course is to help students transition successfully to the university. The focus of the course will be to familiarize students with campus resources and to facilitate their engagement in the university experience. Through group discussions with a faculty mentor, students will develop critical thinking and social interaction skills to prepare them for the academic environment. Students will become active participants in the university resources, college policies, role of the academic adviser, student support services, and university academic requirements.

**GS 101 Academic and Career Exploration.....1**  
The course applies developmental theory to assist students in exploring career and major options and help them prepare for academic, career and employment transitions. Includes 15 lecture hours and up to 8 out of class advising sessions.

**GS 143 Mastering Lifetime Learning Skills .....2**  
Instruction to enhance learning in a college environment and throughout life. Topics include organizational and time management skills, strategies to improve learning, a recognition of learning styles and creating positive learning environments.

**GS 200 Orientation General Studies Program.....0**

**GS 240 International Travel Study.....0-16**  
Students who participate in international travel study are required to enroll in this course for zero to 16 credits.

**GS 286 Service Learning (COM) .....1-12**  
Service learning involves the integration of academic learning, relevant service with community partners, purposeful civic engagement and structured reflection for the purpose of enriching the learning experience and increasing student involvement in community service. The academic study may be in any discipline. Open to all majors.

**GS 289 Special Problems-National Student Exchange.....16**

**GS 340 International Travel Study.....0-16**  
Students who participate in international travel study are required to enroll in this course for zero to 16 credits.

**GS 440 International Travel Study.....0-16**  
Students who participate in international travel study are required to enroll in this course for zero to 16 credits.

**GS 489 Transition to Careers .....1**  
Junior and Senior level students will learn strategies required to make a successful transition from student life to career. The course will include information on job search skills, resume development, professional ethics, lifelong learning, workplace behavior and diversity issues.

### **Dual Listed Courses**

**GS 486-586 Service Learning (COM) .....1-12**  
Service learning involves the integration of academic learning, relevant service with community partners, purposeful civic engagement and structured reflection for the purpose of enriching the learning experience and increasing student involvement in community service. The academic study may be in any discipline. Open to all majors.

## **HDFS (Human Development and Family Studies)**

### **Undergraduate Courses**

**HDFS 110 Parenting.....3**  
Study of parent-child relations in the context of Western and Native American cultures. Included are historical perspectives on parenthood and children, parenting roles, strategies for contemporary parenting, developmental interaction from infancy through adulthood and selected special concerns of parents.

**HDFS 141 Individual and the Family .....3**  
Patterns of behavior and relationships as influenced by family interaction. Emphasis on social and emotional needs of individual and family within various cultural and family contexts as informed by Systems Theories. Open to students of all majors.

**HDFS 150 Early Experience.....2**  
Experimental-based introduction to professional contexts within early childhood education (ECE) and/or human development and family studies (HDFS). Students serve as volunteers in community-based human services and educational settings, shadowing professionals to better understand professional roles and opportunities. Corequisite course HDFS 150L.

**HDFS 150L Early Experience Clinical Experience .....0**  
Corequisite course HDFS 150.

**HDFS 210 Lifespan Development.....3**  
 Study of the changes that take place during an individual's life, from conception till death. Emphases on theory, psychosocial, biosocial, and cognitive development.

**HDFS 227 Human Development and Personality I: Childhood.....3**  
 Knowledge and understanding of human beings through study of development beginning at conception continuing to adolescence. Consideration given to biological growth, social, emotional and intellectual development as it changes behavior and shapes the individual.

**HDFS 241 Family Relations .....3**  
 A survey course of family development across the lifespan including the study of the family as a system, family interaction and family roles. Consideration is given to the cultural diversity and heritage of families.

**HDFS 250 Development of Human Sexuality.....3**  
 A basic course which explores the biological, behavioral, and cultural aspects of human sexuality. The course focuses on individual sexual development, interpersonal aspects of sexual behavior and social/cultural values and beliefs about sexuality and sex roles throughout the lifespan. Crosslisted with WMST 250.

**HDFS 272 The Helping Relationship .....3**  
 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.

**HDFS 292 Topics .....1-3**

**HDFS 337 Human Development and Personality II: Adolescence.....3**  
 Knowledge and understanding of adolescence within the developmental framework. Dimensions of physical growth, biological changes, social, intellectual and emotional development will be considered, as well as the impact of interaction of these forces on the individual. Emphasis is upon normal developmental patterns.

**HDFS 341 Family Theories .....3**  
 Various theoretical approaches to marriage and family. Explores strengths and weaknesses, similarities and differences among theories. How each theoretical framework influences views and approaches to marriage and family issues. P, HDFS 141, HDFS 241.

**HDFS 347 Human Development and Personality III: Adulthood.....3**  
 Developmental approach to Human Development across adulthood. Emphasis on the physical, biological, intellectual and emotional changes. Impact of change upon the personality, self-concept of the individual and their effects upon social behavior, productivity and personal relationships.

**HDFS 355 Prevention Programs in Human Development and Family Studies .....3**  
 Principles and application of methods used in the design of programs to enhance the development of individuals and families. Strategies used in program evaluation examined. Consideration of model programs currently developed. P, HDFS 227, HDFS 241, HDFS 341.

**HDFS 364 Parent/Child Relationships in a Professional Context.....3**  
 The focus of this course is effective communication with families through a parent education needs assessment, parent education programs, conferencing, parental involvement in schools, newsletter development, and interaction with other agencies for referral purposes. P, HDFS 227.

**HDFS 441 Professional Issues in Child and Family Studies .....3**  
 Study of professional issues in the Child and Family Studies field. Course materials are inclusive of public policy, advocacy, leadership, professional development and ethics and workplace issues.

**HDFS 480 Travel Studies .....1-5**  
 This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation and a written report.

**HDFS 487 Orientation to Human Development and Family Studies Practicum .....1**  
 Orientation to Child and Family Services Practicum will identify expectations of the experience. Students will develop written and verbal communication skills necessary to obtain a practicum and work site. Students will investigate and locate an appropriate practicum site and set professional and educational goals for the practicum experience. P, junior standing, to be taken prior to HDFS 495.

**HDFS 495 Practicum .....8-10**

**Dual Listed Courses**

**HDFS 457-557 Family Assessment .....3**  
 Designed to introduce students to individual, family and community assessment tools that are used in prevention and intervention programs and approaches. P, HDFS 341 or graduate student standing.

**HDFS 491-591 Independent Study .....1-3**

**HDFS 492-592 Topics.....1-3**

**Graduate Courses**

**HDFS 601 Orientation in Graduate Study .....1**

**HDFS 614 Adult Development .....3**

**HDFS 665 Parent Education: Theory and Issues.....3**

**HDFS 700 Research Methods.....4**

**HDFS 700L Research Methods Studio.....0**

**HDFS 711 Child Development Theory and Application.....3**

**HDFS 742 Family Theory and Research.....3**

**HDFS 753 Family Public Policy .....3**

**HDFS 777 Child and Family Counseling.....3**

**HDFS 788 Individual Research and Study.....1-7**

**HDFS 790 Seminar.....1-3**

**HDFS 791 Independent Study .....1-3**

**HDFS 792 Topics .....1-3**

**HDFS 794 Internship .....1-7**

**HDFS 798 Thesis .....1-7**



# HFM (Hotel and Foodservice Management)

## Undergraduate Courses

- HFM 171 Introduction to Hospitality Industry.....3**  
 A review of the basic components of the hospitality and tourism industry in the state, national and international economy. Future trends and career opportunities within these areas will be explored.
- HFM 251 Foodservice Sanitation.....1**  
 Food sanitation and personal hygiene in a foodservice management setting. Students will receive national sanitation certification upon successful completion of ServeSafe® exam.
- HFM 261 Hospitality Technology .....3**  
 Explorative view of hospitality information systems and use of computers in the hospitality industry. P, CSC 105.
- HFM 291 Independent Study.....1-3**
- HFM 292 Topics.....3**
- HFM 295 Practicum.....1-6**
- HFM 361 Hospitality Industry Law .....2**  
 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. P, BADM 350.
- HFM 370 Lodging Operations and Purchasing Management.....3**  
 Functions of management as applied to the lodging industry including organizing, staffing, controlling, planning, purchasing and marketing for the front office, housekeeping, and maintenance departments. Industry terminology and methods of operations will be explored for all levels of service and segments in the lodging industry. The lab portion will include on-site workshops as well as field experiences. P, HFM 171.
- HFM 370L Lodging Operations and Purchasing Management Lab ....0**
- HFM 371 Leisure Activities Management .....3**  
 Functions of management as applied to the attractions and casino industries including terminology, the organizational structure, and management responsibilities. Lab portion will include on-site workshops as well as field experiences. P, HFM 171. Corequisite course HFM 371L.
- HFM 371L Leisure Activities Management Lab.....0**  
 Corequisite course HFM 371L.
- HFM 372 Hospitality Facilities Management and Design .....3**  
 Application of various systems, procedures, and controls associated with the maintenance and engineering departments of lodging and foodservice operations. The course will include the decision-making process used in the planning and designing of hospitality facilities.
- HFM 380 Foodservice Operations and Purchasing Management.....3**  
 A managerial and systems approach to foodservice operations and purchasing. Crosslisted with NFS 380.
- HFM 381 Quantity Food Production and Service .....3**  
 Application of foodservice management principles in quantity food production, purchasing, and service. Crosslisted with NFS 381. P, NFS 141/141L, HFM 251 (or concurrently), HFM 380. Corequisite course HFM 381L.
- HFM 381L Quantity Food Production and Service Lab .....0**  
 Crosslisted with NFS 381L. Corequisite course HFM 381.

- HFM 412 Fine Dining and Catering Management .....3**  
 Application of fine-dining mise en place, meal and beverage preparation, and guest services inclusive of catering management operations. P, NFS 141/141L and HFM 380; HFM 489/489L or concurrent. Corequisite course, HFM 412L.
- HFM 412L Fine Dining and Catering Management Lab.....0**  
 Corequisite course HFM 412.
- HFM 455 Meeting and Convention Management.....3**  
 The roles and responsibilities of professional hospitality meeting planners and convention sales and service managers are examined for purposes of securing, planning, hosting and rebooking a major convention or corporate, association, or special meeting event. P, junior, senior, or consent.
- HFM 465 Cost Controls in Hospitality Industry .....3**  
 The application of financial systems to control food, beverage and labor costs in hospitality operations. P, ACCT 210.
- HFM 481 Food Science, Dietetics, and Hospitality Human Resource Management .....3**  
 This course is the capstone experience for students in Nutrition, Food Science and Hospitality. Course will integrate knowledge with breakout sessions for the different subject matter areas in NFSH. Professionalism and professional ethics, management and employment principles, diversity issues, leadership styles, networking and mentoring will be discussed. P, senior standing in dietetics, food science or hotel and foodservice management. Crosslisted with NFS 481.
- HFM 482 Hospitality Marketing .....3**  
 Applied marketing covering case studies in the hotel and restaurant industry. Emphasis on implementing marketing strategies including: demographics, image development, advertising, sales promotion, public relations, administering and controlling a marketing plan. P, junior standing or consent.
- HFM 489 Responsible Beverage Management.....3**  
 This course is designed to meet the unique challenges in the management of the bar and beverage industry. It explores the contemporary issues dealing with alcohol consumption and the responsible management designed to deal with these issues. The material presented emphasizes management functions, social concerns, marketing, controls, and product knowledge. P, HFM 171 or consent; and age 21 or older.
- HFM 489L Responsible Beverage Management Lab .....0**
- HFM 492 Topics .....1-3**
- HFM 495 Practicum .....1-6**

## Dual Listed Courses

- HFM 480-580 Travel Studies.....1-5**  
 This travel-study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.
- HFM 491-591 Independent Study.....1-3**

## Graduate Courses

<b>HFM 788 Individual Research and Study</b> .....	1-7
<b>HFM 791 Independent Study</b> .....	1-3
<b>HFM 792 Topics</b> .....	1-3
<b>HFM 798 Thesis</b> .....	1-7

## HIST (History)

### Undergraduate Courses

<b>HIST 111 World Civilizations I (COM)</b> .....	3
A survey of the history, culture, religion and society of the principal civilizations of the world to 1500.	
<b>HIST 112 World Civilizations II (COM) (G)</b> .....	3
A survey of the history, culture, religion and society of the principal civilizations of the world since 1500.	
<b>HIST 121 Western Civilization I (COM)</b> .....	3
Surveys the evolution of western civilization from its beginnings into the Reformation and religious wars.	
<b>HIST 122 Western Civilization II (COM) (G)</b> .....	3
Surveys the development of western civilization from the Reformation era to the present.	
<b>HIST 151 United States History I (COM)</b> .....	3
Surveys the background and development of the United States from its colonial origins to the Civil War and Reconstruction.	
<b>HIST 152 United States History II (COM)</b> .....	3
Surveys development of the United States since the Civil War and Reconstruction.	
<b>HIST 292 Topics (COM)</b> .....	1-3
<b>HIST 312 History of Modern Asia (COM)</b> .....	3
Focuses on the history of modern Chinese and Japanese civilizations.	
<b>HIST 313 History of the Middle East (COM)</b> .....	3
Surveys the history of the Middle East from Muhammad to the present, emphasizing the political development of the last 200 years.	
<b>HIST 322 Ancient Greece and Rome (COM)</b> .....	3
Examines the history, philosophy, and culture of Greece from the Minoan age through the Hellenistic period and the development of the Roman Republic and Empire. P, HIST 121.	
<b>HIST 326 Renaissance and Reformation (COM)</b> .....	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.	
<b>HIST 329 French Revolution and Napoleon, 1789-1815 (COM)</b> .....	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.	
<b>HIST 330 Nineteenth Century European History (COM)</b> .....	3
A study of developments in Western Europe from the Congress of Vienna to the outbreak of the Great War.	

<b>HIST 331 Europe in the Age of Louis XIV, 1648-1789</b> .....	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.	
<b>HIST 340 Ireland since 1800</b> .....	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.	
<b>HIST 341 English History to 1688 (COM)</b> .....	3
Presents English History from the earliest times through the Glorious Revolution of 1688.	
<b>HIST 345 History of Russia</b> .....	3
From the earliest times to present. Treats cultural and social as well as political aspects.	
<b>HIST 346 Canada: History and Geography (COM)</b> .....	3
Examines the impact of the physical geography of Canada upon the nation's exploration, settlement, and development from the earliest inhabitants to modern times, and emphasizes the economic and cultural relations between Canada and the United States.	
<b>HIST 349 Women in American History</b> .....	3
This course will investigate the role of women in the history of the United States. It will attempt to discover what impact women had on the course of events. Selected women and their careers will be highlighted. Crosslisted with WMST 349.	
<b>HIST 350 Women in World History</b> .....	3
This course will investigate the role of women in the history of the world beyond the US. It will attempt to discover what impact women had on the course of events. Selected women and their careers will be highlighted. Crosslisted with WMST 350.	
<b>HIST 352 Revolution and Early National United States</b> .....	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.	
<b>HIST 354 Jefferson and Jackson 1800-1840</b> .....	3
Jefferson's administrations, War of 1812, Jackson's administrations.	
<b>HIST 355 American Civil War: Military History</b> .....	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.	
<b>HIST 356 U.S. Rise to Power 1877-1920</b> .....	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.	
<b>HIST 357 America Between Wars 1918-41</b> .....	3
Major political, social, economic, and cultural developments in the U.S. during the crucial decades of the 1920s, 1930s.	
<b>HIST 358 The U.S. Since 1941 (COM)</b> .....	3
Social, economic, and political change. The consequences, domestic and foreign, of global power and rising affluence.	

- HIST 368 History and Culture of the American Indian (COM) .....3**  
 Presents history and culture of North American Indians from before white contact to the present, emphasizing regional Dakota cultures. Crosslisted with AIS 368. Fulfills Teacher Education requirement.
- 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. Particular attention will be paid to the ethnic groups who settled in South Dakota.
- HIST 377 Economic History of U.S. (COM) .....3**  
 Examines major United States economic issues from the colonial period to the present, including the rise of big business, territorial expansion, agricultural issues, labor management relations, and finances and banking.
- HIST 378 Social History of the U.S. ....3**  
 Aspects of social development, with major emphasis on the period since the Civil War. Themes include gender, class, race, family, education, religion, leisure, music, arts, and values.
- HIST 379 Environmental History of the U.S. (COM) .....3**  
 Examines the relationship between the natural environment and the historical movements of humans by tracing U.S. environmental changes, beginning with the activities of the Native American peoples through the Euro-American presence to the Cold War era.
- HIST 401 History of Western Religious Thought I.....3**  
 This course surveys important issues in western religious thought from first century Christian origins through the “great medieval synthesis” of the thirteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon emergence and growth of Christian doctrine and ecclesiology. Crosslisted with REL 401.
- HIST 402 History of Western Religious Thought II .....3**  
 This course surveys important issues in western religious thought from the “great medieval synthesis” of the thirteenth century through the Reformation and Counter reformation of the sixteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian doctrine. Crosslisted with REL 402.
- HIST 410 World History Since 1945 (G).....3**  
 This course will involve a survey of people, events, discoveries, and trends that have affected the lives and thoughts of people throughout the world in the years since the end of World War II. Topics may include the Cold War and life in the Communist bloc, China, decolonization, economic and cultural globalization, the formation of the European Union, and the effects of modern biochemical, communication, and transportation technologies.
- HIST 415 Women in Antiquity (COM) .....3**  
 Survey of archaeological, historical, and literary sources to examine women's place in ancient civilizations, their social conditions, their gender roles, and their power/authority in these civilizations.
- HIST 418 History of Latin America (COM).....3**  
 Examines the political, social, and economic developments in Latin America for the pre-Columbian period to the present.
- HIST 420 Contemporary Europe (COM) .....3**  
 Presents the history, politics, and culture of Europe from approximately 1890 to the present. P, HIST 122.
- HIST 425 Medieval Europe (COM).....3**  
 Examines the history of Western Europe from the end of the Roman Empire to the beginning of the Renaissance and emphasizes religious, political, economic, and social developments. P, HIST 121.
- HIST 438 Twentieth-Century Assassinations .....3**  
 Using mainly case studies, this course examines the causes and effects, both intended and unintended, of assassinations during the twentieth century. An in-depth historical background to each assassination is included. A considerable portion of the course is devoted to a study of the assassination of President John F. Kennedy.
- HIST 441 History of Modern Britain (COM) .....3**  
 Examines the chief political, cultural, economic, and social developments of England, Scotland, Wales, and Ireland from 1688 to the present.
- HIST 447 History of Modern Germany (COM) .....3**  
 Examines German history in the nineteenth and twentieth centuries, including the formation of the German nation, Bismarck, development of the German Empire, World War I, rise of Hitler, Nazi Germany and World War II.
- HIST 448 Nazi Germany (COM).....3**  
 Presents Germany history from the establishment of the Weimar Republic after World War I through Adolf Hitler's Third Reich to 1945, including the political, social, economic, cultural, and military aspects of Germany under National Socialist rule.
- HIST 450 American Colonial History (COM).....3**  
 Provides an in-depth look at the English colonies in America, emphasizing how and why they were founded, and tracing their growth and development through the revolutionary period. P, HIST 151.
- HIST 455 American Civil War and Reconstruction (COM).....3**  
 Explores the economic, political, military, and social aspects of the Civil War and Reconstruction era.
- HIST 460 American Military History (COM) .....3**  
 Examines the origins and development of military institutions, traditions, tactics, and practices in the United States from 1775 to the present, including the relation between the armed forces and other government agencies.
- HIST 465 Western Expansion of the U.S. (COM).....3**  
 Examines the role of the West in American history from exploration and colonization to the closing of the frontier about 1900, emphasizing territorial expansion of the U.S. and various frontier developments, e.g. transportation, transformation of the wilderness into statehood, influence of the frontier in shaping the American character and the role of the West in shaping national policies.
- HIST 469 American Foreign Relations (COM).....3**  
 Surveys American diplomatic history from colonial times to the present, emphasizing political, social and economic forces affecting diplomatic developments reflected in American foreign policies.
- HIST 476 History of South Dakota (COM) .....3**  
 Examines the history of South Dakota's physical environment, Native American presence, European settlement, economic developments, political institutions, and social life.
- HIST 480 Historical Methods and Historiography (COM) (AW) .....3**  
 Introduces the problems, materials, and techniques of historical writing, explains the larger meaning and directions of history, and examines major schools of historical thought.
- HIST 494 Internship (COM).....1-12**

## Dual Listed Courses

- HIST 482-582 Travel Studies .....1-5**  
 This travel study course is designed to provide extra-mural educational experiences, as approved by, and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hand-on activities, and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.
- HIST 491-591 Independent Study (COM).....1-3**
- HIST 492-592 Topics (COM) .....1-4**

## HLTH (Health Education)

### Undergraduate Courses

- HLTH 120 Community Health.....2**  
 Discussion based course with the goal of understanding the philosophy and principles of community health. Emphasis on knowledge, attitudes and behaviors utilized in solving community health problems. Open to all students. Crosslisted with HSC 120.
- HLTH 200 Complementary and Alternative Health Care .....3**  
 This interdisciplinary course introduces complementary and alternative health care (CAHC) practices. This course is designed to explore complementary methods utilized by health care professional and lay persons to provide culturally congruent care for individuals and families. The role and responsibilities of the health care consumer related to disclosure of CAHC use will be described. The role of the healthcare professional as a consumer advocate will be discussed. This course explores definitions, backgrounds, examples, and on-going research of various therapies including the holistic approach to Mind/Body Medicine, Herbs, Traditional Chinese Medicine, Naturopathy, Homeopathy, Spiritual Healing, Acupuncture, Dietary and Nutritional Supplements, and Ayurvedic Medicine.
- HLTH 212 Contemporary Health .....2**  
 Personal health education course which focuses on the health problems facing today's society from birth to death. Emphasis on the knowledge essential in maintaining a healthy lifestyle. Open to all students. Crosslisted with HSC 212.
- HLTH 250 Pre-Professional First Aid and CPR (COM).....2**  
 Instruction of those who are frequently in a position to provide first aid/CPR and emergency care. Provides essential knowledge and skills needed to develop the functional first aid/CPR capabilities required by a basic first responders, including nurses, teachers, athletic trainers, and other special interest groups.
- HLTH 250L Pre-Professional First Aid and CPR Lab (COM) .....0**  
 Accompanies HLTH 250.
- HLTH 251 First Aid and CPR (COM).....1**  
 First aid instruction meeting the requirements of the American Red Cross Responding to Emergencies Standard First Aid Course is given. Safety in everyday living is emphasized, with special consideration given to the kindergarten and elementary school levels.
- HLTH 262 Instructor Course Home Nursing.....1**  
 Workshop of 36 hours in effective methods of teaching home care of the sick. Limited to 14 students. P, consent.

- HLTH 298 Allied Health Technical Training..... 20-48**  
 Designed to facilitate transfer of students who have completed a one or two year regionally or nationally accredited or certified program in an allied health area. The purpose is to provide transfer of previous work into an upward mobility option for students who have a commitment to an allied health profession.
- HLTH 302 Wellness and the Family .....2**  
 Planning for promotion of family health. Open to all students. Crosslisted with HSC 302.
- HLTH 364 Emergency Medical Technician (COM).....4**  
 This course develops skills in symptom recognition in all emergency care procedures and techniques currently considered to be within the responsibilities of an EMT providing emergency medical care with an ambulance service. The EMT course follows state EMS guidelines and ambulance services. The EMT course follows state EMS guidelines and consists of 25 lessons involving a minimum of 80 hours of classroom and field training, plus 10 hours of in-hospital observation and training. Corequisite course HLTH 364L.
- HLTH 364L Emergency Medical Technician Lab (COM) .....0**  
 Accompanies HLTH 364.
- HLTH 420 K-12 Methods of Health Instruction (COM).....2**  
 Curriculum content at elementary and secondary levels. Methods of presentation including direct, correlated, and integrated health instruction. Organization of health and safety education.
- HLTH 443 Public Health Science (G).....3**  
 Study of organization and administration of public and voluntary health agencies. Principle functions and program development in vital statistics, maternal-child health, adult health, sanitation, health education, and special health programs. Introduces the student to public health by describing its history and its bases in sociology, economics, philosophy and government. The relationship of environmental factors to health and illness is examined. The course will provide the student with an understanding of administrative and political processes of operation of health agencies by examining traditional and new innovative programs of federal, state and local health agencies. Cost-benefit, cost-effectiveness, and risk assessment are addressed as in the relationship of public law and policies to the delivery of health care. Crosslisted with HSC 443.
- HLTH 445 Epidemiology .....3**  
 This course provides information on the epidemiological concepts, principles, and methods for understanding the distribution and determinants of selected diseases, conditions and indices of health in control and evaluation are analyzed. P, junior or senior standing or consent of the instructor. Crosslisted with HSC 445.
- HLTH 479 Health Promotion Programming and Evaluation .....2**  
 Practical skills of a worksite and community wellness professional will be investigated. Topics include a definition of worksite wellness, rationale for programs, types of programs, design, promotion, evaluation, marketing. P, instructor consent. Corequisite course HLTH 479L.
- HLTH 479L Health Promotion Programming and Evaluation Lab .....0**  
 Corequisite course HLTH 479.

# HO (Horticulture)

## Undergraduate Courses

<b>HO 111 Introduction to Horticulture.....3</b> Culture and growth processes involved in production of fruit, vegetables, flowers, lawn grasses, trees and shrubs; planning and care of home grounds. Corequisite course HO 111L.	<b>HO 312L Plant Propagation Lab .....0</b> Corequisite course HO 312.
<b>HO 111L Introduction to Horticulture Lab.....0</b> Corequisite course HO 111.	<b>HO 314 Turf Management .....3</b> Maintenance and culture of turfgrass for lawns, parks, golf courses, athletic fields and special purpose turf. P, HO 220, PS 213. Corequisite course HO 314L.
<b>HO 220 Landscape Maintenance .....3</b> 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, HO 111. Corequisite course HO 220L.	<b>HO 314L Turf Management Lab .....0</b> Corequisite course HO 314.
<b>HO 220L Landscape Maintenance Lab.....0</b> Corequisite course HO 220.	<b>HO 383 Principles of Crop Improvement.....3</b> 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. Crosslisted with PS 383. P, PS 103/103L, or HO 111/111L and BIOL 103/103L, or BIOL 153/153L, or BOT 201/201L.
<b>HO 230 Greenhouse and Nursery Crops .....3</b> 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, HO 111. Corequisite course HO 230L.	<b>HO 383L Principles of Crop Improvement Lab.....0</b>
<b>HO 230L Greenhouse and Nursery Crops Lab.....0</b> Corequisite course HO 230.	<b>HO 411 Fruit Crop Production Systems .....3</b> Small fruit and tree fruit culture and management systems. Integrated fruit cropping and pest management systems. Culture, pruning/training, cover crops, pests, economic production. P, HO 111, BOT 201.
<b>HO 240 Vegetable Crops.....3</b> Survey of vegetable crop distribution and production in temperate climates. Topics include site and soil selection, factors affecting plant growth, cultural practices and integrated cropping systems for annual vegetable and herb crops. P, HO 111, BIOL 101, or BIOL 151. Corequisite course HO 240L.	<b>HO 412 Greenhouse Management .....3</b> Greenhouse construction, environmental control, production and scheduling of major greenhouse crops. Trips to commercial greenhouse operations and laboratory work in greenhouse crop production. P, HO 230, HO 311, HO 312, BOT 201, and PS 213, or consent. Corequisite course HO 412L.
<b>HO 240L Vegetable Crops Lab .....0</b> Corequisite course HO 240.	<b>HO 412L Greenhouse Management Lab .....0</b> Corequisite course HO 412.
<b>HO 250 Woody Plants: Trees.....3</b> Nomenclature, identification and classification of hardy coniferous and deciduous trees. Landscape use as affected by inherent ornamental qualities, hardiness, environmental factors, and pests. P, HO 111, BIOL 101. Corequisite course HO 250L.	<b>HO 413 Arboriculture .....3</b> 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, HO 220, HO 250, BOT 201. Corequisite course HO 413L.
<b>HO 250L Woody Plants: Trees Lab .....0</b> Corequisite course HO 250L.	<b>HO 413L Arboriculture Lab.....0</b> Corequisite course HO 413.
<b>HO 260 Woody Plants: Shrubs and Vines .....2</b> Nomenclature, identification, and classification of shrubs and vines hardy for the Northern Plains. P, HO 250 or consent.	<b>HO 415 Nursery Management .....3</b> 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, HO 111, PS 213.
<b>HO 311 Herbaceous Plants .....3</b> Identification, description, landscape uses, propagation, culture and adaptability of selected non-woody ornamental plants with emphasis on annuals, perennials and indoor plants. P, HO 111, BOT 201, or consent. Corequisite course HO 311L.	<b>HO 416 Advanced Turfgrass Science .....3</b> Emphasis will be placed on specific cultural practices of high-intensity turfgrass management, turfgrass stress physiology, pesticide and nutrient fate, golf course construction, and evaluation of products used in the turf industry, including pesticides, plant growth regulators, fertilizers and soil amendments.
<b>HO 311L Herbaceous Plants Lab .....0</b> Corequisite course HO 311.	<b>HO 490 Seminar .....1</b>
<b>HO 312 Plant Propagation .....3</b> Fundamental anatomical and physiological principles and methods of reproducing herbaceous and woody plants by seeds, cuttings, grafts, layers and division. P, HO 111, BOT 201, or consent. Corequisite course HO 312L.	<b>HO 491 Independent Study.....1-2</b>
	<b>HO 494 Internship .....1-12</b>
	<b>HO 496 Field Experience.....1-12</b>
	<b>HO 497 Cooperative Education.....1-12</b>
	<b>HO 498 Undergraduate Research/Scholarship.....1-3</b>

## Dual Listed Courses

HO 480-580 Environmental Stress Physiology .....	3
Physiological and cellular response of plants to environmental stresses. Crosslisted with BIOL 480-580 and PS 480-580. P, BOT 327.	
HO 492-592 Topics .....	1-4

## Graduate Courses

HO 746 Plant Breeding .....	3
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## HON (Honors College)

### Undergraduate Courses

HON 100 Honors College Orientation .....	1
Opportunities and requirements associated with continued participation in the SDSU Honors College will be emphasized along with general university orientation materials.	
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 491 Independent Study (COM) .....	1-6

## HPER (Health, Physical Education and Recreation)

### Graduate Courses

HPER 690 Seminar .....	2
HPER 742 Psychological Aspects of Sport and Exercise .....	3
(may be taught on demand).....	
HPER 745 Sports Medicine (may be taught on demand) .....	2
HPER 760 Motor Learning and Development .....	3
HPER 780 Introduction to Graduate Study and Research.....	1
HPER 783 Research Methods in HPER.....	3
HPER 788 Individual Research and Study in HPER.....	1-3
HPER 791 Independent Study .....	1-3
HPER 795 Practicum.....	1-9
HPER 796 Field Experience.....	1-9
HPER 798 Thesis.....	1-5

## HSC (Health Science)

### Undergraduate Courses

#### HSC 100 First Year Seminar for Health Professionals in the Learning Community .....

1  
 Instruction to introduce students to not only the college environment but also health related professions. The course will focus on engagement in the university experience. Topics covered will include setting goals, discovering campus resources, academic advising, academic requirements, community service, and time management. Includes group discussion, participation in tours of healthcare facilities and panel discussions.

#### HSC 120 Community Health.....

2  
 Discussion based course with the goal of understanding the philosophy and principles of community health. Emphasis on knowledge, attitudes and behaviors utilized in solving community health problems. Open to all students. Crosslisted with HLTH 120.

#### HSC 200 Complementary and Alternative Health Care .....

3  
 This interdisciplinary course introduces complementary and alternative health care (CAHC) practices. This course is designed to explore complementary methods utilized by health care professional and lay persons to provide culturally congruent care for individuals and families. The role and responsibilities of the health care consumer related to disclosure of CAHC use will be described. The role of the healthcare professional as a consumer advocate will be discussed. This course explores definitions, backgrounds, examples, and on-going research of various therapies including the holistic approach to Mind/Body Medicine, Herbs, Traditional Chinese Medicine, Naturopathy, Homeopathy, Spiritual Healing, Acupuncture, Dietary and Nutritional Supplements, and Ayurvedic Medicine.

#### HSC 212 Contemporary Health Problems.....

2  
 Personal health education course which focuses on the health problems facing today's society from birth to death. Emphasis on the knowledge essential in maintaining a healthy lifestyle. Open to all students. Crosslisted with HLTH 212.

#### HSC 253 Disaster Preparedness.....

2  
 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 Course Home Nursing.....

1  
 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  
 Overview of health promotion as applied to the family throughout all stages of development. Planning for promotion of family health. Open to all students. Crosslisted with HLTH 302.

#### HSC 420 Methods of Health Instruction.....

2  
 Curriculum content and methods in health education. Emphasis on elementary and secondary. Demonstration of teaching strategies. Organization of health/safety education. The course will present an overview of the need for health education in schools as well as the teacher's role in promoting health instruction. Included will be strategies for planning, implementing, and evaluating health education for grades K-12. Students will also be introduced to useful academic and community resources. Crosslisted with HLTH 420.

#### HSC 432 Occupational Health .....

<b>HSC 443 Public Health Science (G)</b> .....	<b>3</b>
Study of organization and administration of public and voluntary health agencies. Principle functions and program development in vital statistics, maternal-child health, adult health, sanitation, health education, and special health programs. Introduces the student to public health by describing its history and its bases in sociology, economics, philosophy and government. The relationship of environmental factors to health and illness is examined. The course will provide the student with an understanding of administrative and political processes of operation of health agencies by examining traditional and new innovative programs of federal, state and local health agencies. Cost-benefit, cost-effectiveness, and risk assessment are addressed as is the relationship of public law and policies to the delivery of health care. Crosslisted with HLTH 443.	
<b>HSC 445 Epidemiology</b> .....	<b>3</b>
The course provides information on the epidemiological concepts and methods needed to understand the description of the occurrence of health outcomes, and the identification of risk factors for health outcomes in human populations. P, junior or senior standing or consent of instructor. Crosslisted with HLTH 445.	
<b>HSC 490 Seminar (AW)</b> .....	<b>1-4</b>
<b>HSC 493 Workshop</b> .....	<b>1-4</b>
<b>HSC 494 Internship (COM)</b> .....	<b>1-12</b>
<b>HSC 496 Field Experience</b> .....	<b>1-12</b>
<b>HSC 497 Cooperative Education</b> .....	<b>1-12</b>

## Dual Listed Courses

<b>HSC 433-533 Occupational Health</b> .....	<b>3</b>
Occupational Health is a survey course dealing with health concerns in the workplace and the scope, objectives, and functions of occupational programs. Work related injuries and diseases and the effects of harmful exposure to chemical and physical agents which cause discomfort, stress, inefficiency or disease are examined. Emphasis is placed on preventative measures and early intervention to assure a reasonable, healthful work environment.	

## ID (Interior Design)

### Undergraduate Courses

<b>ID 150 Introduction to Interior Design I</b> .....	<b>4</b>
Introduction to visual communication, design and color theory, design fundamentals, and human factors. Basic hand techniques will introduce design theories and how to represent them in a graphic format. Corequisite course ID 150L.	
<b>ID 150L Introduction to Interior Design I Studio</b> .....	<b>0</b>
Corequisite course ID 150.	
<b>ID 151 Introduction to Interior Design II</b> .....	<b>4</b>
Introduction to the design process and other theories in design such as functionalism, interior ecosystems, etc. with the application of visual communication skills to the design process. P, ID 150. Corequisite course ID 151L.	
<b>ID 151L Introduction Interior Design II Studio</b> .....	<b>0</b>
Corequisite course ID 151.	

<b>ID 215 Materials</b> .....	<b>3</b>
Study of the characteristics of interior finishes and furnishings that includes textile history, resources, environmental issues, selection and installation. Design projects focused on material selection and application for interior design. P, AM 242. Corequisite ID 215L.	
<b>ID 215L Materials Studio</b> .....	<b>0</b>
Corequisite ID 215.	
<b>ID 222 Interior Design Studio I</b> .....	<b>3</b>
Introduction to small scale interior design spaces and the appropriate visual communication skills. P, ID 151/151L and ART 121.	
<b>ID 223 Interior Design Studio II</b> .....	<b>3</b>
Exploring interior spaces using the design process. Visual communication skills will be expanded into presentations appropriate for clients and other professionals. P, ID 222.	
<b>ID 224 History of Interiors</b> .....	<b>4</b>
Historical backgrounds in architecture and interiors: Antiquity to present.	
<b>ID 231 Computer Aided Design</b> .....	<b>2</b>
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. P, ID 122.	
<b>ID 292 Topics</b> .....	<b>1-3</b>
<b>ID 317 Professional Practices in Interior Design</b> .....	<b>2</b>
Study of professional practices of interior design firms and review of practicum manual.	
<b>ID 319 Building Systems I</b> .....	<b>2</b>
Examination of the methodology of construction to understand how various building systems are organized. Understanding the levels and coordination required of the building trades: structural, mechanical, electrical, and architectural. P, ID 215. Corequisite course ID 319L.	
<b>ID 319L Building Systems I Studio</b> .....	<b>0</b>
Corequisite course ID 319.	
<b>ID 320 Lighting and Acoustics</b> .....	<b>2</b>
Issues and factors about the effects of lighting and acoustics on interior spaces. Fundamentals of lighting and acoustics are investigated through use of models and study of theory. Preparation of lighting plans and specifications. P, ID 231. Corequisite course ID 320L.	
<b>ID 320L Lighting and Acoustics Lab</b> .....	<b>0</b>
Corequisite course ID 320.	
<b>ID 322 Interior Design Studio III (AW)</b> .....	<b>4</b>
Introduction to the design process, developing skills specifying materials for interiors. Application of design theory to practical situations. P, ID 223, ID 231.	
<b>ID 323 Interior Design Studio IV</b> .....	<b>4</b>
Development of the basic knowledge and skills needed to specify materials for interiors. P, ID 322.	
<b>ID 329 Building Systems II</b> .....	<b>2</b>
Study and application of disability standards and life safety standards, and how they relate to building systems and technologies. Practice specification writing in response to finishes and material flammability requirements. P, ID 319. Corequisite course ID 329L.	
<b>ID 329L Building Systems II Studio</b> .....	<b>0</b>
Corequisite course ID 329.	



<b>ID 422 Interior Design Studio V</b> .....	<b>4</b>
Experience in solving commercial design problems within the frame of a business. P, ID 323, ID 329/329L.	
<b>ID 423 Interior Design Studio VI</b> .....	<b>4</b>
Experience in solving design problems of commercial and contract interiors. P, ID 422.	
<b>ID 462 Retailing</b> .....	<b>3</b>
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. Crosslisted with AM 462.	
<b>ID 477 Portfolio and Senior Exhibit</b> .....	<b>2</b>
Discussion of professional practice and issues. Revision and extension of portfolio materials in job-seeking. Corequisite course ID 422, ID 477L.	
<b>ID 477L Portfolio and Senior Exhibit Studio</b> .....	<b>0</b>
Corequisite course ID 477.	
<b>ID 487 Pre-Practicum Interior Design and Housing</b> .....	<b>1</b>
Organization and preparation of professional documents. Examination of practicum handbook. Experiences in goal setting, reporting, and evaluation.	
<b>ID 490-590 Seminar</b> .....	<b>1-3</b>
<b>ID 495 Practicum</b> .....	<b>1-7</b>
P, ID 317.	
<b>ID 498 Undergraduate Research/Scholarship</b> .....	<b>1-3</b>

### Dual Listed Courses

<b>ID 480-580 Travel Studies</b> .....	<b>1-5</b>
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.	
<b>ID 491-591 Independent Study</b> .....	<b>1-3</b>
<b>ID 492-592 Topics</b> .....	<b>1-3</b>

## INED (Indian Education)

### Dual Listed Courses

<b>INED 411-511 South Dakota Indian Studies (COM)</b> .....	<b>3</b>
A basic knowledge of Indian history with emphasis on the Lakota, Dakota, and Nakota speaking people. Current cultural issues are presented including values, family structures, traditional religion, fine arts, legends, economics, governmental policies, treaties, acts and related areas. Focuses on teaching methods, content and materials to equip students to teach bi-culturally. Crosslisted with AIS 421 and ANTH 421-521. Fulfills Teacher Education requirement. Equivalent to AIS 368 and HIST 368.	

## LA (Landscape Architecture)

### Undergraduate Courses

<b>LA 120 Fundamentals of Landscape Graphics</b> .....	<b>2</b>
Provides the foundation for landscape graphic communication through both technical and conceptual standards. Topics include: the principles of landscape drafting, free hand sketching and visualization, graphic symbol communication, and an introduction to the professional graphic production process.	
<b>LA 201 Introduction to Landscape Design</b> .....	<b>3</b>
A survey of the field of Landscape Design and Environmental Planning. Introduction to conceptual aspects of the discipline with a focus on landscape appreciation, environmental problems of land use, conservation, landscape design and planning, and land ethics and stewardship.	
<b>LA 231 Computer Applications in Landscape Architecture</b> .....	<b>3</b>
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, GE 123 or consent.	
<b>LA 241 History of Landscape Architecture</b> .....	<b>3</b>
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.	
<b>LA 284 Landscape Graphics and Theory of Design</b> .....	<b>4</b>
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, LA 120 or consent.	
<b>LA 314 Landscape Design Studio</b> .....	<b>4</b>
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.	
<b>LA 322 Landscape Site Engineering</b> .....	<b>3</b>
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, LA 314; AST 333 or CM 210.	
<b>LA 323 Landscape Construction</b> .....	<b>3</b>
Design and construction of walks, terraces, fences, walls, pools, and other landscape structures and systems. P, LA 314.	
<b>LA 324 Planning Public Grounds</b> .....	<b>3</b>
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, LA 284. Corequisite course LA 324L.	
<b>LA 324L Planning Public Grounds Lab</b> .....	<b>0</b>
Corequisite course LA 324.	
<b>LA 332 Residential Landscape Design</b> .....	<b>3</b>
Advanced theory and practice of residential design focusing on indoor-outdoor relationships, regional and functional design styles, and the works of famous designers. P, LA 284 or consent.	



<b>LA 364 Planting Design and Specifications</b> .....	<b>4</b>
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, LA 314 or consent.	
<b>LA 421 City Planning</b> .....	<b>3</b>
City planning in the United States, planning practice and theory, urban design, and land use planning. Local planning efforts observed. P, LA 322, LA 324. Corequisite course LA 421L.	
<b>LA 421L City Planning Lab</b> .....	<b>0</b>
Corequisite course LA 421.	
<b>LA 423 Construction Specifications</b> .....	<b>2</b>
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, LA 323 or consent. Corequisite course 423L.	
<b>LA 423L Construction Specifications Lab</b> .....	<b>0</b>
Corequisite course 423.	
<b>LA 424 Recreational Facilities Design</b> .....	<b>3</b>
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, LA 364 or consent. Corequisite course LA 424L.	
<b>LA 424L Recreational Facilities Design Lab</b> .....	<b>0</b>
Corequisite course LA 424.	
<b>LA 440 Restoration Ecology</b> .....	<b>4</b>
Scientific principles involved in restoration of natural ecosystems on degraded and disturbed lands. An understanding of ecological principles is recommended prior to enrollment. Crosslisted with BIOL 440. Corequisite course LA 440L.	
<b>LA 440L Restoration Ecology Lab</b> .....	<b>0</b>
Corequisite course LA 440.	
<b>LA 442 Landscape Design III</b> .....	<b>3</b>
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, LA 314 or consent.	
<b>LA 464 Landscape Professional Practicum Studio</b> .....	<b>4</b>
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. P, senior standing.	
<b>LA 491 Independent Study</b> .....	<b>1-2</b>
<b>LA 492 Topics</b> .....	<b>1-4</b>
<b>LA 494 Internship</b> .....	<b>1-12</b>
<b>LA 497 Cooperative Education</b> .....	<b>1-12</b>
<b>LA 498 Undergraduate Research/Scholarship</b> .....	<b>1-3</b>

## Graduate Courses

<b>LA 560 Landscape Ecology</b> .....	<b>4</b>
<b>LA 560L Landscape Ecology Lab</b> .....	<b>0</b>

## LAKL (Lakota Language)

### Undergraduate Courses

<b>LAKL 101 Introductory Lakota I (COM)</b> .....	<b>4</b>
An introduction to the Lakota language with emphasis on basic conversation, language structure, and vocabulary. Crosslisted with AIS 101.	
<b>LAKL 102 Introductory Lakota II (COM)</b> .....	<b>4</b>
A continued introduction to the Lakota language with emphasis on basic conversation, language structure, and vocabulary. Crosslisted with AIS 102. P, AIS 101 OR LAKL 101 or consent of instructor.	
<b>LAKL 201 Intermediate Lakota I (COM)</b> .....	<b>3</b>
A continuation of the first-year course, with emphasis on reading, composition, and vocabulary building. Crosslisted with AIS 201. P, AIS 101 and AIS 102 or LAKL 101 and LAKL 102 or consent of instructor.	
<b>LAKL 202 Intermediate Lakota II (COM)</b> .....	<b>3</b>
A continuation of intermediate Lakota with emphasis on reading, composition, vocabulary building and the oral tradition. Crosslisted with AIS 202. P, LAKL 101 and LAKL 102, or AIS 101 and AIS 102, or consent of instructor.	

## LAS (Latin American Studies)

### Undergraduate Courses

<b>LAS 301 Latin American Cultures</b> .....	<b>3</b>
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 LAS program. Enrollment limited to 20.	
<b>LAS 302 Latin American Societies</b> .....	<b>3</b>
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 LAS Coordinator.	
<b>LAS 491 Independent Study</b> .....	<b>1-3</b>

## LING (Linguistics)

### Undergraduate Courses

<b>LING 203 English Grammar</b> .....	<b>3</b>
Instruction in the theory and practice of traditional grammar including the study of parts of speech, parsing, and practical problems in usage.	

### Dual Listed Courses

<b>LING 420-520 The New English</b> .....	<b>3</b>
Diverse new theories and applications in English linguistics: lexicography, pragmatics, stylistics, socio-semantics, semiotics, and discourse theory.	
<b>LING 425-525 The Structure of English</b> .....	<b>3</b>
Use of traditional, structural, and transformational grammars for describing the English language. Practical application in teaching. Strongly recommended for majors planning to teach.	

**LING 443-543 Development of the English Language** .....3  
 Historical survey of phonology, grammar, syntax, and lexicon of English leading to an understanding of the present state of the language and future developments.

**LING 452-552 General Semantics** .....3  
 Relations between symbols; human behavior in reaction to symbols including unconscious attitudes, linguistics assumptions; and the objective systematization of language. Crosslisted with SPCM 552.

**LING 460-560 Applied Linguistics in Teaching English as a Second Language**.....3  
 The study of social and linguistic structures which undergird different discourse forms. Emphasis will be on discourse forms which are particularly important for full participation in U.S. culture such as the rhetoric of public and school interactions. P, instructor's permission. Crosslisted with EDFN 460-560.

## **LMNO (Leadership and Management of Nonprofit Organizations) Undergraduate Courses**

**LMNO 201 Introduction to Leadership and Management of Nonprofit Organizations** .....3  
 The course provides a basic understanding of the nonprofit sector and the role of philanthropy in the United States. It introduces students to the history, philosophy, ethics, and organization of nonprofit and social service agencies, and the roles of a human service professional in the nonprofit field.

**LMNO 291 Independent Study**.....1-3

**LMNO 292 Topics** .....1-3

**LMNO 491 Independent Study**.....1-3

**LMNO 492 Topics** ..... 1-3

**LMNO 495 Practicum** .....1-8

## **MAST**

**MAST 692 Topics for Mathematics Educators** .....1-12

## **MATH (Mathematics)**

### **Undergraduate Courses**

**MATH 021 Basic Algebra (COM)**.....3  
 This course prepares students for college level mathematics. Topics generally include: basic properties of real numbers, exponents and radicals, rectangular coordinate geometry, solutions to linear and quadratic equations, inequalities, polynomials, and factoring. Students may also be introduced to functions and systems of equations. Note: This is a remedial level course and no credit for MATH 021 will be granted for graduation.

**MATH 101 Intermediate Algebra (COM)** .....3  
 Basic properties of real numbers, linear equations and inequalities, quadratic equations, systems of equations, polynomials and factoring, rational expressions and equations, and radical expressions and equations, and an introduction to functions such as polynomial, exponential and logarithmic functions. Credit for MATH 101 will not be granted to anyone who has previously received credit for MATH 102 or MATH 115. P, MATH 021 or placement.

**MATH 102 College Algebra (COM)** .....3  
 Equations and inequalities; polynomial functions and graphs, exponents, radicals, binomial theorem, zeros of polynomials; systems of equations; exponential, logarithmic, and inverse functions, applications and graphs. Other topics selected from sequences, series, and complex numbers. P, grade of 'C' or better in MATH 101 or placement.

**MATH 104 Finite Mathematics (COM)** .....4  
 This course includes: linear systems of equations, matrices, linear programming, mathematics of finance, probability, statistics, and other topics. This course cannot be used as the prerequisite for courses requiring MATH 102. P, MATH 101 or placement.

**MATH 115 Precalculus (COM)** .....5  
 A preparatory course for the calculus sequence. Topics include: polynomial, rational, exponential, logarithmic and trigonometric functions and their graphs; systems of equations, inequalities and complex numbers. P, MATH 101 or placement.

**MATH 120 Trigonometry (COM)**.....3  
 Topics include: trigonometric functions, equations, and identities; inverse trigonometric functions; exponential and logarithmic functions, and applications of these functions. P, MATH 102 or placement.

**MATH 121 Survey of Calculus (COM)** .....4  
 A survey of calculus including an intuitive approach to limits, continuity, differentiation, and integration with an emphasis on applications of the derivative and the integral as well as topics from multivariable calculus. P, MATH 102 or MATH 115 or placement. Corequisite course MATH 121L.

**MATH 121L Survey of Calculus Applications Lab**.....1  
 A lab which supplements Math 121 and provides the opportunity to study applications in more detail. Corequisite course MATH 121.

**MATH 123 Calculus I (COM)**.....4  
 The study of limits, continuity, derivatives, applications of the derivative, antiderivatives, the definite and indefinite integral, and the fundamental theorem of calculus. P, MATH 102 and MATH 120, or MATH 115, or placement.

**MATH 123L Calculus I Lab (COM)** .....1  
 A lab which supplements MATH 123 and provides the opportunity to study applications in more detail. Corequisite course MATH 123.

**MATH 125 Calculus II (COM)** .....4  
 A continuation of the study of calculus, including the study of sequences, series, polar coordinates, parametric equations, techniques of integration, applications of integration, indeterminate forms, and improper integrals. P, MATH 123.

**MATH 141 Survey of Mathematics** .....3  
 To give the students in social science and liberal arts an appreciation of the nature of mathematics. An introduction to the logical structure of mathematics and its application to modern life, including such topics as logic, number systems, geometry, probability, statistics, and consumer mathematics. P, 1 unit of high school algebra. Instructor's consent required.

<b>MATH 215 Matrix Algebra</b> .....2	<b>MATH 355 Methods of Teaching Mathematics</b> .....3
An introduction to systems of linear equations, matrices, and determinants with applications to linear mathematical problems. P, MATH 115 or MATH 123 or consent.	Techniques, materials and resources for teaching mathematics to junior high school and high school students. Required of majors and minors planning to teach. May not be used for upper division math elective for majors not in Secondary Teaching Option. P, MATH 125, MATH 261, SEED 287. Corequisite course MATH 355L.
<b>MATH 225 Calculus III (COM)</b> .....4	<b>MATH 355L Methods of Teaching Mathematics Lab</b> .....0
A continuation of the study of calculus, including an introduction to vectors, vector calculus, partial derivatives, and multiple integrals. P, MATH 125.	Corequisite course MATH 355.
<b>MATH 241 Mathematics of Finance (COM)</b> .....3	<b>MATH 361 Modern Geometry (COM)</b> .....3
Topics include simple and compound interest including annuities, amortization, sinking funds, valuation of bonds, depreciation and capitalized cost. P, MATH 102 or 115 or 120 or 121 or 123 or 125 or 281 or consent.	In this course topics will be chose from: axiomatic systems, finite geometries, Euclidean plane geometry, transformational geometry, three dimensional geometry, and non-Euclidean geometries. P, MATH 125.
<b>MATH 253 Elementary Logic and Sets</b> .....3	<b>MATH 373 Introduction to Numerical Analysis (COM)</b> .....3
Logical connectives, quantifiers, arguments, and proof. Set operations, index sets, relations, functions, cardinality, and mathematical induction. P, MATH 123.	This course is an introduction to numerical methods. Topics include elementary discussion of errors, polynomial interpolation, quadrature, non-linear equations, and systems of linear equations. The algorithmic approach and efficient use of the computer will be emphasized. P, MATH 125, and CSC 150 or CSC 213.
<b>MATH 261 Geometry for Teachers</b> .....3	<b>MATH 381 Introduction to Probability and Statistics (COM)</b> .....3
Axiomatic development of Euclidean and other geometries, coordinate geometry in two or three dimensions, transformational geometry, and informal Non-Euclidean geometry. Required of majors and minors planning to teach. P, MATH 125 and SEED 287, or EDFN 338, or consent.	Introduction to probability theory, discrete and continuous distributions, sampling distributions and the Central Limit Theorem with general principles for statistical inference and applications of random sampling to hypothesis testing, confidence limits, correlation, and regression. P, MATH 125.
<b>MATH 271 Math Applications with Computers</b> .....2	<b>MATH 392 Topics (COM)</b> .....1-5
Problems from college algebra, precalculus and calculus are revisited numerically with the aid of current software packages. P, MATH 123.	<b>MATH 401 Senior Capstone and Advanced Writing (AW)</b> .....1
<b>MATH 281 Introduction to Statistics (COM)</b> .....3	Two semester course: In the first semester, students will carry out activities which are designed to refresh mathematics skills and develop skills such as research, writing, and presenting which will prepare them for the second semester in which they will write a major paper under faculty supervision and give a presentation based on that paper.
A study of descriptive statistics including graphs, measures of central tendency and variability and an introduction to probability theory, sampling and techniques of statistical inference with an emphasis on statistical applications. P, MATH 102 or MATH 115.	<b>MATH 411 Theory of Numbers (COM)</b> .....3
<b>MATH 292 Topics (COM)</b> .....1-5	Properties of integers, divisibility, primes, congruencies, Diophantine equations, quadratic residues, continued fractions and the distribution of primes. P, MATH 125.
<b>MATH 315 Linear Algebra (COM)</b> .....3	<b>MATH 413 Abstract Algebra I (COM)</b> .....3
Course topics include: the theory and applications of systems of linear equations, matrices, determinants, vector spaces, linear transformations and applications. P, MATH 225, or MATH 215 and MATH 253.	Introduction to the theory and applications of algebraic structures including groups, rings, and fields. P, MATH 253 or MATH 315 or MATH 316.
<b>MATH 316 Discrete Mathematics (COM)</b> .....3	<b>MATH 414 Abstract Algebra II (COM)</b> .....3
Selected topics from Boolean algebra, set theory, logic, functions and relations, difference equations, recurrence relations, application of algorithms, finite graphs, trees, paths and modeling. P, MATH 125, or MATH 215 and MATH 253.	This is a continuation of topics from MATH 413. P, MATH 413.
<b>MATH 321 Differential Equations (COM)</b> .....3	<b>MATH 425 Real Analysis I (COM)</b> .....3
Selected topics from ordinary differential equations including development and applications of first order, higher order linear and systems of linear equations, general solutions and solutions to initial-value problems using matrices. Additional topics may include Laplace transforms and power series solutions. P, MATH 125.	Properties of real numbers, sequences, and series of real numbers, limits of functions, uniform continuity, differentiation, sequences and series of functions, uniform convergence, and theories of integration. Extensions of $R^n$ may be considered. P, MATH 225.
<b>MATH 327 Calculus of Several Variables</b> .....3	<b>MATH 426 Real Analysis II (COM)</b> .....3
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, MATH 215, MATH 225 or consent.	This is continuation of MATH 425. P, MATH 425.
<b>MATH 331 Advanced Engineering Mathematics</b> .....3	<b>MATH 433 Laplace Transform</b> .....3
Fourier series, vector analysis, matrices, determinants, and topics selected from: complex variables, partial differential equations, numerical methods. P, MATH 321.	Main features of Laplace transform theory. P, MATH 321 or consent.
	<b>MATH 450 History of Mathematics (COM)</b> .....3
	A general presentation of historical topics in mathematics including contributions to mathematics from ancient civilizations; developments leading to the creation of modern geometries, calculus and modern algebra; and contributions of outstanding mathematicians. P, MATH 125.

MATH 494 Internship (COM).....	1-6
MATH 496 Field Experience.....	1-6
MATH 497 Cooperative Education.....	1-6
MATH 498 Undergraduate Research/Scholarship (COM).....	1-6

### Dual Listed Courses

MATH 423-523 Advanced Calculus I (COM).....	3-4
A theoretical treatment of Calculus that covers: limits; continuity and differentiability of functions of a single variable and of several variables; convergence of sequences and series; integration; and applications. P, MATH 225.	
MATH 424-524 Advanced Calculus II (COM).....	3
This is a continuation of MATH 423. P, MATH 423.	
MATH 430-530 Fractals and Chaos.....	3
An introduction to the mathematics of fractals and chaos at two levels. Non-calculus based classroom activities suited for secondary students are introduced using inexpensive, easy-to-use software. Concepts are then investigated more deeply with calculus-based techniques. P, MATH 123.	
MATH 461-561 Introduction to Topology (COM).....	3
Introduction to topological and metric spaces with specific emphasis on topology of the real line. P, MATH 225.	
MATH 471-571 Numerical Analysis I (COM).....	3
Analysis of rounding errors, numerical solutions of nonlinear equations, numerical differentiation, numerical integration, interpolation and approximation, numerical methods for solving linear systems. P, MATH 225.	
MATH 490-590 Seminar (COM).....	1
MATH 491-591 Independent Study (COM).....	1-4
MATH 492-592 Topics (COM).....	1-6

### Graduate Courses

MATH 566 Projective Geometry.....	3
MATH 672 Numerical Analysis.....	3
MATH 716 Theory of Algebraic Structures I.....	3
MATH 717 Theory of Algebraic Structures II.....	3
MATH 726 Real Variables I.....	3
MATH 727 Real Variables II.....	3
MATH 728 Complex Variables I.....	3
MATH 729 Complex Variables II.....	3
MATH 731 Ordinary Differential Equations.....	3
MATH 732 Partial Differential Equations.....	3
MATH 770 Numerical Linear Algebra.....	3
MATH 780 Advanced Mathematics.....	1-18
MATH 784 Applied Probability Theory.....	3
MATH 788 Research Paper.....	1-2
MATH 790 Seminar.....	1

MATH 791 Independent Study.....	1-3
MATH 792 Topics.....	1-3
MATH 798 Thesis.....	1-7

## MCOM (Journalism and Mass Communication)

### Undergraduate Courses

MCOM 130 Introduction to Electronic Media (COM).....	3
Includes the history, process, structure, regulation, economics, programming, public responsibilities, and impact on society of electronic media.	
MCOM 151 Introduction to Mass Communication (COM).....	2
A comprehensive look at the mass media in the United States and the world. Includes discussions of newspapers, magazines, radio, television, books, movies, recordings, advertising and public relations. Also studies mass media rights and responsibilities, ethics and censorship.	
MCOM 155 Information Gathering.....	2
An introduction to the basics of gathering information ethically and legally from a variety of sources and analyzing and presenting information in a journalistic format.	
MCOM 161 Fundamentals of Desktop Publishing (COM).....	3
Fundamental design principles, techniques, and technology of electronic layout and production.	
MCOM 161L Fundamentals of Desktop Publishing Studio (COM).....	0
Accompanies MCOM 161.	
MCOM 210 Basic Newswriting (COM).....	3
Introduces students to gathering, evaluating and writing news. P, ENGL 101.	
MCOM 210L Basic Newswriting Studio (COM).....	0
Accompanies MCOM 210. Corequisite course MCOM 210.	
MCOM 220 Introduction to Digital Media.....	2
An introduction to the basics of digital imagery and design for the news media. Corequisite course MCOM 220L.	
MCOM 220L Introduction to Digital Media Studio.....	0
Hands-on application of the basics of news media digital communication. Corequisite course MCOM 220.	
MCOM 225 Introduction to Digital Delivery.....	2
An introduction to the basics of digital audio and video for the news media. Corequisite course MCOM 225L.	
MCOM 225L Introduction to Digital Delivery Studio.....	0
Hands-on application of the basics of news media digital audio and video. Corequisite course MCOM 225.	
MCOM 265 Basic Photography (COM).....	2-3
Beginning camera and darkroom techniques, including processing, printing, and digitizing black and white photographs. Survey of the field of photography and its uses.	
MCOM 265L Basic Photography Studio (COM).....	0
Accompanies MCOM 265.	
MCOM 266 Photojournalism (COM).....	2
Photography as it relates to the media and the public. Emphasis on the content and design of photo essays, legal and ethical aspects of photography. P, MCOM 265, or MCOM 161 and MCOM 210.	

<b>MCOM 266L Photojournalism Studio (COM)</b> .....0 Accompanies MCOM 266.	<b>MCOM 340 Broadcast Announcing and Performance</b> .....3 Junior-level required course that emphasizes presentations before cameras and microphones. This includes the fundamentals of voice and articulation for effective on-air performance on both radio and television. Other topics addressed are audience perception, delivery styles and on-camera appearance. Corequisite: MCOM 340L. P, MCOM and MEPR Majors only.
<b>MCOM 311 News Editing (COM)</b> .....3 The evaluation and editing of news stories, with an examination of editing problems, copy reading techniques, page makeup and design, headlines, picture usage, legal and ethical issues. P, MCOM 210.	<b>MCOM 340L Broadcast Announcing and Performance Lab</b> .....0 Junior-level required course where students practice delivery and announcing techniques in a lab setting. Corequisite: MCOM 340. P, MCOM and MEPR Majors only.
<b>MCOM 311L Editing Lab (COM)</b> .....0 Comprehensive experience in a laboratory setting with editing techniques. Students work with associated press wire service copy, electronic page design and layout techniques, picture editing and page composition. Corequisite course MCOM 311.	<b>MCOM 365 Advanced Photography (COM)</b> .....2-3 Exploration of photojournalism and electronic photojournalism. Emphasis on putting together a professional photojournalism portfolio including black and white and color. P, MCOM 265.
<b>MCOM 313 Publicity Methods</b> .....2 Newswriting, organizing publicity campaigns, press relations. (Cannot be taken for credit by journalism majors.)	<b>MCOM 365L Advanced Photography Studio (COM)</b> .....0 Accompanies MCOM 365.
<b>MCOM 314 Sales, Promotion and Marketing</b> .....3 Promotion, sales, advertising, circulation, practices and theories of marketing in advertising and graphic arts.	<b>MCOM 370 Advertising Principles (COM)</b> .....3 Study of advertising as an institution. Discussion of historical foundations, economics, social consequences, structure, planning, execution and evaluation phases of the advertising process. Discussion of advertising as it relates to other types of marketing communication.
<b>MCOM 316 Magazine Writing and Editing</b> .....3 Includes overview of the magazine industry, how to write and submit freelance articles. Students write and submit articles for publication and edit a departmental magazine	<b>MCOM 371 Advertising Copy and Layout (COM) (AW)</b> .....3 Discussion of principles and techniques for developing creative campaigns. Laboratory assignments apply thinking, design, and writing skills to creative problems for different media and different targets. Encompasses creative development for all advertising media. P, MCOM 370.
<b>MCOM 330 Writing for Electronic Media (COM)</b> .....3 Preparation of continuities such as commercials, public service announcements, talks, interviews, drama, documentaries, and educational programs.	<b>MCOM 371L Advertising Copy and Layout Studio (COM)</b> .....0 Accompanies MCOM 371.
<b>MCOM 330L Writing for Electronic Media Lab (COM)</b> .....0 Accompanies MCOM 330.	<b>MCOM 372 Advertising Media Strategies</b> .....3 Learn theory and fundamentals of evaluating advertising media. Analyze marketing variables, media characteristics, sources and strategies. Use computer planning models. Assigned range of planning problems and develop media plan within an integrated marketing framework. P, MCOM 370.
<b>MCOM 331 Video Production (COM)</b> .....3 Includes preparation and presentation of talks, interviews, discussion and extension and community services for broadcast.	<b>MCOM 372L Advertising Media Strategies Studio</b> .....0 Hands-on application of advertising media strategies. Corequisite: MCOM 372. P, written consent of instructor.
<b>MCOM 331L Video Production Lab (COM)</b> .....0 Accompanies MCOM 331.	<b>MCOM 410 Advanced Reporting (COM)</b> .....3 Political, scientific, and social issues in in-depth reporting for magazines and newspapers.
<b>MCOM 332 Broadcast Writing and Reporting</b> .....3 Radio news reporting, writing, editing and producing. Lab practice in writing, audio tape, and delivery. Crosslisted with MEPR 332. P, MCOM 210 for majors; MEPR 330 for others. Corequisite course MCOM 332L.	<b>MCOM 412 Advanced Editing Lab</b> .....1 Advanced editing and production Elective for all majors.
<b>MCOM 332L Broadcast Writing and Reporting Studio</b> .....0 Corequisite course MCOM 332.	<b>MCOM 413 Computer Assisted Information Gathering</b> .....2 Use of computers to gather information online for journalists and to analyze data. Corequisite course MCOM 413L.
<b>MCOM 333 Television News Reporting</b> .....3 TV news videography, reporting, writing and video editing. Lab practice with videotape. Crosslisted with MEPR 333. P, MCOM/MEPR 331, 332, or consent. Corequisite course MCOM 333L.	<b>MCOM 413L Computer Assisted Information Studio</b> .....0 Corequisite course MCOM 413.
<b>MCOM 333L Television News Reporting Studio</b> .....0 Corequisite course MCOM 333.	<b>MCOM 433 Advanced TV News Reporting (AW)</b> .....3 In-depth analysis of television news reporting, writing, videography and video editing techniques. Major emphasis on out of class assignments. P, MCOM/MEPR 331 or 332 or 333, or consent. Corequisite course MCOM 433L.
<b>MCOM 335 Broadcast Programming</b> .....3 Program types and essentials of effective structure. Audience characteristics and preferences. Managerial problems. Special consideration of agricultural, commercial, and educational broadcast requirements. Crosslisted with MEPR 335.	<b>MCOM 433L Advanced TV News Reporting Studio</b> .....0 Corequisite course MCOM 433.

**MCOM 438 Public Affairs Reporting (COM) (AW)**.....3  
 Covering and writing news on legislation, public policy, and social issues at the local, county, and state level. Includes discussion of freedom of information guidelines. P, MCOM 210.

**MCOM 438L Public Affairs Reporting Studio (COM)**.....0  
 Accompanies MCOM 438. Corequisite course MCOM 438.

**MCOM 442 Integrated Marketing Communication (COM)**.....3  
 The capstone course of the advertising sequence. Use case study method and develop complete integrated communication plan for client. Make formal advertising campaign presentation.

**MCOM 442L Integrated Marketing Communication Campaigns Studio** .....0  
 Hands-on application of integrated marketing communication campaigns. Corequisite course MCOM 442.

**MCOM 470 Advertising Design** .....3  
 A studio course in advertising design with an emphasis on concept development, graphic design, research, organization and presentation. (For advertising majors-crosslisted as ARTD 465.)

**MCOM 472 Media Research and Planning (COM)** .....3  
 This course develops the ability to conduct and analyze advertising and media research, and to prepare and execute a comprehensive consumer or audience plan.

**MCOM 489 Portfolio Production and Design (COM)** .....1-3  
 Planning, creation, and production of portfolios for a variety of purposes.

**MCOM 489L Portfolio Production and Design Studio** .....0  
 Hands-on application of portfolio production and design. Corequisite: MCOM 489. P, MCOM 371.

**MCOM 490 Seminar (COM)**.....1

**MCOM 491 Independent Study (COM)**.....1-4

**MCOM 494 Internship (COM)**..... 1-12

**Dual Listed Courses**

**MCOM 405-505 Theories of Communications** .....3  
 Major theories of communication, including media and interpersonal communication.

**MCOM 406-506 Public Opinion and Propaganda** .....3  
 Formation and measurement of public opinion; role of the media; propaganda techniques, agencies, theories. P, senior standing, consent.

**MCOM 415-515 Opinion Writing** .....2  
 Opinion function of periodicals; great editorials and editorial writers; writing editorials; shaping policy.

**MCOM 416-516 Mass Media in Society (G)**.....3  
 Rights and responsibilities of the press; relation of the media to individuals and society; role of media in a free society.

**MCOM 417-517 History of Journalism (G)** .....3  
 Development, impact and importance of individual journalists and media in U.S.

**MCOM 419-519 Women in Media** .....3  
 This course examines contributions of women to the mass media from colonial era to present. It also studies the portrayal of women by the news media and by advertising, and it studies the roles currently played by women in the media and in supporting areas of advertising and public relations. Crosslisted with WMST 419.

**MCOM 430-530 Media Law (COM)** .....3  
 Study of the sources, processes, content and application of law and regulation in the mass communication context and of the ethics of communications practitioners.

**MCOM 437-537 Educational and Corporate TV** .....3  
 Preparation, presentation of educational and instructional materials for radio, TV, and film and classroom use. Crosslisted with MEPR 437-537.

**MCOM 474-574 Media Administration and Management (COM)**.....3  
 Business practices, newspaper, magazine, and broadcast management.

**MCOM 475-575 Public Relations (COM)**.....3  
 Interpreting institutional and industrial policies and programs to the public.

**MCOM 476-576 International and Ethnic Advertising** .....3  
 This course develops an understanding of international and ethnic advertising and marketing. Students gain experience in marketing decisions that reflect an understanding of intercultural and international markets and explore the social and ethical issues in such marketing.

**MCOM 482-582 Travel Studies** .....1-5  
 This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**MCOM 492-592 Topics (COM)** .....1-5

**Graduate Courses**

**MCOM 693 Workshop** .....1-4

**MCOM 762 Special Problems in Radio, TV or Film** .....1-2

**MCOM 787 Research Methods in Communications** .....3

**MCOM 788 Master's Research Problems/Projects** .....2-3

**MCOM 791 Independent Study** .....1-3

**MCOM 798 Thesis** .....1-7

**ME (Mechanical Engineering)**

**Undergraduate Courses**

**ME 240 Introduction of Mechanical Design**.....3  
 Introduction to the design process, statement of problem, modeling, research, interaction of system components. Economic, social, environmental and manufacturing constraints. Factors of safety, reliability. Utilization of graphics and vector methods in mechanical design. Design project. P, EM 214, GE 225, or consent.

<b>ME 241 Engineering Materials</b> .....3	<b>ME 376 Measure and Instrumentation</b> .....2
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.	Instruments for measuring pressure, temperature, flow, strain, vibration and sound. Experimental data analysis for accuracy, error and uncertainty. Corequisite course ME 376L.
<b>ME 311 Thermodynamics I</b> .....3	<b>ME 376L Measure and Instrumentation Lab</b> .....0
Thermodynamic properties of gases, vapors and mixtures. Zeroth, First and Second Laws of Thermodynamics. Entropy. Availability and irreversibility. P, PHYS 211, MATH 225.	Accompanies ME 376. Corequisite course ME 376.
<b>ME 312 Thermodynamics II (COM)</b> .....3	<b>ME 381 Mechanical Equipment of Buildings</b> .....3
Thermodynamic power cycles using vapors and gases. One-dimensional compressible flow. Energy analysis. Refrigeration cycles. Moistures and psychrometry. Maxwell's relations. Combustion and thermochemistry. P, ME 311, MATH 321.	Heating, ventilation and air conditioning systems, control and servicing. Refrigeration, plumbing systems and their maintenance. Fire and explosion prevention in buildings. P, ME 311 or consent.
<b>ME 314 Thermodynamics</b> .....3	<b>ME 410 Environmental Engineering</b> .....3
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.	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, ME 312, EM 331, ME 415 or consent.
<b>ME 315 Analytical Thermodynamics</b> .....3	<b>ME 412 Internal Combustion Engines</b> .....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.	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, ME 312, EM 331.
<b>ME 321 Fundamentals of Machine Design</b> .....3	<b>ME 413 Turbomachinery</b> .....3
Analysis of motion and design of linkages, cams, gears, gear trains, planetary gear trains. Analytic and graphical solution of positions, velocities, accelerations, static and dynamic forces. Balancing of engine mechanism, flywheels analysis. Synthesis of planar mechanisms and introduction to spatial mechanisms. Computer applications. P, EM 215, ME 240.	Theory, design, operation and energy transfer in Turbo-machines. Steam, gas and hydraulic turbines. Pumps, fans and centrifugal and axial flow compressors. P, ME 312, EM 331.
<b>ME 323 Vibrations</b> .....3	<b>ME 415 Heat Transfer</b> .....3
Free and forced vibration of single-degree-of-freedom system. Vibration measurement. Vibration transmission and isolation. Multi-degree-of-freedom systems, matrix methods, vibration control and damping treatments. Introduction to continuous systems. P, EM 215, EM 321, MATH 321.	Basic principles of steady and unsteady conduction, convection of heat and mass transfer and thermal radiation. Computational methods of heat transfer. P, ME 311, EM 331, MATH 321.
<b>ME 341 Metallurgy</b> .....3	<b>ME 417 Computer-Aided Engineering</b> .....3
Crystalline structure and physical properties of metals, phase transformation diagrams, effect of mechanical or thermal treatment on grain structure of ferrous and non ferrous alloys. Laboratory demonstrates fundamental principles and presents necessary techniques of metallography. P, ME 241 and consent. Corequisite course ME 341L.	Introduction to applied structural and thermal design and analysis using the ANSYS finite element software package. One-, two- and three-dimensional static structural problems modeled using the direct generation method as well as solid modeling techniques. Steady-state and transient thermal analysis are performed. Thermally-induced stressed and displacements that occur in non-uniform temperature structures, solutions of two- or three-dimensional fluid mechanics problems, and optimization techniques are discussed. Corequisite ME 417L.
<b>ME 341L Metallurgy Lab</b> .....0	<b>ME 417L Computer-Aided Engineering Lab</b> .....0
Accompanies ME 341. Corequisite course ME 341L.	Accompanies ME 417. Corequisite ME 417.
<b>ME 361 Methods of Engineering and Work Measurement</b> .....2	<b>ME 418 Design of Thermal Systems</b> .....3
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, ME 362 or consent.	Systems approach to design, mathematical modeling, simulation and optimization of systems, with particular emphasis on thermal systems. P, ME 312, ME 415, EM 331.
<b>ME 362 Industrial Engineering</b> .....3	<b>ME 421 Design of Machine Elements</b> .....3
Modern industrial engineering. Planning, organizing and directing industrial enterprises. Quantitative analysis of management problems in production planning and control, quality control, reliability, facility planning and PERT. Applications and examples from realistic situations. P, MATH 381 or consent.	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, ME 321, EM 321.
	<b>ME 431 Aerodynamics</b> .....3
	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 437 Gas Dynamics I** .....3  
 Objectives, applications, and scope of the subject. Methods of fluid dynamics and thermodynamics. Compressible flow in ducts, nozzles and diffusers. Propagation of plane waves; shock dynamics, characteristics, interaction of waves. General theorems of gas dynamics. P, EM 331, MATH 331.

**ME 438 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. Corequisite course ME 438L.

**ME 438L Machine Design-Case Studies Lab** .....0  
 Accompanies ME 438. Corequisite course ME 438L.

**ME 439 Heat and Air Conditioning Design** .....3  
 Analysis of heating and air conditioning equipment. Design of heating and air conditioning systems. Economic considerations. Use of computers as design aids. Corequisite course ME 439L.

**ME 439L Heat and Air Conditioning Design Lab**.....0  
 Accompanies ME 439. Corequisite course ME 439.

**ME 451 Automatic Controls**.....3  
 Modeling of mechanical, electrical, hydraulic and pneumatic systems. Laplace transform and system response. Transfer functions; control systems and frequency response. System analysis using polar, logarithmic and Root locus plots. System compensation. Introduction to nonlinear controls. P, ME 323, EE 302, EE 302L.

**ME 452 Dynamic Systems Lab** .....1  
 Experiments in mechanical vibration, control and robotics. Force and acceleration measurements, free and forced vibrations of systems, response of mechanical systems, stability of a feedback control system, performance of compensators. P, ME 323. Corequisite ME 451.

**ME 461 Analysis and Design of Industrial Systems** .....3  
 Problems in product design and development, marketing, forecasting, capacity evaluation, plant layout, materials handling from standpoint of interrelated and integrated systems. P, ME 362.

**ME 476 Thermo-Fluids Lab** .....1  
 Experiments in fluid mechanics, thermodynamics and heat transfer. Single and multi-stage compressors. Heat pumps and air conditioning. Blowers and flow measurements in ducts. P, ME 376, ME 312, EM 331, ME 415.

**ME 478 Mechanical Systems Design I** .....1  
 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, ME 421, MATH 331 or MATH 471.

**ME 479 Mechanical Systems Design II (COM) (AW)** .....2  
 The second semester continuation of Mechanical Systems Design. Integrates concepts from all areas in Mechanical Engineering into a practical design project. Detailed design and analysis, manufacturing, and assembly will be the focus.

**ME 479L Mechanical Systems Design II Lab (COM)** .....0  
 Accompanies ME 479.

**ME 480 Inspection Trip** .....0  
 Short inspection trips arranged to give students opportunity to observe and evaluate manufacturing and industrial processes, operations and facilities. P, senior standing.

**ME 491 Independent Study** .....1-5

**ME 493 Workshop**.....1-3

**ME 494 Internship** .....1-6

**ME 496 Field Experience** .....1-6

**ME 497 Cooperative Education** .....1-6

**ME 498 Undergraduate Scholarship/Research (COM)** .....1-6

**Dual Listed 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 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.

**ME 490-590 Seminar** .....0-2

**ME 492-592 Topics** .....1-5

**Graduate Courses**

**ME 527 Gas Dynamics I** .....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 and Simulation** .....3

**ME 635L Modeling and 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 Systems Analysis** .....3

**ME 667 Decision Theory**.....3

**ME 690 Seminar** .....0

**ME 691 Independent Study**.....1-5



ME 692 Topics .....	1-3
ME 787 Research.....	1-9
ME 788 Research or Design Paper.....	1-2
ME 790 Seminar .....	1
ME 791 Independent Study.....	1-3
ME 792 Topics .....	1-3
ME 798 Thesis .....	1-7

## MEDT (Clinical Laboratory Science)

### Undergraduate Courses

MEDT 486 Pre-Internship.....	1
MEDT 487 Internship Orientation.....	1
MEDT 494 Internship .....	8-16

## MEPR (Media Production)

### Undergraduate Courses

MEPR 130 Introduction to Electronic Media.....	3
MEPR 144 Mass Communication Activities.....	1
MEPR 145 Mass Communication Activities.....	1
MEPR 160 Introduction to Film.....	3
MEPR 200 Videography .....	3
MEPR 244 Mass Communication Activities.....	1
MEPR 245 Mass Communication Activities.....	1
MEPR 330 Writing for Electronic Media .....	3
MEPR 330L Writing for Electronic Media Lab .....	0
MEPR 331 Video Production .....	3
MEPR 331L Video Production Lab .....	0
MEPR 332 Radio News Reporting .....	3
MEPR 332L Radio News Reporting Studio .....	0
MEPR 333 Television News Reporting .....	3

<b>MEPR 333L Television News Reporting Studio</b> .....	0
Corequisite course MEPR 333.	
<b>MEPR 335 Broadcast Programming</b> .....	3
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.	
<b>MEPR 336 Radio News Lab</b> .....	1-3
<b>MEPR 344 Mass Communication Activities</b> .....	1
Credit earned by active participation in broadcasting and film activities. May be repeated until eight activity credits are earned. P, consent. – Section I: Radio – Section II: Television – Section III: Film.	
<b>MEPR 345 Mass Communication Activities</b> .....	1
Credit earned by active participation in broadcasting and film activities. May be repeated until eight activity credits are earned. P, consent. – Section I: Radio – Section II: Television – Section III: Film.	
<b>MEPR 360 Film Narrative</b> .....	3
Myths, values and beliefs as expressed in selected films; forms, styles, and directors.	
<b>MEPR 431 Advanced Television Production</b> .....	3
Integration of various aspects of broadcasting techniques and production. Corequisite course MEPR 431L.	
<b>MEPR 431L Advanced Television Production Lab</b> .....	0
Corequisite course MEPR 431.	
<b>MEPR 433 Advanced TV News Reporting</b> .....	3
Corequisite course MEPR 433L.	
<b>MEPR 433L Advanced TV News Reporting Studio</b> .....	0
Corequisite course MEPR 433.	
<b>MEPR 444 Mass Communication Activities</b> .....	1
Credit earned by active participation in broadcasting and film activities. May be repeated until eight activity credits are earned. P, consent. – Section I: Radio – Section II: Television – Section III: Film.	
<b>MEPR 445 Mass Communication Activities</b> .....	1
Credit earned by active participation in broadcasting and film activities. May be repeated until eight activity credits are earned. P, consent. – Section I: Radio – Section II: Television – Section III: Film.	
<b>MEPR 491 Independent Study</b> .....	1-4
<b>MEPR 492 Topics</b> .....	1-5
<b>MEPR 492L Topics Lab</b> .....	0

### Dual Listed Courses

<b>MEPR 437-537 Educational and Corporate Television</b> .....	3
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.	
<b>MEPR 464-564 Film Studies</b> .....	3
Film art forms, artists and critics. Viewing and making films. Emphasis on major film theories.	

### Graduate Courses

<b>MEPR 787 Research Methods in Communication</b> .....	3
<b>MEPR 791 Independent Study</b> .....	1-2

### MFL (Modern Foreign Languages)

#### Undergraduate Courses

<b>MFL 101 Introduction to Foreign Language and Culture I (COM) (G)</b> .....	4
Fundamentals of the language and introduction to the culture where the language is spoken. Class work may be supplemented with required aural/oral practice outside of class.	
<b>MFL 102 Introduction to Foreign Language and Culture II (COM) (G)</b> .....	4
Fundamentals of the language and introduction to the culture where the language is spoken. Class work may be supplemented with required aural/oral practice outside of class.	
<b>MFL 134 Foreign Cultures</b> .....	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.	
<b>MFL 196 Field Experience</b> .....	1-6
<b>MFL 292 Topics</b> .....	1-5
<b>MFL 292L Topics Lab</b> .....	0
<b>MFL 396 Field Experience (G)</b> .....	1-6
<b>MFL 420 K-12 Foreign Language Methods (COM)</b> .....	3
Methods and materials for teaching modern languages in high school.	
<b>MFL 490 Seminar</b> .....	1-3
<b>MFL 494 Internship (COM)</b> .....	1-12

#### Dual Listed Courses

<b>MFL 460-560 Topics in French, German, or Spanish Literature</b> .....	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.	
<b>MFL 491-591 Independent Study</b> .....	1-3
<b>MFL 492-592 Topics (COM)</b> .....	3
<b>MFL 496-596 Field Experience (G)</b> .....	3-12

#### Graduate Courses

<b>MFL 595 Practicum</b> .....	1-6
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## MICR (Microbiology)

### Undergraduate Courses

<b>MICR 231 General Microbiology (COM)</b> .....4	
Principles of basic and applied microbiology. P, CHEM 106 or CHEM 112. Corequisite course MICR 231L.	
<b>MICR 231L General Microbiology Lab (COM)</b> .....0	
Laboratory experience that accompanies MICR 231. Corequisite course MICR 231.	
<b>MICR 310 Environmental Microbiology</b> .....4	
Microbiology of water, air and surfaces in the environment. Standard methods for detecting and controlling pathogens and non pathogens. P, MICR 231. Corequisite course MICR 310L.	
<b>MICR 310L Environmental Microbiology Lab</b> .....0	
Laboratory experience that accompanies MICR 310. Corequisite course MICR 310.	
<b>MICR 311 Food Microbiology</b> .....4	
Microbiology of fresh and processed meats, dairy products, vegetables and modern convenience foods. Laboratory quality study of food preservation, processing and spoilage. P, MICR 231. Corequisite MICR 311L.	
<b>MICR 311L Food Microbiology Lab</b> .....0	
Laboratory experience that accompanies MICR 311. Corequisite course MICR 311.	
<b>MICR 332 Microbial Physiology</b> .....2	
Cytology, nutrition, metabolism, and growth of microorganisms. P, MICR 231.	
<b>MICR 332L Microbial Physiology Lab</b> .....2	
Media preparation, sterilization, microscopy, assay of microbial enzymes, DNA purification.	
<b>MICR 390 Seminar</b> .....1	
<b>MICR 422 Immunology (COM)</b> .....4	
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, MICR 231. Corequisite course MICR 422L.	
<b>MICR 422L Immunology Lab (COM)</b> .....0	
Laboratory experience that accompanies MICR 422. Corequisite course MICR 422.	
<b>MICR 423 Pathogenesis (COM)</b> .....3	
Lecture/discussion course on principles of medical microbiology including the molecular basis of pathogenesis, host-parasite relationship, and pathology of animal and human diseases. Emphasis on current literature in pathogenesis. P, MICR 422.	
<b>MICR 433L Medical Microbiology Lab (COM)</b> .....1	
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.	
<b>MICR 436 Molecular and Microbial Genetics</b> .....4	
A basic course in molecular genetics. Examples to illustrate genetic principles are drawn from all forms of life. P, BIOL 204 or BIOL 371.	

<b>MICR 438 Molecular Microbial Genetics Lab</b> .....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 464, or consent of instructor.	
<b>MICR 439 Medical and Veterinary Immunology</b> .....3	
This course covers the theory and mechanisms of immune-responses as they relate to human and veterinary medicine. P, MICR 231 and BIOL 204.	
<b>MICR 440L Infectious Disease Lab</b> .....3	
This course will involve individualized hands-on training in molecular, cellular, bacteriological, and immunological techniques frequently used in the diagnosis of infectious diseases. Students will be provided with information on principles and fundamentals of various techniques followed by hands-on experience in the lab. P, MICR/VET 424 or MICR 433 or MICR 439.	
<b>MICR 490 Seminar (AW)</b> .....1	
<b>MICR 491 Independent Study</b> .....1-3	
<b>MICR 494 Internship</b> .....1-12	
<b>MICR 497 Cooperative Education (COM)</b> .....1-12	
<b>MICR 498 Undergraduate Research/Scholarship</b> .....1-4	

### Dual Listed Courses

<b>MICR 414-514 Anaerobic Microbiology</b> .....3	
Anaerobic metabolism and ecology of bacteria, culturing techniques for anaerobic microorganisms. P, MICR 231. Corequisite course MICR 414L-514L.	
<b>MICR 414L-514L Anaerobic Microbiology Studio</b> .....0	
Laboratory experience that accompanies MICR 414-514. Corequisite course MICR 414-514.	
<b>MICR 421-521 Soil Microbiology</b> .....3	
Microbial species of agricultural soils and biochemical changes brought about by these microorganisms. Crosslisted with PS 421-521. P, BIOL 151/151L and BIOL 153/153L, or BOT 201/201L. Corequisite course MICR 421L-521L.	
<b>MICR 421L-521L Soil Microbiology Lab</b> .....0	
Laboratory experience that accompanies MICR 421-521. Corequisite course MICR 421-521. Crosslisted with PS 421L-521L.	
<b>MICR 424-524 Medical and Veterinary Virology</b> .....3	
Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. P, MICR 433. Crosslisted with VET 424-524.	
<b>MICR 433-533 Medical Microbiology (COM)</b> .....3	
Principles of medical microbiology including a survey of the most clinically significant bacterial, fungal, parasitic, and viral diseases in the world, with an emphasis on those most prevalent in North America. Case studies will address: morphology, physiology, and virulence of the microbes and the epidemiology, treatment, and prevention of the diseases they cause. P, MICR 231, CHEM 106 or 112.	

<b>MICR 437-537 Systematic Bacteriology</b> .....	<b>4</b>
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, MICR 231. Corequisite course MICR 437L-537L.	
<b>MICR 437L-537L Systematic Bacteriology Lab</b> .....	<b>0</b>
Laboratory experience that accompanies MICR 437-537. Corequisite course MICR 437-537.	
<b>MICR 492-592 Topics</b> .....	<b>1-4</b>
<b>MICR 492L-592L Topics Lab (COM)</b> .....	<b>0</b>

## Graduate Courses

<b>MICR 522 Introductory Immunology Lecture</b> .....	<b>3</b>
<b>MICR 523 Introductory Immunology Lab</b> .....	<b>1</b>
<b>MICR 713 Industrial Microbiology</b> .....	<b>4</b>
<b>MICR 713L Industrial Microbiology Lab</b> .....	<b>0</b>
<b>MICR 722 Molecular and Cell Biology Immune Response</b> .....	<b>3</b>
<b>MICR 726 Cellular Physiology of Signal Transduction</b> .....	<b>3</b>
<b>MICR 738 Microbial Metabolism</b> .....	<b>4</b>
<b>MICR 738L Microbial Metabolism Lab</b> .....	<b>0</b>
<b>MICR 788 Research Problems</b> .....	<b>1-3</b>
<b>MICR 790 Seminar</b> .....	<b>1</b>
<b>MICR 791 Independent Study</b> .....	<b>1-4</b>
<b>MICR 792 Topics</b> .....	<b>1-4</b>
<b>MICR 798 Thesis</b> .....	<b>1-7</b>

## MNET (Manufacturing Engineering Technology)

### Undergraduate Courses

<b>MNET 131 Machining Technology</b> .....	<b>3</b>
An introduction to machine tools used in industry and their usage, principles of operations, and production methods. Hands-on laboratory activities provide the students with the opportunity to use various machining equipment, become familiar with various cutting tools, and perform measurement using precision measuring devices. Corequisite course MNET 131L.	
<b>MNET 131L Machining Technology Lab</b> .....	<b>0</b>
Corequisite course MNET 131.	
<b>MNET 132 Welding Technology</b> .....	<b>3</b>
An introduction to welding processes used in industry and their usage, principles of operations, and production methods. Hands-on laboratory activities provide the students with the opportunity to use various welding processes for joining of ferrous and non-ferrous materials. Corequisite course MNET 132L.	
<b>MNET 132L Welding Technology Lab</b> .....	<b>0</b>
Corequisite course MNET 132.	
<b>MNET 200 MNET Off Campus Orientation</b> .....	<b>0</b>
MNET enrollment sustaining. P, instructor's consent required.	

<b>MNET 231 Manufacturing Processes I</b> .....	<b>3</b>
The topics in this course cover the fundamentals of traditional and non-traditional manufacturing processes including mass reducing, mass conserving, joining, material treatment, and surface treatment processes. Hands-on experiences in laboratories provide the class participants with basic skills in machining and welding processes. Corequisite course MNET 231L.	

<b>MNET 231L Manufacturing Processes I Lab</b> .....	<b>0</b>
Corequisite course MNET 231.	

<b>MNET 232 Manufacturing Processes II</b> .....	<b>3</b>
This course is designed to provide students with the opportunity to expand on the topics covered in MNET 231. The course extends the manufacturing processes topics to include effects on work materials properties, tool materials and geometry and analysis of factors effecting the output of various processes. The second course will include numerous local industry tours that include plastics, metal fabrication, electronics, wood, etc. P, MNET 231. Corequisite course MNET 232L.	

<b>MNET 232L Manufacturing Processes II Lab</b> .....	<b>0</b>
Corequisite course MNET 232.	

<b>MNET 241 Applied Mechanics</b> .....	<b>3</b>
Basic statics, dynamics, and two-dimensional analysis of stress and strain. Fundamental principles of structural and machine elements. P, 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, MATH 102; physics course except 101/101L. Crosslisted with GE 241.	

<b>MNET 243 Introduction to Materials Science</b> .....	<b>3</b>
Basic concepts presented in relation to common engineering materials. Topics include physical and mechanical properties of materials. Laboratories utilize common materials science apparatus and relate to common industrial practices. P, CHEM 106. Corequisite course MNET 243L.	

<b>MNET 243L Introduction to Materials Science Lab</b> .....	<b>0</b>
Corequisite course MNET 243.	

<b>MNET 251 Electricity and Electronics I</b> .....	<b>3</b>
The course is designed to provide students with a background and understanding of the essential topics in AC/DC circuits, electrical circuit materials, electrical energy and sources of electricity, basic circuits and their analysis, magnetism, and applications of motors, generators, and power distribution. P, 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T, MATH 102. Corequisite course MNET 251L. Crosslisted with EET 251.	

<b>MNET 251L Electricity and Electronics I Lab</b> .....	<b>0</b>
Corequisite course MNET 251. Crosslisted with EET 251L.	

<b>MNET 252 Electricity and Electronics II</b> .....	<b>3</b>
This course is the continuation of MNET 251 and is designed to provide students with a background and understanding of the essential topics in semiconductor devices, semiconductor power supply and technology, and semiconductor amplifiers and their applications. Other topics include digital logic, integrated circuits, oscillators, AM/FM communications, TV signal transmissions, and computer structure and operations. P, MNET 251. Corequisite course MNET 252L. Crosslisted with EET 252.	

<b>MNET 252L Electricity and Electronics II Lab</b> .....	<b>0</b>
Corequisite course MNET 252. Crosslisted with EET 252L.	

**MNET 260 Principles of Production and Operations Management .....3**  
 A broad analytical 'systems' viewpoint is used to develop competency in management decision-making and problem solving in operations setting in various businesses and specialty manufacturing. This course involves the study of the PRODUCTION end of business, where resources are transferred into goods and services, and the MANAGEMENT of operations through effective planning, implementing, and monitoring for continuous improvement. P, 1 course from subject MATH, except courses MATH 021, MATH 101, MATH 100T. Crosslisted with BADM 260.

**MNET 291 Independent Study .....1-3**

**MNET 292 Topics .....1-3**

**MNET 292L Topics Lab .....0**

**MNET 293 Workshop .....0-3**

**MNET 296 Field Experience .....1-3**

**MNET 320 Computer Aided Design/Drawing .....3**  
 Major course emphasis will be on creating 3-Dimensional solid models using current design software. Course will include the basic concepts of a feature-based parametric design, and the generation of mass properties, part drawings, assembly drawings and documentation. P, GE 120 or GE 123. Corequisite course MNET 320L.

**MNET 320L Computer Aided Design/Drawing Lab .....0**  
 Corequisite course MNET 320.

**MNET 334 CAM/CNC .....3**  
 This course focuses on Computer Numerical Control (CNC) machines programming and operations. Automatic programming of CNC machines using Computer Aided Manufacturing (CAM) software is also the focus of this course. P, MNET 231 or GE 225, GE 120 or GE 123. Corequisite course MNET 334L.

**MNET 334L CAM/CNC Lab .....0**  
 Corequisite course MNET 334.

**MNET 338 Industrial Plastics .....3**  
 Study of plastic materials and processes including characteristics and properties and various manufacturing processes used for production of plastic products. P, MNET 231, MNET 243. Corequisite course MNET 338L.

**MNET 338L Industrial Plastics Lab .....0**  
 Corequisite course MNET 338.

**MNET 343 Properties of Materials .....3**  
 Material properties are studied and related to various phenomena that occur in metals, composites, plastics, and ceramics. Topics include bonding, strengthening mechanisms, fracture mechanics, casting processes, powder metallurgy, corrosion and surface engineering. P, MNET 243. Corequisite course MNET 343L.

**MNET 343L Properties of Materials Lab .....0**  
 Corequisite course MNET 343.

**MNET 350 Fluid Power Technology .....3**  
 Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. P, PHYS 113 or PHYS 213, MATH 123 or MATH 121. Corequisite course MNET 350L.

**MNET 350L Fluid Power Technology Lab .....0**  
 Corequisite course MNET 350.

**MNET 362 Time and Motion Studies .....3**  
 Methods engineering in business and industry: improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques, and principles of motion economy. P, MNET 231, MNET 260.

**MNET 365 Occupational Safety and Health .....3**  
 This course is designed to provide knowledge of the practice of providing safe environments. Study will involve developing safety concepts, recognition of OSHA and Worker's Compensation regulations, hazard recognition, identifying the cost of accidents, ergonomics, and emphasis on a proactive approach to accident prevention. Crosslisted with GE 425 and CM 400.

**MNET 367 Plant Layout and Material Handling .....3**  
 Analysis and design of facilities and material handling systems for efficient and economical production. P, GE 120 or GE 123, MNET 260.

**MNET 436 Production Tooling Methods and Measurement .....3**  
 An overview of machine tool design, application, manufacture and general measurement techniques. Subject includes jigs, fixtures, molds, tools and dies in various production settings. Also included are material selection, precision machining, related manufacturing processes, manufacturing inspection equipment and techniques, dimensional metrology and geometric conformance, and surface texture and integrity. P, MNET 334, MNET 320. Corequisite course MNET 436L.

**MNET 436L Production Tooling Methods and Measurements Lab .....0**  
 Corequisite course MNET 436.

**MNET 451 Industrial Electronics and Control .....3**  
 This course teaches industrial motion control (servomechanisms) and process control (instrumentation) systems. The course describes the concepts and the operation of electronic devices, circuits, systems, and applications used in industry. P, MNET 252 or EET 320, MATH 121 or MATH 123. Corequisite course MNET 451L. Crosslisted with EET 451.

**MNET 451L Industrial Electronics and Control Lab .....0**  
 Corequisite course MNET 451.

**MNET 453 Manufacturing Automation .....3**  
 The course offers advanced topics in manufacturing automation including automation hardware/software, system design and integration, and management techniques for improving design and manufacturing operations. Hand-on lab activities provide the students the opportunity to develop and program automated systems. P, MNET 451. Corequisite course MNET 453L. Crosslisted with EET 453.

**MNET 453L Manufacturing Automation Lab .....0**  
 Corequisite course MNET 453. Crosslisted with EET 453L.

**MNET 460 Manufacturing Cost Analysis .....3**  
 The main focus of this course is on cost estimating related to various manufacturing processes and products and developing budget proposals for analysis and evaluation of manufacturing capital expenditure. P, MNET 231, MNET 260.

**MNET 462 Quality Management .....3**  
 Course focus is on managerial philosophies and techniques of quality planning and control. This includes quality improvement tools, reliability, cost of quality, and human factors that effect the quality initiatives. P, MNET 260, STAT 281.

<b>MNET 463 Production and Inventory Management</b> .....	<b>3</b>
Study and analysis of activities in the flow of materials from the supplier to the consumer. These include physical supply, operations planning and control, storage and warehousing, and physical distribution. P, MNET 231, MNET 260.	
<b>MNET 468 Manufacturing Plant Management</b> .....	<b>3</b>
A case-oriented capstone course designed to integrate the technical, managerial, analytical, and communication skills which have been acquired. P, MNET 367, MNET 463.	
<b>MNET 470 Project Management (AW)</b> .....	<b>2</b>
Basic theory, application, and techniques of project management applied to technical projects. A team-oriented, collaborative approach to building and testing products, developing and managing processes, and/or conducting applied research. Must take MNET 471/471L in spring semester. Crosslisted with EET 470. P, instructor approval. Corequisite course MNET 470L.	
<b>MNET 470L Project Management Lab</b> .....	<b>0</b>
Corequisite course MNET 470. Crosslisted with EET 470L.	
<b>MNET 471 Capstone Experience (AW)</b> .....	<b>1</b>
Conclusion of technical projects started in MNET 470 Project Management. Teams document and present the results of the implemented projects. P, MNET 470/470L.	
<b>MNET 471L Capstone Experience Lab</b> .....	<b>0</b>
<b>MNET 491 Independent Study</b> .....	<b>1-3</b>
<b>MNET 492 Topics</b> .....	<b>1-3</b>
<b>MNET 492L Topics Lab</b> .....	<b>0</b>
<b>MNET 493 Workshop</b> .....	<b>0-3</b>
<b>MNET 494 Internship (AW)</b> .....	<b>1-3</b>
<b>MNET 496 Field Experience</b> .....	<b>1-3</b>
<b>MNET 497 Cooperative Education</b> .....	<b>1-3</b>

## **MRCH (Merchandising)**

### **Graduate Courses**

<b>MRCH 510 Consumer Behavior in Merchandising</b> .....	<b>3</b>
<b>MRCH 520 Professional Advancement in Merchandising</b> .....	<b>3</b>
<b>MRCH 530 Product Design, Development, and Evaluation</b> .....	<b>3</b>
<b>MRCH 540 Promotional Strategies in Merchandising</b> .....	<b>3</b>
<b>MRCH 550 Retail Theory and Current Practice</b> .....	<b>3</b>
<b>MRCH 580 Travel Studies</b> .....	<b>1-5</b>
<b>MRCH 591 Independent Study</b> .....	<b>1-3</b>
<b>MRCH 592 Topics</b> .....	<b>1-3</b>
<b>MRCH 610 Historical and Contemporary Issues in Trade</b> .....	<b>3</b>
<b>MRCH 620 International Merchandise Management</b> .....	<b>3</b>
<b>MRCH 630 Research Methods in Merchandising</b> .....	<b>3</b>
<b>MRCH 640 Financial Merchandising Implications</b> .....	<b>3</b>
<b>MRCH 650 Strategic Planning in Merchandising</b> .....	<b>3</b>
<b>MRCH 690 Seminar</b> .....	<b>1-2</b>

<b>MRCH 695 Practicum</b> .....	<b>1-6</b>
<b>MRCH 788 Master's Research Problems/Projects</b> .....	<b>1-3</b>
<b>MRCH 798 Thesis</b> .....	<b>1-6</b>

## **MSL (Military Science Leadership)**

### **Undergraduate Courses**

<b>MSL 101 Foundations of Officership (COM)</b> .....	<b>1</b>
Make your first peer group at college one committed to performing well and enjoying the experience. Increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations and basic marksmanship. Learn fundamental concepts of leadership in a profession in both classroom and outdoor laboratory environments.	
<b>MSL 102 Basic Leadership (COM)</b> .....	<b>1</b>
Learn and apply principles of effective leadership. Reinforce self-confidence through participation in physically and mentally challenging exercise with upper-division ROTC students. Develop communication skills to improve individual performance and group interaction. Relate organizational ethical values to the effectiveness of a leader.	
<b>MSL 201 Individual Leadership Skills (COM)</b> .....	<b>2</b>
Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. Develop skills in oral presentations, writing concisely, planning events, coordination of group efforts, advanced first aid, land navigation, and basic military tactics. Learn fundamentals of ROTC's leadership assessment program.	
<b>MSL 202 Leadership and Teamwork (COM)</b> .....	<b>2</b>
Introduction to individual and team aspects of military tactics in small unit operations. Includes use of radio communications, making safety assessments, movement techniques, planning for team safety/security and methods of pre-execution checks. Practical exercises with upper-division ROTC students. Learn techniques for training others as an aspect of continued leadership development.	
<b>MSL 294 ROTC Summer Leadership Internship (COM)</b> .....	<b>4</b>
<b>MSL 301 Leadership and Problem Solving (COM)</b> .....	<b>3</b>
Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead again in situations of increasing complexity. Uses small unit tactics and opportunities to plan and conduct training for lower division students both to develop such skills and as vehicles for practicing leadership. Corequisite course MSL 301L.	
<b>MSL 301L Leadership and Problem Solving Lab (COM)</b> .....	<b>0</b>
Provides the student with practical experience to supplement and reinforce classroom instruction. Subjects include drill and ceremonies, physical training instruction techniques and leadership, which will complement the student's preparation for camp. Off campus. Corequisite course MSL 301.	
<b>MSL 302 Leadership and Ethics (COM)</b> .....	<b>3</b>
Continues methodology of MSL 301. Analyze tasks; prepare written or oral guidance for team members to accomplish tasks. Delegate tasks and supervise. Plan for and adapt to the unexpected in organizations under stress. Examine and apply lessons from leadership case studies. Examine importance of ethical decision making in setting a positive climate that enhances team performance. Corequisite course MSL 302L.	
<b>MSL 302L Leadership and Ethics Lab (COM)</b> .....	<b>0</b>
Accompanies MSL 302. Corequisite course MSL 302.	

<b>MSL 401 Leadership and Management (COM)</b> .....	3
Introduces formal management skills including problem analysis, planning techniques, and the delegation and control of activities, providing an understanding of the command and staff organization used in the modern army and creating a forum for discussing professional and ethical decisions faced by commissioned officers. Corequisite course MSL 401L.	
<b>MSL 401L Leadership and Management Lab (COM)</b> .....	1
Designed to accompany MSL 401. Corequisite course MSL 401.	
<b>MSL 402 Ethical Decision Making for Leadership/ Officers (COM)</b> .....	3
Provides information for transition to active or reserve commissioned service, developing administrative controls essential in managing a military organization, introducing the management of financial and personal affairs, and allowing time for discussion and analysis of the ethical decision-making process. Corequisite course MSL 402L.	
<b>MSL 402L Ethical Decision Making Lab (COM)</b> .....	1
Designed to accompany MSL 402. Corequisite course MSL 402.	
<b>MSL 492 Topics</b> .....	1-3
<b>MSL 494 Leader Development and Assessment Course (COM)</b> .....	4
<b>MSL 495 ROTC Nurse Summer Training Program</b> .....	3

## MUAP (Music Applied)

### Undergraduate Courses

All levels of MUAP 100s, 200s, 300s, and 400s may be used to satisfy IGR Goal 3-option 2, Cultural and Aesthetic Awareness.

#### Applied Music - Voice (COM)

MUAP 100-101 .....	1
MUAP 200-201 .....	1
MUAP 300-301 .....	2
MUAP 400-401 .....	2

#### Class Instruction - Voice (COM)

MUAP 102 .....	1
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#### Applied Music - Keyboard (COM)

MUAP 110-111 .....	1
MUAP 210-211 .....	1
MUAP 310-311 .....	2
MUAP 410-411 .....	2

#### Class Instruction - Keyboard (COM)

MUAP 115-116 .....	1
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#### Applied Music - Woodwinds (COM)

MUAP 120-121 .....	1
MUAP 220-221 .....	1
MUAP 320-321 .....	2
MUAP 420-421 .....	2

#### Class Instruction - Woodwinds

MUAP 125 .....	1
MUAP 225 .....	1
MUAP 325 .....	2

#### Applied Music - Brass (COM)

MUAP 130-131 .....	1
MUAP 230-231 .....	1
MUAP 330-331 .....	2
MUAP 430-431 .....	2

#### Class Instruction - Brass

MUAP 135 .....	1
MUAP 235 .....	1
MUAP 335 .....	2

#### Applied Music - Percussion (COM)

MUAP 140-141 .....	1
MUAP 240-241 .....	1
MUAP 340-341 .....	2
MUAP 440-441 .....	2

#### Class Instruction - Percussion

MUAP 145 .....	1
MUAP 245 .....	1
MUAP 345 .....	2

#### Applied Music - Strings (COM)

MUAP 150-151 .....	1
MUAP 250-251 .....	1
MUAP 350-351 .....	2
MUAP 450-451 .....	2

#### Class Instruction - Strings

MUAP 155 .....	1
MUAP 255 .....	1
MUAP 355 .....	2

MUAP 181 Piano Accompanying (COM) .....	1
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MUAP 483 Public Recital (COM).....	0
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## MUEN (Music Ensembles)

### Undergraduate Courses

Music Organizations are open to all University students. There are no auditions required for Marching Band. There are auditions for the Symphonic Band, Concert Band, Concert Choir, Women's Choir, Men's Choir, and the Jazz Ensembles. Membership in the SDSU-Civic Symphony is by instructor consent. Freshmen and Sophomores may register for the 100 level; Juniors and Seniors may register for the 300 level. All MUEN numbers at the 100 and 300 levels may be used to satisfy IGR Goal 3-option 2, Cultural and Aesthetic Awareness.

#### Concert Choir (COM)

MUEN 100-300 .....1-2

#### Men's Chorus (COM)

MUEN 102-302 .....1

#### Women's Chorus (COM)

MUEN 103-303 .....1

#### Opera Workshop (COM)

MUEN 107-307 .....1-2

#### Orchestra (COM)

MUEN 110-310 .....1

#### Marching Band (COM)

MUEN 120-320 .....1

#### Symphonic Band (COM)

MUEN 121-321 .....1

#### Concert Band (COM)

MUEN 122-322 .....1

#### String Ensembles (COM)

MUEN 140-340 .....1

#### Woodwind Ensembles (COM)

MUEN 150-350 .....1

#### Brass Ensembles (COM)

MUEN 160-360 .....1

#### Percussion Ensemble (COM)

MUEN 170-370 .....1

#### Jazz Ensemble (COM)

MUEN 180-380 .....1

## MUS (Music)

### Undergraduate Courses

**MUS 100 Music Appreciation (COM)**.....3  
 A non-technical discussion designed to increase the enjoyment and appreciation of music. Fulfills the music requirement in the general education program.

**MUS 110 Basic Music Theory I (COM)**.....4  
 An integrated study and application of tonality, melody, harmony, texture and form, from music notation through modulation. Includes sight singing, ear training and dictation. Introduction to composition and arranging, i.e. instrument ranges, transposition, tessitura and preliminary score analysis.

**MUS 110L Basic Music Theory I Lab (COM)**.....0  
 Students will be taught sight singing and dictation skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

**MUS 111 Basic Music Theory II (COM)**.....4  
 An integrated study and application of tonality, melody, harmony, texture and form, from music notation through modulation. Includes sight singing, ear training and dictation. Introduction to composition and arranging, i.e. instrument ranges, transposition, tessitura and preliminary score analysis. P, MUS 110.

**MUS 111L Basic Music Theory II Lab (COM)** .....0  
 Students will be taught singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.

**MUS 130 Music Literature and History I**.....2  
 An introductory course of music cultures of the world. Emphasis on developing a fundamental knowledge of distinctive and unique music of different nations, especially non-Western music.

**MUS 131 Music Literature and History II**.....2  
 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.

**MUS 185 Recital Attendance (COM)** .....0  
 Designed to expose students to a large and varied body of music through attendance at recitals, forums, solo classes, concerts, and other performances. Required of all music majors each semester they are enrolled in applied music. Student teaching semesters and internships excepted. S/U grade.

**MUS 201 History of Country Music**.....3  
 An in-depth exploration of Country Music, beginning with Scotch-Irish folk music of the late 1600's, through the "New Traditionalists" of the 1990's.

**MUS 202 The Music Industry**.....3  
 This course examines the many facets of the music industry; songwriting, music publishing, copyright, licensing, unions and guilds, concert promotion, music and theatre, music product merchandising, arts management, and career options in music.

**MUS 203 Blues, Jazz, and Rock**.....3  
 This course examines the origins and developments of three uniquely American musics and their cultural impact upon, and within, American society.



<b>MUS 210 Advanced Music Theory I (COM)</b> .....4	<b>MUS 313 Form and Analysis (COM)</b> .....3
A more advanced continuation of MUS 110, 111 with similar objectives and organization. A continuation of vocal/instrumental arranging and composition. P, MUS 111.	Analysis of music in the student's major performance area. The course is normally completed under the direction of the student's major applied teacher. P, MUS 210 or 211.
<b>MUS 210L Advanced Music Theory I Lab (COM)</b> .....0	<b>MUS 351 Elementary School Music Methods (COM)</b> .....3
Students will be taught sight singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.	<b>MUS 360 Conducting (COM)</b> .....3
<b>MUS 211 Advanced Music Theory II (COM)</b> .....4	General conducting focuses on the basic fundamentals of instrumental and choral conducting. The techniques of interpretation, score reading, rehearsal techniques, and the art of developing basic conducting techniques are addressed in the course. P, MUS 111.
A more advanced continuation of MUS 110, 111 with similar objectives and organization. A continuation of vocal/instrumental arranging and composition. P, MUS 210.	<b>MUS 360L Conducting (COM)</b> .....0
<b>MUS 211L Advanced Music Theory Lab II (COM)</b> .....0	Accompanies MUS 360.
Students will be taught sight singing and diction skills that will prepare them to "see with their ears and hear with their eyes." Students will learn simple to advanced applications of writing down music from aural performance, and learn to quickly analyze melodies by singing them at sight.	<b>MUS 361 Music Education II: Conducting</b> .....2
<b>MUS 230 Music Literature and History III</b> .....2	<i>Section 1:</i> Instrumental music methods and materials. Emphasis on rehearsal techniques, conducting and study of appropriate materials.
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.	<i>Section 2:</i> Choral music methods and materials. Emphasis on rehearsal and conducting techniques through study of appropriate materials.
<b>MUS 231 Music Literature and History IV</b> .....2	Corequisite course MUS 361L.
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.	<b>MUS 361L Music Education II: Conducting Lab</b> .....0
<b>MUS 270 Pedagogy I</b> .....1-2	Corequisite course MUS 361.
Pedagogical considerations in teaching music. Methods and concepts in specialized areas: <i>Section 1:</i> Voice; <i>Section 2:</i> Strings; <i>Section 3:</i> Keyboard; <i>Section 4:</i> Clarinet and Flute; <i>Section 5:</i> Double Reeds and Saxophone; <i>Section 6:</i> High Brass; <i>Section 7:</i> Low Brass; <i>Section 8:</i> Percussion. Voice offered even years only; Keyboard odd years only.	<b>MUS 362 Music Education III: Methods and Materials</b> .....2
<b>MUS 271 Pedagogy II</b> .....1-2	<i>Section 1:</i> 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.
Continuation of MUS 270 sections 1-8 as in 270. Voice offered odd years only; Keyboard even years only.	<i>Section 2:</i> 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.
<b>MUS 280 Explore Music in Western Europe</b> .....3	Corequisite course MUS 362L.
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.	<b>MUS 362L Music Education III: Methods and Materials Lab</b> .....0
<b>MUS 280L Explore Music in Western Europe Ensemble</b> .....0	Corequisite course MUS 362.
Corequisite course MUS 280.	<b>MUS 365 Music Education IV: Supervision and Administration of School Music</b> .....2
<b>MUS 292 Topics (COM)</b> .....1-5	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. Corequisite course MUS 365L.
<b>MUS 302 Introduction to Recording Industry</b> .....2	<b>MUS 365L Music Education IV: Supervision and Administration of School Music</b> .....0
This course explores the music business system; the scope of the recording industry; record markets; artists' recording contracts; record production; promotion, distribution and retailing; studios and pictures and television and career options and development. Off-campus speakers will be utilized in their speciality areas.	Corequisite course MUS 365.
<b>MUS 311 Counterpoint (COM)</b> .....3	<b>MUS 370 Pedagogy III</b> .....1-2
Analysis and composition in contrapuntal techniques, with a concentration on the music of J.S. Bach. P, MUS 211.	Continuation of MUS 271, section 1-8 as in 270. Voice offered odd years only; Keyboard even years only.
	<b>MUS 371 Pedagogy IV</b> .....1-2
	Continuation of MUS 370, sections 1-8 as in 270. Voice offered even years only; Keyboard odd years only.
	<b>MUS 391 Independent Study</b> .....1-6

**MUS 420 Orchestration and Arranging (COM) .....3**  
 A study of instruments alone and in combinations. Orchestration and arranging for instrumental and vocal ensembles. Preparation of parts and participation in the conducting and performing of works scored.

**MUS 433 Twentieth Century Music Literature (AW) .....2**  
 This course examines the musical and cultural developments associated with contemporary music. The focus is upon developing a knowledge of and an appreciation for the genres, styles, techniques, philosophies, and forms utilized by the major compositional figures of the twentieth century.

**MUS 465 Music Education V: Instrumental Techniques .....2**  
 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 488 Supervised Teaching in Secondary Schools .....5**  
 Students may register for 5 hours under SEEd 488 and 5 hours under MUS 488.

**MUS 494 Internship .....3-12**  
 P, consent of department program coordinator.

### Dual Listed Courses

**MUS 491-591 Independent Study .....1-3**

**MUS 492-592 Topics (COM) .....1-5**

## NACC (Nursing Accelerated Program)

### Undergraduate Courses

Nursing students in the Accelerated Option have a previous baccalaureate degree. These students are not required to meet IGR and SGR core requirements.

**NACC 113 Orientation Nursing Accelerated Option .....0**

**NACC 264 Professional Perspectives I .....1**  
 This course introduces the profession of nursing within the context of a changing health care system. The professional nursing roles of provider of care, designer/manager/coordinator of care, and member of a profession are introduced. The professional value of human dignity or respect for the inherent worth and uniqueness of individuals and populations is the value central to this course. The concept of culturally competent nursing care is explored.

**NACC 265 Health Assessment and Interventions .....4**  
 Introduces health assessment skills and selected nursing interventions at the novice nursing student level. Emphasis is on the role of nurse as provider of care and a member of the profession. P, MICR 231, BIOL 325, NFS 321, HDFS 210; 3 credits from SOC 100, 240, 250, or 440. Corequisite course NACC 265L.

**NACC 265L Health Assessment and Interventions Lab .....0**  
 Corequisite course NACC 265.

**NACC 280 Professional Communication .....3**  
 Focus is on communication skills essential to the profession of nursing. Emphasis is placed on professional communication of the nurse with clients and colleagues. P, PSYC 101. Corequisite course NACC 280L.

**NACC 280L Professional Communication Lab .....0**  
 Corequisite course NACC 280.

**NACC 282 Health Promotion .....2**  
 Focus on health with an emphasis on the role of the nurse in health promotion, risk reduction, and disease prevention.

**NACC 304 Professional Perspectives II .....1**  
 This course is a continuation of professional role development with emphasis on the role of member of a profession. The professional value of integrity or acting in accordance within an appropriate code of ethics and accepted standards of practice is the value central to the course. The concepts of role socialization and ethics are explored. P, NACC 264, 265/L, 280/L, 282, and 323.

**NACC 320 Family as Client: Emerging and Developing .....6**  
 Focuses on the application of nursing knowledge and competencies regarding childbearing and family health to provide nursing care to individuals and families. P, NACC 264, 265/L, 280/L, 282, and 323. Corequisite course NACC 320L.

**NACC 320L Family as Client: Emerging and Developing Lab .....0**  
 Corequisite course NACC 320.

**NACC 323 Introduction to Pathophysiology .....3**  
 This course covers topics which will provide a current understanding of the major disease processes across the lifespan. The course will lay the foundation for the study of pharmacological mechanisms of action of drugs and their rational clinical use. Of interest will be the linkage of relevant modern biology to the different disease states, attention to gender differences, especially regarding epidemiology and pathological changes, and the integration of health promotion and disease prevention, by emphasizing risk factors, nutritional requirements, and other relevant therapeutic practices. P, 3rd year Pharmacy standing or Nursing major, BIOL 325.

**NACC 330 Family Health Environments Across the Lifespan .....3**  
 Focuses on the application of nursing knowledge and competencies in the nursing care of clients with predictable outcomes in a variety of environments. P, NACC 264, 265/L, 280, 323. Corequisite course NACC 330L.

**NACC 330L Family Health Environments Across the Lifespan Clinical Lab .....0**  
 Corequisite course NACC 330.

**NACC 364 Professional Perspectives III .....1**  
 This course is a continuation of professional role development with emphasis on the role of provider of care. The professional value of autonomy or a patient's right to self-determination is the value central to this course. Nursing informatics and legal considerations of practice are explored. Quantitative nursing research is emphasized. P, NACC 304, 320/L, 330/L, HSC 443, PHA 321.

**NACC 370 Nursing Care of the Client with Medical-Surgical Problems .....10**  
 Focuses on the application of nursing knowledge and competencies to provide nursing care to clients experiencing health problems. P, NACC 304, NACC 320, NACC 320L, NACC 330, NACC 330L, PHA 321. Corequisite course NACC 370L.

**NACC 370L Nursing Care of the Client with Medical-Surgical Problems Clinical Lab .....0**  
 Corequisite course NACC 370.

**NACC 404 Professional Perspectives IV** .....1  
 This course is a continuation of professional role development with emphasis on the role of designer/manager/coordinator of care. The professional value of altruism or concern for the welfare and well being of others is the value central to this course. The concepts of case management, managed care, critical paths and variance analysis are emphasized. Quantitative nursing research methodology is further explored. P, NACC 364 and 370/L.

**NACC 410 Advanced Nursing Care of the Client with Medical-Surgical Health Problems** .....6  
 Expands on previous knowledge and skills to provide advanced nursing care to clients with complex health problems. P, NACC 364, NACC 370, NACC 370L. Corequisite course NACC 410L.

**NACC 410L Advanced Nursing Care of the Client with Medical-Surgical Health Problems Clinical Lab** .....0  
 Corequisite course NACC 410.

**NACC 420 Nursing Care of the Client with Mental Health Problems** .....4  
 Focuses on the application of nursing knowledge and competencies to provide nursing care to clients experiencing mental health problems. P, NACC 364, NACC 370, NACC 370L. Corequisite course NACC 420L.

**NACC 420L Nursing Care of the Client with Mental Health Problems Clinical Lab** .....0  
 Corequisite course NACC 420.

**NACC 460 Preparation for RN Licensure** .....1  
 This course is designed to assist nursing students with preparation for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) Computer Adaptive Testing (CAT). Students will answer test questions and discuss rationale for the answers using a cooperative learning group approach to prepare for the NCLEX-RN licensure examination.

**NACC 464 Professional Perspectives V** .....2  
 This course prepares the student for entry into professional nursing practice. Professional role development continues with emphasis on role synthesis. The professional value of social justice or upholding moral, legal and humanistic principles is the value central to this course. The concepts of leadership and delegation are emphasized. Qualitative nursing research is explored. Barriers and facilitators to nursing research utilization are analyzed. P, NACC 404, 410/L, 420/L, STAT 281 or HSC 445.

**NACC 475 Community as Client** .....3  
 Focuses on application of the nursing process to the community as client. Clinical experiences occur with groups, communities, aggregates and populations. P, NACC 404, 410/L, 420/L, STAT 281 or HSC 445. Corequisite course NACC 475L.

**NACC 475L Community as Client Clinical Lab** .....0  
 Corequisite course NACC 475.

**NACC 495 Practicum** .....1-6  
 P, NACC 404, 410/L, 420/L, STAT 281 or HSC 445. Corequisite course NACC 495L.

**NACC 495L Practicum Clinical Lab** .....0  
 Corequisite course NACC 495.

## NFS (Nutrition and Food Science)

### Undergraduate Courses

**NFS 110 Perspectives in Nutrition** .....3  
 Interdependence of the principles of human nutrition and food behavior to health of individuals and groups.

**NFS 111 Food, People and the Environment** .....3  
 The survey of global food cultures, their stewardship of natural resources, and their impacts on the environment. It will also explore the ethical issues of choices in post-harvest food processing and their interactions with the environment. The course will also cover topics related with the Land-Grant philosophy.

**NFS 141 Foods Principles** .....4  
 Scientific investigation of basic foods used to maintain optimum nutrition. Corequisite course NFS 141L.

**NFS 141L Foods Principles Lab** .....0  
 Corequisite course NFS 141.

**NFS 151 Food Technology** .....2  
 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 220 Health, Safety and Nutrition of Young Child** .....3  
 Exploration of school health, safety, first aid/CPR, disease control and nutrition; development of health and nutrition policies and standard in early childhood settings based on current public policy; creating a healthy and safe school environment for young children; exploration of materials and methods for teaching health, safety and nutrition in early childhood.

**NFS 221 Survey of Nutrition** .....3  
 Fundamentals of nourishing the body properly and the role that food plays in meeting the nutritional requirements of individuals. Designed for the student who lacks a science background but wishes to study human nutrition in some detail.

**NFS 291 Independent Study** .....1-3

**NFS 292 Topics** .....3

**NFS 295 Practicum** .....1-6

**NFS 298 Undergraduate Research/Scholarship** .....1-3

**NFS 321 Human Nutrition** .....3  
 The science of food, the nutrients and other substances therein, their action, interaction, and balance in relation to health and disease and the processes by which the organism ingests, digests, absorbs, transports, utilizes and excretes food substances. P, CHEM 106 and 108, or CHEM 112 and 114.

**NFS 322 Assessment Skills in Nutrition** .....4  
 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 dietician. P, NFS 321 or consent. Corequisite course NFS 322L.

**NFS 322L Assessment Skills in Nutrition Lab** .....0  
 Corequisite course NFS 322.

<b>NFS 341 Food Science</b> .....	<b>4</b>
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, NFS 141, CHEM 120. Corequisite course NFS 341L.	
<b>NFS 341L Food Science Lab</b> .....	<b>0</b>
Corequisite course NFS 341.	
<b>NFS 351 Principles of Food Processing</b> .....	<b>3</b>
Study of physical/chemical principles and approaches used in heat processing, freezing, dehydration, and fermentation of foods. Current processing methods will be considered in terms of preparation, processing, packaging, and quality control of food products. P, NFS 151, CHEM 106 or 114, or consent. Corequisite course NFS 351L.	
<b>NFS 351L Principles of Food Processing Lab</b> .....	<b>0</b>
Corequisite course NFS 351.	
<b>NFS 360 Food Chemistry</b> .....	<b>4</b>
The study of chemical properties of basic food constituents and chemical changes occurring during storage and processing. P, CHEM 120 or consent. Corequisite course NFS 360L.	
<b>NFS 360L Food Chemistry Lab</b> .....	<b>0</b>
Corequisite course NFS 360.	
<b>NFS 371 Food Service Purchasing</b> .....	<b>3</b>
Purchasing food, equipment and supplies for restaurants and institutions. Functions of management as applied to supplier selection, procurement, receipt, storage, issue, record keeping, and inventory control systems. This course involves in-depth analysis and development of purchase specifications and quality evaluation. P, HFM 261.	
<b>NFS 380 Foodservice Operations and Purchasing Management</b> .....	<b>3</b>
A managerial and systems approach to foodservice operations and purchasing. Crosslisted with HFM 380.	
<b>NFS 381 Quantity Food Production and Service</b> .....	<b>3</b>
Application of foodservice management principles in quantity food production, purchasing, and service. Crosslisted with HFM 381. P, NFS 141/141L, HFM 251 (or concurrently), HFM 380. Corequisite course NFS 381L.	
<b>NFS 381L Quantity Food Production and Service Lab</b> .....	<b>0</b>
Crosslisted with HFM 381L. Corequisite course NFS 381.	
<b>NFS 422 Advanced Human Nutrition</b> .....	<b>4</b>
Principles of physiological chemistry and physiology applied to nutrition. P, NFS 321, ZOOL 221and BIOL 325, CHEM 108 or 464 or consent.	
<b>NFS 424 Community Nutrition</b> .....	<b>3</b>
Application of learning principles, teaching methods and knowledge of nutrition in community nutrition education programs and out-patient nutrition counseling. P, NFS 321. Corequisite course NFS 424L.	
<b>NFS 424L Community Nutrition Lab</b> .....	<b>0</b>
Corequisite course NFS 424.	
<b>NFS 481 Food Science, Dietetics, and Hospitality Human Resources Management</b> .....	<b>3</b>
This course is the capstone experience for students in Nutrition, Food Science and Hospitality. Course will integrate knowledge with breakout sessions for the different subject matter areas in NFSH. Professionalism and professional ethics, management and employment principles, diversity issues, leadership styles, networking and mentoring will be discussed. P, senior standing in dietetics, food science or hotel and foodservice management. Crosslisted with HFM 481.	

<b>NFS 487 Transition to Professional World</b> .....	<b>1</b>
Transition to the professional world will identify expectations for the world of work. Emphasis on effective written and verbal communication skills as related to work experiences, issue analysis, and goal setting for the future. Students will prepare for professional experiences such as internships, graduate school and professional positions upon graduation. P, senior standing or consent. Crosslisted with CA 487.	
<b>NFS 494 Internship</b> .....	<b>1-7</b>
<b>NFS 495 Practicum</b> .....	<b>1-6</b>
<b>NFS 498 Undergraduate Research/Scholarship</b> .....	<b>1-3</b>

### Dual Listed Courses

<b>NFS 423-523 Clinical Nutrition I</b> .....	<b>3</b>
This course introduces the role of nutritional intervention in pathological conditions. Students will demonstrate the ability to screen for nutritional risk, collect data for nutritional assessment and calculate and/or define diets for common conditions. P, NFS 422. Corequisite course NFS 423L-523L.	
<b>NFS 423L-523L Clinical Nutrition I Lab</b> .....	<b>0</b>
Corequisite course NFS 423-523.	
<b>NFS 425-525 Clinical Nutrition II</b> .....	<b>3</b>
Continuation of NFS 423-523. Corequisite course NFS 425L-525L.	
<b>NFS 425L-525L Clinical Nutrition II Lab</b> .....	<b>0</b>
Corequisite course NFS 425-525.	
<b>NFS 450-550 Food Analysis</b> .....	<b>4</b>
Principles and techniques of physical and chemical analysis of food products. It will include proximate analysis of moisture, protein, lipid, and carbohydrates and chemical or instrumental analysis of vitamins, minerals and food additives. P, NFS 360, CHEM 120, or consent. Corequisite course NFS 450L-550L.	
<b>NFS 450L-550L Food Analysis Lab</b> .....	<b>0</b>
Corequisite course NFS 450-550.	
<b>NFS 451-551 New Food Product Development</b> .....	<b>4</b>
This course is designed as a capstone course for undergraduate Food Science students and an introductory course for graduate students in food-related majors. The principles and technologies of food storage, process and packaging will be discussed in depth. Emphasis will be placed in the development of new food products. P, NFS 351, MICR 311 or consent. Corequisite course NFS 451L-551L.	
<b>NFS 451L-551L New Food Product Development Lab</b> .....	<b>0</b>
Corequisite course NFS 451-551.	
<b>NFS 480-580 Travel Studies</b> .....	<b>1-5</b>
This travel-study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators at other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.	
<b>NFS 490-590 Seminar (AW)</b> .....	<b>1-2</b>
<b>NFS 491-591 Independent Study</b> .....	<b>1-3</b>
<b>NFS 492-592 Topics</b> .....	<b>1-3</b>
<b>NFS 493-593 Workshop</b> .....	<b>1-3</b>

## Graduate Courses

NFS 601 Orientation in Graduate Study .....	1
NFS 634 Techniques in Food and Nutrition Research .....	3
NFS 634L Techniques in Food and Nutrition Research Lab .....	0
NFS 660 Maternal and Child Nutrition .....	3
NFS 662 Sociocultural Aspects of Nutrition .....	2
NFS 702 Macronutrients in Human Nutrition .....	3
NFS 704 Phytochemicals .....	2
NFS 725 Nutrition and Human Performance .....	3
NFS 760 Vitamins and Minerals in Human Nutrition .....	3
NFS 761 Nutrition of the Aged .....	3
NFS 788 Individual Research and Study .....	1-7
NFS 790 Seminar .....	1
NFS 791 Independent Study .....	1-3
NFS 792 Topics .....	1-3
NFS 794 Internship .....	1-7
NFS 798 Thesis .....	1-7

## NURS (Nursing)

### Undergraduate Courses

NURS 110 Associate Degree Pre-Nursing Orientation .....	0	Pre-Nursing Associate Degree orientation.
NURS 111 Orientation Basic Nursing Student .....	0	Basic nursing student orientation.
NURS 112 Orientation to RN Upward Mobility Program .....	0	
NURS 201 Medical Terminology .....	1	Study of definition and use of medical terms common to many health-related disciplines. Enrollment limited to freshmen and sophomores, or with permission of the instructor.
NURS 202 Professional Nursing and Health Care System I .....	2	
NURS 215 Professional Nursing .....	2	Introduction to the profession of nursing within the context of a changing healthcare system. The professional nursing values of human dignity, altruism, integrity, autonomy, and social justice are explained with emphasis on human dignity. The professional nursing roles of provider of care, designer/manager/coordinator of care and member of the profession are described. Corequisite courses NURS 265-265L, 280-280L, 323.
NURS 222 Transition to BS in Nursing .....	1	Introduces the RN student to the nature of baccalaureate nursing education. Students participate in self-assessment of strengths within the various professional nursing roles. Includes an overview of the curriculum concepts as applied to RN education as well as an overview of The Essentials of Baccalaureate Education for Professional Nursing Practice document with related values and concepts. Includes an introduction to nursing informatics as a tool for lifelong learning.

**NURS 265 Health Assessment and Interventions.....4**  
 Introduces health assessment skills and selected nursing interventions at the novice nursing student level. Emphasis is on the role of nurse as provider of care and a member of the profession. P, MICR 231, BIOL 325, NFS 321, HDFS 210; 3 credits from SOC 100, 150, 240, 250 or 440. Corequisite courses NURS 265L, 215, 280-280L, 323.

**NURS 265L Health Assessment and Interventions Lab .....**0  
 Corequisite course NURS 265.

**NURS 280 Professional Communication.....3**  
 Focus is on communication skills essential to the profession of nursing. Emphasis is placed on professional communication of the nurse with clients and colleagues. P, PSYC 101. Corequisite courses NURS 280L, 215, 265-265L, 323.

**NURS 280L Professional Communication Lab .....**0  
 Corequisite courses NURS 280.

**NURS 282 Health Promotion .....**2  
 Focus on health with an emphasis on the role of the nurse in health promotion, risk reduction, and disease prevention. Corequisite courses NURS 264, 265, 280, 280L, 323.

**NURS 290 Seminar .....**1

**NURS 293 Workshop .....**1-3

**NURS 304 Professional Perspectives II.....1**  
 This course is a continuation of professional role development with emphasis on the role of member of a profession. The professional value of integrity or acting in accordance within an appropriate code of ethics and accepted standards of practice is the value central to the course. The concepts of role socialization and ethics are explored. P, NURS 264, 265/L, 280/L, 282, 323. Corequisite courses NURS 320 and 330, PHA 321.

**NURS 310 Introduction to Public Health and Population-based Nursing.....4**

Focuses on an introduction to public health and population-based nursing care. Public health principles are applied to the health promotion, risk reduction and disease prevention needs of clients. Clinical application occurs with children and adults in community settings. P, NURS 215, 265-265L, 280-280L, 323. Corequisite courses NURS 310L, 325-325L, PHA 321.

**NURS 310L Introduction to Public Health and Population-based Nursing Lab.....0**  
 Corequisite course NURS 310.

**NURS 323 Introduction to Pathophysiology.....3**  
 This course covers topics which will provide a current understanding of the major disease processes across the lifespan. The course will lay the foundation for the study of pharmacological mechanisms of action of drugs and their rational clinical use. Of interest will be the linkage of relevant modern biology to the different disease states, attention to gender differences, especially regarding epidemiology and pathological changes, and the integration of health promotion and disease prevention, by emphasizing risk factors, nutritional requirements, and other relevant therapeutic practices. P, 3rd year Pharmacy standing or Nursing major; BIOL 325.

**NURS 325 Beginning Nursing Care of the Client with Health Problems.....6**

Focuses on nursing core knowledge and core competencies to provide beginning nursing care to clients with health problems. Clinical application occurs with adult and older adult clients experiencing health problems. P, NURS 215, 265-265L, 280/280L, 323. Corequisite courses NURS 310-310L, 325L, PHA 321.

**NURS 325L Beginning Nursing Care of the Client with Health Problems Lab** .....0  
 Corequisite course NURS 325.

**NURS 330 Family Health Environments Across the Lifespan** .....3  
 Focuses on the application of nursing knowledge and competencies in the nursing care of clients with predictable outcomes in a variety of environments. P, NURS 264, 265/L, 280, 323. Corequisite courses NURS 330L, 304, 320, and PHA 321.

**NURS 330L Family Health Environments Across the Lifespan Clinical Lab** .....0  
 Corequisite course NURS 330.

**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  
 This course is a continuation of professional role development with emphasis on the role of provider of care. The professional value of autonomy or a patient's right to self-determination is the value central to this course. Nursing informatics and legal considerations of practice are explored. Quantitative nursing research is emphasized. P, NURS 304, 320/L, 330/L, HSC 443, PHA 321. Corequisite course NURS 370/L.

**NURS 370 Nursing Care of the Client with Medical-Surgical Health Problems** .....10  
 Focuses on the application of nursing knowledge and competencies to provide nursing care to clients experiencing health problems. P, NURS 304, NURS 320, NURS 320L, NURS 330, NURS 330L, PHA 321. Corequisite courses NURS 370L, NURS 364.

**NURS 370L Nursing Care of the Client with Medical-Surgical Health Problems Lab Clinical Lab**.....0  
 Clinical corequisite course NURS 370.

**NURS 380 Family as Client: Emerging and Developing** .....6  
 Focuses on the application of nursing knowledge and competencies regarding childbearing and family health to provide nursing care to individuals and families. P, NURS 264, 265/L, 280/L, 282, 323. Corequisite courses NURS 320L, 304, 330, and PHA 321.

**NURS 380L Family as Client: Emerging and Developing Clinical Lab** .....0  
 Corequisite course NURS 320.

**NURS 381 Family and Communication**.....3  
 This course focuses on communication as an intervention with family as client. The student will be exposed to major family and communication theories. Emphasis is on holistic family assessment and interventions. The professional value of "Autonomy" or the patient's right to self-determination is the value-based behavior central to this course. Prerequisite or corequisite course NURS 222.

**NURS 385 Health Assessment, Clinical Decision-Making and Nursing Interventions**.....5  
 This course concentrates on the deliberative process utilized by the baccalaureate prepared nurse. The course will build upon the assessment intervention skills acquired in the student's previous education and will emphasize clinical decision making and use of research based interventions. Includes a practicum component in which the nursing process is applied to families and clients across the age continuum in the home setting. The professional value of "Human Dignity" or respect for the inherent worth and uniqueness of individuals and populations is value-based behavior central to this course. P, NURS 222, NURS 381, RN License.

**NURS 404 Professional Perspectives IV**.....1  
 This course is a continuation of professional role development with emphasis on the role of designer/manager/coordinator of care. The professional value of altruism or concern for the welfare and well being of others is the value central to this course. The concepts of case management, managed care, critical paths and variance analysis are emphasized. Quantitative nursing research methodology is further explored. P, NURS 364, 370/L. Corequisite courses NURS 410/L, 420/L.

**NURS 410 Advanced Nursing Care of the Client with Medical-Surgical Health Problems** .....6  
 Expands on previous nursing knowledge and competencies to provide advanced nursing care to clients with complex health problems. P, NURS 364, NURS 370, NURS 370L. Corequisite courses NURS 420/L, NURS 404, NURS 410L.

**NURS 410L Advanced Nursing Care of the Client with Medical-Surgical Health Problems Clinical Lab** .....0  
 Corequisite course NURS 410L.

**NURS 416 Community Health Nursing (AW)**.....5  
 Introduces the RN to the concept of community as client by examining community health issues and the role of nursing in providing care to populations. Emphasis is on community assessment, health education, program planning and evaluation. Practice experiences will include rural and/or urban community settings. The professional value of "Altruism" or concern for the welfare and well being of others is the value-based behavior central to this course. P, NURS 222, NURS 381, NURS 385, RN License.

**NURS 420 Nursing Care of the Client with Mental Health Problems** .....4  
 Focuses on the application of nursing knowledge and competencies to provide nursing care to clients experiencing mental health problems. P, NURS 364, NURS 370, NURS 370L. Corequisite courses NURS 420L, NURS 404, NURS 410.

**NURS 420L Nursing Care of the Client with Mental Health Problems Lab Clinical Lab**.....0  
 Clinical corequisite course: NURS 420.

**NURS 454 Leadership and Management**.....3  
 This course focuses on three areas: management theory, leadership practice and political and economic issues within professional nursing practice. Resource management, change theory, organization and other group behavior will be discussed. Conflict resolution, negotiation, and group process skills are also addressed. The professional value of "Social Justice" or upholding moral, legal, and humanistic principles is the value-based behavior central to this course. P, NURS 222, NURS 381.

**NURS 460 Preparation for RN Licensure**.....1  
 This course is designed to assist nursing students with preparation for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) Computer Adaptive Testing (CAT). Students will answer test questions and discuss rationale for the answers using a cooperative learning group approach to prepare for the NCLEX-RN licensure examination.

**NURS 464 Professional Perspectives V** .....2  
 This course prepares the student for entry into professional nursing practice. Professional role development continues with emphasis on role synthesis. The professional value of social justice or upholding moral, legal and humanistic principles is the value central to this course. The concepts of leadership and delegation are emphasized. Qualitative nursing research is explored. Barriers and facilitators to nursing research utilization are analyzed. P, NURS 404, 410/L, 420/L, STAT 281 or HSC 445. Corequisite courses NURS 475, 495.

<b>NURS 474 Nursing Research and Nursing Theory</b> .....	<b>3</b>
Prepares the baccalaureate nurse to analyze, critique, and apply nursing research in a practice environment and to utilize selected nursing theories. Various models of research utilization will also be presented and discussed. The professional value of "Integrity" or acting in accordance with an appropriate code of ethics and accepted standards of practice is the value-based behavior central to this course. P; NURS 222, NURS 381.	
<b>NURS 475 Community as Client</b> .....	<b>3</b>
Focuses on application of the nursing process to the community as client. Clinical experiences occur with groups, communities, aggregates and populations. P, NURS 404, 410/L, 420/L, STAT 281 or HSC 445. Corequisite courses NURS 475L, 464, 495.	
<b>NURS 475L Community as Client Clinical Lab</b> .....	<b>0</b>
Corequisite course NURS 475.	
<b>NURS 483 Computer Applications in Health Care</b> .....	<b>3</b>
Capabilities and limitations of computers; basic concepts and principles of system organization and operation; application of computer programs in health diagnosis, treatment and facilities operations; teaching, continuing education and research. Open to upper division undergraduate students.	
<b>NURS 491 Independent Study</b> .....	<b>1-3</b>
<b>NURS 492 Topics</b> .....	<b>1-4</b>
<b>NURS 495 Practicum (AW)</b> .....	<b>1-6</b>
<b>NURS 495L Practicum Clinical Lab</b> .....	<b>0</b>
Corequisite course NURS 495.	
<b>NURS 497 Cooperative Education</b> .....	<b>1-4</b>

## Graduate Courses

<b>NURS 615 Advanced Nursing Practice: Introduction to Roles and Issues</b> .....	<b>3</b>
<b>NURS 623 Pathophysiology Applied to Advanced Practice Nursing</b> .....	<b>4</b>
<b>NURS 624 Neonatal Pathophysiology</b> .....	<b>4</b>
<b>NURS 625 Human Sexuality in Health Care</b> .....	<b>3</b>
<b>NURS 626 Research Methods for Advanced Practice Nursing</b> .....	<b>3</b>
<b>NURS 630 Advanced Assessment of Neonate</b> .....	<b>2</b>
<b>NURS 630L Advanced Assessment: Neonate Clinical Lab</b> .....	<b>0</b>
<b>NURS 631 Advanced Assessment: Lifespan</b> .....	<b>3-4</b>
<b>NURS 631L Advanced Assessment: Lifespan Clinical Lab</b> .....	<b>0</b>
<b>NURS 635 Dying, Death and Bereavement</b> .....	<b>2-3</b>
<b>NURS 640 Legal and Ethical Accountability in Health Care</b> .....	<b>2</b>
<b>NURS 641 Transformational Leadership</b> .....	<b>3</b>
<b>NURS 642 Application of Advanced Concepts of Nursing Care</b> .....	<b>3</b>
<b>NURS 643 Clinical Nurse Leader I</b> .....	<b>3</b>
<b>NURS 644 Clinical Nurse Leader II</b> .....	<b>3</b>
<b>NURS 650 Management of Acute and Chronic Pain</b> .....	<b>3</b>
<b>NURS 655 Health and the Older Adult</b> .....	<b>2</b>
<b>NURS 670 Health Policy, Legislation, Economics and Ethics</b> .....	<b>3</b>
<b>NURS 690 Seminar</b> .....	<b>1-4</b>
<b>NURS 691 Independent Study</b> .....	<b>1-3</b>

<b>NURS 691L Independent Study Clinical</b> .....	<b>0</b>
<b>NURS 692 Topics</b> .....	<b>1-3</b>
<b>NURS 710 Curriculum Development and Instruction in Nursing</b> .....	<b>3</b>
<b>NURS 720 Technology-Based Instruction for Nurse Educators</b> .....	<b>3</b>
<b>NURS 725 Patient Care Management</b> .....	<b>3</b>
<b>NURS 750 Leadership in Nursing</b> .....	<b>3</b>
<b>NURS 755 Rural Health Care</b> .....	<b>3</b>
<b>NURS 760 Health Promotion and Disease Prevention Across the Lifespan</b> .....	<b>2-4</b>
<b>NURS 760L Health Promotion and Disease Prevention Lab</b> .....	<b>0</b>
<b>NURS 765 Family Nursing Practitioner: Practicum I</b> .....	<b>5</b>
<b>NURS 770 Clinical Nursing Specialist: Practicum</b> .....	<b>4-6</b>
<b>NURS 770L Clinical Nursing Specialist: Practicum Clinical Lab</b> .....	<b>0</b>
<b>NURS 771 Family Nursing Practitioner: Practicum II</b> .....	<b>7</b>
<b>NURS 772 Neonatal Nursing Practitioner: Practicum I</b> .....	<b>6</b>
<b>NURS 772L Neo Nursing Practitioner: Practicum I Clinical Lab</b> .....	<b>0</b>
<b>NURS 774 Nurse Administrator: Practicum</b> .....	<b>6</b>
<b>NURS 774L Nursing Administrator: Practicum Clinical Lab</b> .....	<b>0</b>
<b>NURS 776 Family Nursing Practitioner III: Small Group Instruction</b> .....	<b>3</b>
<b>NURS 777 Family Nursing Practitioner III: Internship</b> .....	<b>3-9</b>
<b>NURS 778 Nursing Education: Practicum</b> .....	<b>6</b>
<b>NURS 778L Nursing Education: Practicum Clinical Lab</b> .....	<b>0</b>
<b>NURS 779 Neonatal Nursing Practitioner: Practicum II</b> .....	<b>12</b>
<b>NURS 779L Neo Nursing Practitioner: Practicum II Clinical Lab</b> .....	<b>0</b>
<b>NURS 785 Self Care: The Older Adult</b> .....	<b>3</b>
<b>NURS 788 Problems in Nursing Research</b> .....	<b>1-2</b>
<b>NURS 790 Seminar</b> .....	<b>1-3</b>
<b>NURS 798 Thesis</b> .....	<b>1-7</b>
<b>NURS 810 Doctoral Seminar</b> .....	<b>1</b>
<b>NURS 815 Philosophical Basis for Nursing</b> .....	<b>3</b>
<b>NURS 820 Theory Development in Nursing</b> .....	<b>3</b>
<b>NURS 825 Qualitative Research Methods in Nursing</b> .....	<b>3</b>
<b>NURS 830 Quantitative Methods in Nursing Research</b> .....	<b>3</b>
<b>NURS 835 Ethical Issues Influencing Practice and Research in Health Disciplines</b> .....	<b>3</b>
<b>NURS 840 Health Promotion Theory and Research in Underserved Populations</b> .....	<b>3</b>
<b>NURS 845 Instrument Construction and Evaluation with Underserved Populations</b> .....	<b>3</b>
<b>NURS 890 Research Problems</b> .....	<b>1-6</b>
<b>NURS 898 Dissertation Research</b> .....	<b>18-24</b>



## PE (Physical Education)

### Undergraduate Courses

**PE 100 Activity Courses (COM)**..... 0.5-1  
 Activities stressing individual physical fitness and lifetime activities according to student needs and interest.

**PE 170 Fundamental Movement (COM)** .....1  
 A survey of the historical background, sociological implications, philosophical basis, and professional opportunities of HPERW professions. This course includes a review of the modern principles and related concepts which are applicable to physical activity.

**PE 180 Foundations of HPER (COM)** .....2  
 A survey of the historical background, sociological implications, and philosophical basis of physical education. This course includes a review of the modern principles and related concepts which are applicable to physical activity.

**PE 192 Topics**..... 5-1.5

**PE 200 Professional Preparation: Fitness (COM)** .....1  
 Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities which are part of lifetime fitness development.

**PE 201 Professional Preparation: Gymnastics (COM)** .....1  
 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.

**PE 202 Professional Preparation: Individual and Dual Activities (COM)**.....1-2  
 Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities involved in participating in individual and dual sport and game activities. Focus will be on activities appropriate for school settings, leading to personal skill development.

**PE 203 Professional Preparation: Team Activities (COM)** .....1  
 Knowledge and skill necessary to enable students to lead, analyze and prescribe movement skills and activities involved in participating in team sports and game activities. Focus will be on activities appropriate for school settings, leading to person skill development.

**PE 204 Professional Preparation: Rhythm and Dance (COM)** .....1  
 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.

**PE 252 Fundamentals of Motor Learning and Development (COM)**.....2  
 Course content deals with characteristic motor development patterns in children with concentration on fundamental locomotor, non-locomotor, and manipulative skills and perceptual-motor development and practical applications of research and knowledge to physical education classroom teaching.

**PE 252L Fundamentals of Motor Learning and Development Lab (COM)** .....0  
 Accompanies PE 252. Corequisite course PE 252.

**PE 320 Lifeguard Training (COM)** .....1  
 The course focuses on skills and knowledge to properly assume responsibilities of lifeguards at swimming pools and non-surf beaches.

**PE 320L Lifeguard Training Lab** .....0  
 Corequisite course PE 320.

**PE 321 Water Safety Instructor (COM)** .....1-2  
 Method of instruction and evaluation of water safety techniques. Successful students may earn American Red Cross water safety instructor certification.

**PE 321L Water Safety Instructor Lab (COM)** .....0  
 Accompanies PE 321.

**PE 322 Lifeguard Instructor (COM)** .....1  
 Certification as a lifeguard instructor will qualify an individual to teach basic water safety, emergency water safety and the lifeguard training course. P, PE 320.

**PE 335 Assisting Teaching** .....1  
 Application of movement analysis, prescription knowledge and skills to an activity setting in a basic physical activity course. P, consent.

**PE 341 Curriculum Development and Evaluation (COM)** .....2  
 Philosophy, theory, and application of current curriculum foundations in K-12 physical education, including curriculum theory, organization, design, and assessment. P, PE 180.

**PE 350 Exercise Physiology (COM)** .....2-3  
 Study of physiological responses and adaptations to exercise related to human performance limitations, training effects, and health-related benefits. P, BIOL 221, BIOL 325.

**PE 352 Adapted Physical Education (COM)** .....2  
 Students are exposed to those impairments addressed in idea as they relate to physical education. Assessments, IEP development, and other elements necessary to successful inclusion are addressed. In addition, physical activities for special populations outside the school setting are also addressed.

**PE 354 Prevention and Care of Athletic Injuries (COM)** .....2  
 Course teaches general and emergency treatment of athletic injuries, competitive or noncompetitive. Emphasis is placed on practical preventive and rehabilitative exercises and taping/bandaging/wrapping.

**PE 354L Prevention and Care of Athletic Injuries Lab (COM)**.....0  
 Accompanies PE 354. Corequisite course PE 354.

**PE 360 K-8 Physical Education Methods (COM)** .....2  
 In this course, students develop an understanding of the tools of inquiry of K-8 physical education; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to K-8 physical education; the ability to assess student learning in K-8 physical education; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

**PE 360L K-8 Physical Education Methods Lab (COM)**.....0  
 Accompanies PE 360. Corequisite course PE 360.

**PE 367 Practicum: Fitness Management** .....2  
 This course is designed to have health promotion majors continue their professional role development. In addition, students will participate in activities that focus on the physical, social and intellectual dimensions of wellness. P, PE 350.

**PE 395 Practicum (COM)**.....3

**PE 400 Exercise Test and Prescription (COM)** .....3  
 This course is designed to provide the student with the knowledge, skills, and abilities to assess different areas of physical fitness and prescribe individual exercise programs based on these objective measures. P, PE 350.



- PE 400L Exercise Test and Prescription Lab (COM).....0**  
 This course will provide hands-on experience in the laboratory to supplement the theoretical classroom discussion in PE 400 and will prepare the student to take entry-level certification such as the American College of Sports Medicine Health and Fitness Instructor Certification. Corequisite course PE 400.
- PE 440 Organization and Administration of HPER/Athletics (COM) ...2**  
 Administrative policies and procedures of physical education and athletics, including intramural and interscholastic activity and athletics. Consideration is given to programming, leadership, budget, facilities, public relations, and related matters.
- PE 451 Tests and Measurements (COM) .....2**  
 This course will include use of various tests and instruments used for measuring progress in physical education and how statistical concepts apply to testing in physical education. Development of the knowledge and ability to utilize both formative and summative assessments for psychomotor, cognitive, and affective domains. Additionally, techniques to evaluate one's own teaching performance and make adjustments to enhance subsequent teaching and program effectiveness. P, MATH 102 or 115 or 120, or 121 or 123 or 125 or 281.
- PE 451L Tests and Measurements Lab (COM).....0**  
 Accompanies PE 451. Corequisite course PE 451.
- PE 453 Sport Psychology (COM) .....2-3**  
 This course examines the effects of psychological factors, such as personality, motivation, group dynamics, psychomotor activity, and other psychological aspects of sports on participation and performance, as well as examining the effects of participation on the psychological make-up of the individual. (May be taught on demand.)
- PE 454 Biomechanics (COM).....3**  
 This course emphasizes the mechanical principles of human movement (including muscular and skeletal principles) during physical education, wellness, and sport. P, PE 250 and 353, or PE 345 and 346, or ZOOL 221.
- PE 467 Coaching Swimming (COM).....2**  
 Theory and practice of individual fundamentals and team strategies. Organization and management procedures specific to swimming. (May be taught on demand.)
- PE 467L Coaching Swimming Lab (COM) .....0**  
 Accompanies PE 467. Corequisite course PE 467. (May be taught on demand.)
- PE 469 Coaching Baseball/Softball (COM) .....1**  
 Course studies the theory and practice of individual skill fundamentals, team strategies, organization, and management principles. The students conduct an intensive analysis of game strategies and will execute playing skills.
- PE 469L Coaching Baseball/Softball Lab: Officiating (COM).....1**  
 This laboratory experience accompanies PE 469 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate baseball/softball competition. Corequisite course PE 469.
- PE 470 Coaching Basketball (COM) .....1**  
 Fundamental techniques and strategies with emphasis on offensive and defensive skills, developing and using player personnel for basketball.
- PE 470L Coaching Basketball Lab: Officiating (COM).....1**  
 Focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate basketball competition. Corequisite course PE 470.
- PE 471 Coaching Football (COM).....1**  
 Fundamental techniques and strategies with emphasis on offensive and defensive skills, developing and using player personnel for football.
- PE 471L Coaching Football Lab: Officiating (COM).....1**  
 This laboratory experience accompanies PE 471 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate football competition. Corequisite course PE 471.
- PE 472 Coaching Golf (COM) .....2**  
 The teaching of fundamental skills and rules in competitive golf. (May be taught on demand.)
- PE 472L Coaching Golf Lab (COM) .....0**  
 Accompanies PE 472. Corequisite course PE 472. (May be taught on demand.)
- PE 473 Coaching Track and Field/Cross Country (COM) .....1**  
 Study of the techniques of teaching fundamentals of track and field/cross country skills, scientific training methods, rules, and event techniques.
- PE 473L Coaching Track and Field/Cross Country: Officiating Country (COM).....1**  
 This laboratory experience accompanies PE 473 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate track and field and cross country competitions. Corequisite course PE 473.
- PE 474 Coaching Wrestling (COM) .....1**  
 The teaching of fundamental skills in competitive wrestling. Skills, fundamentals, and basic moves will be discussed and demonstrated with class participation. Strategy for individual wrestler on the mat and for team situations will be included.
- PE 474L Coaching Wrestling: Officiating (COM) .....1**  
 This laboratory experience accompanies PE 474 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate wrestling competition. Corequisite course PE 474.
- PE 475 Coaching Volleyball (COM) .....1**  
 Fundamental techniques and strategy with emphasis on offensive and defensive skills, developing and using player personnel for volleyball.
- PE 475L Coaching Volleyball: Officiating (COM).....1**  
 This laboratory experience accompanies PE 475 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate volleyball competition. Corequisite course PE 475.
- PE 476 Coaching Gymnastics (COM) .....1**  
 The teaching of fundamental skills in competitive gymnastics. Teaching and spotting of advanced skills needed for competition. Review of high school, national, and international rules. (May be taught on demand.)
- PE 476L Coaching Gymnastics: Officiating (COM).....1**  
 This laboratory experience accompanies PE 476 and focuses on the knowledge, skills, and techniques (including positioning, responsibilities, and rules) necessary to accurately, fairly, and effectively officiate gymnastics competition. Corequisite course PE 476. (May be taught on demand.)

<b>PE 480 K-12 Methods of Teaching PE (COM)</b> .....	3
In this course, students develop an understanding of the tools of inquiry of K-12 education, the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to K-12 physical education; the ability to assess student learning in K-12 physical education; and to apply these knowledge, skills, and attitudes to real life situations and experiences. P, consent.	
<b>PE 480L K-12 Methods of Teaching PE Lab</b> .....	0
Accompanies PE 480. Corequisite course PE 480.	
<b>PE 490 Seminar (AW)</b> .....	1-3
P, consent.	
<b>PE 491 Independent Study (COM)</b> .....	1-4
<b>PE 492 Topics (COM)</b> .....	1-3
<b>PE 496 Field Experience (COM)</b> .....	1-12

### Dual Listed Courses

<b>PE 450-550 Clinical Exercise Physiology</b> .....	3
This course is designed to provide the clinical exercise physiology student with assessment and prescription techniques appropriate to special populations. P, PE 350, NURS 323, and consent.	
<b>PE 455-555 ECG and Clinical Stress Testing</b> .....	3
This course is designed to fill the needs of students who desire the ability to interpret the normal and abnormal, resting and exercise ECG, as well as provide opportunities to learn and practice the basic components of maximal stress testing during a variety of exercise conditions. Since clinical stress testing and ECG interpretation is a vital component of the laboratory skills needed by today's exercise physiologist, emphasis in this course will be focused on understanding and interpreting ECG tracings and related pathophysiology, preparation of the exercise 12-lead ECG, and interpretation of maximal stress test results regarding exercise tolerance for various clinical populations and comparing them to normal individuals. In addition, an overview of other diagnostic procedures that involve the use of exercise will be given. P, PE 350 and PE 400.	
<b>PE 485-585 Travel Studies</b> .....	1-5
This travel course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of SDSU or other institutions. Students will participate in hands-on activities and design educational activities for presentations at selected locations. Includes pre-travel orientation, post-travel exit interview, and a written report.	
<b>PE 493-593 Workshop (COM)</b> .....	1-3

### Graduate Courses

<b>PE 730 Physical Education Teacher Education</b> .....	3
<b>PE 732 Analysis and Strategies of Teaching and Supervising Physical Education and Sports</b> .....	3
<b>PE 750 Advanced Exercise Physiology</b> .....	3
<b>PE 751 Lab Techniques in Exercise Physiology</b> .....	2
<b>PE 751L Lab Techniques in Exercise Physiology Lab</b> .....	0
<b>PE 755 Applied Exercise Physiology</b> .....	3

<b>PE 770 Advanced Administration of Interscholastic Athletics</b> .....	2
<b>PE 771 Curriculum Trends in HPER and Athletics</b> .....	3
<b>PE 772 Financial Aspects of Sports Management</b> .....	3

## PHA (Pharmacy)

### Undergraduate Courses

<b>PHA 101 Introduction to Pharmacy</b> .....	1
Introduction to pharmacy and the role of the pharmacist within the contemporary health care team. Also includes introductory material relating to U.S. Health Care and medical terminology.	
<b>PHA 201 Medications and Wellness</b> .....	2
Principles of drug action, examination of medical and legal aspects of use and misuse of prescription, non-prescription and illicit drugs.	
<b>PHA 310 Introduction to Pharmaceutical Care</b> .....	2
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, P1 year standing.	
<b>PHA 311 Professional Issues and Communications (AW)</b> .....	2
Current theories and practice, oral and written, in interpersonal and professional communication. P, P1 year standing. Corequisite course PHA 311L.	
<b>PHA 311L Professional Issues and Communications Lab</b> .....	0
Corequisite course PHA 311.	
<b>PHA 313 Pharmaceutical Calculations</b> .....	2
Systems of weights and measures and mathematical problems encountered in pharmaceutical practice. P, P1 year standing.	
<b>PHA 320 Introduction to Pathophysiology</b> .....	3
Pathophysiology of significant and more common diseases will be discussed at a systems level with limited discussion at the cellular level. Appropriate patient information will also be integrated for each disease. P, P1 year Pharmacy standing or Nursing major, and BIOL 325.	
<b>PHA 321 Pharmacology</b> .....	3
Basics of pharmacology and therapeutics for nurses and others. P, CHEM 108, BIOL 325, NURS 323.	
<b>PHA 323 Pharmaceutical Biochemistry</b> .....	4
Chemical structure, function, biosynthesis and catabolism of biomolecules in order to understand the biochemical basis of disease and the metabolism and mechanism of action of medicinal agents. P, P1 year standing.	
<b>PHA 324 Biomedical Science</b> .....	4
Properties, activities, mechanism of action and therapeutic use of biologics (e.g., monoclonal antibodies, vaccines, therapeutic proteins) and technologies involved in their production. P, P1 year standing, PHA 323.	
<b>PHA 331 Pharmaceutics I</b> .....	3
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. P, P1 year standing.	
<b>PHA 332 Pharmaceutics II</b> .....	4
Theory, preparation and application of pharmaceutical dosage forms and drug delivery systems. Corequisite course PHA 332L.	
<b>PHA 332L Pharmaceutics II Lab</b> .....	0
Corequisite course PHA 332.	

<b>PHA 340 Medicinal Chemistry I</b> .....	<b>4</b>
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. P, P1 year standing. Corequisite course PHA 340L.	
<b>PHA 340L Medicinal Chemistry I Lab</b> .....	<b>0</b>
Corequisite course PHA 340.	
<b>PHA 341 Medicinal Chemistry II</b> .....	<b>4</b>
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. Corequisite course PHA 341L.	
<b>PHA 341L Medicinal Chemistry II Lab</b> .....	<b>0</b>
Corequisite course PHA 341.	
<b>PHA 367 Early Practice Experiences I</b> .....	<b>0.5</b>
The course is designed to provide an early exposure to the skills related to the pharmacy practice. This course will be followed by sequential courses (EPE II-VI) in P2 and P3 years.	
<b>PHA 368 Early Practice Experiences II</b> .....	<b>0.5</b>
This course will be the continuation course to teach clinical skills related to pharmacy practice.	
<b>PHA 415 Biopharmaceutics and Pharmacokinetics</b> .....	<b>5</b>
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, P2 year standing.	
<b>PHA 430 Pharmacy Practice Law</b> .....	<b>3</b>
State and federal laws and regulations. P, P2 year standing.	
<b>PHA 441 Chemotherapeutic Agents</b> .....	<b>2</b>
Principles of medicinal chemistry, pharmacology, toxicology, and introduction to pharmacotherapy of chemotherapeutic agents. P, P2 year standing.	
<b>PHA 442 Pharmacology I (AW)</b> .....	<b>5</b>
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. P, P2 year standing. Corequisite course PHA 442L.	
<b>PHA 442L Pharmacology I Lab</b> .....	<b>0</b>
Corequisite course PHA 442.	
<b>PHA 443 Pharmacology II</b> .....	<b>5</b>
Principles of medicinal chemistry, pharmacology, toxicology and introduction to pharmacotherapy. P, PHA 442. Corequisite course PHA 443L.	
<b>PHA 443L Pharmacology II Lab</b> .....	<b>0</b>
Corequisite course PHA 443.	
<b>PHA 445 Research Design</b> .....	<b>2</b>
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, P2 year standing.	
<b>PHA 446 Drug Information I (AW)</b> .....	<b>1</b>
Effective retrieval, evaluation and dissemination of medication information. Pharmacy involvement in formulary management, drug review programs, and monitoring and prevention of adverse drug effects.	
<b>PHA 447 Drug Information II (AW)</b> .....	<b>1</b>
This is a continuation of course "Drug Information I." Effective retrieval, evaluation and dissemination of medication information. Pharmacy involvement in formulary management, drug review programs, and monitoring and prevention of adverse drug effects.	

<b>PHA 450 Drug Distribution Systems</b> .....	<b>4</b>
Principles of contemporary pharmacy services in institutional and community settings. P, P2 standing. Corequisite course PHA 450L.	
<b>PHA 450L Drug Distribution Systems Lab</b> .....	<b>0</b>
Corequisite course PHA 450.	
<b>PHA 465 Professional Resources Management</b> .....	<b>4</b>
Professional, economic, and social considerations influencing the organization and management of the delivery of pharmaceutical services. P, P2 year standing. Corequisite course PHA 465L.	
<b>PHA 465L Professional Resources Management Lab</b> .....	<b>0</b>
Corequisite course PHA 465.	
<b>PHA 467 Early Practice Experiences III</b> .....	<b>0.5</b>
This course will be the continuation course to teach clinical skills related to pharmacy practice.	
<b>PHA 468 Early Practice Experiences IV</b> .....	<b>0.5</b>
This course will be the continuation course to teach clinical skills related to pharmacy practice.	
<b>PHA 487 Research Problems</b> .....	<b>1-3</b>
Students may elect research problems in one of the pharmaceutical sciences, biopharmaceutics, pharmaceuticals, pharmaceutical chemistry, or pharmacology; or in an appropriate area of pharmacy practice. P, consent.	
<b>PHA 491 Independent Study</b> .....	<b>1-3</b>
<b>PHA 492 Topics</b> .....	<b>1-3</b>

## Graduate Courses

<b>PHA 645 Pharmacotherapeutics: Application to Advanced Practice</b> .....	<b>2-4</b>
<b>PHA 646 Neonatal Pharmacotherapeutics</b> .....	<b>2</b>
<b>PHA 647 Pharmacological Issues in Mental Health Counseling</b> .....	<b>3</b>
<b>PHA 700 Directed Studies Practice Experience</b> .....	<b>4-5</b>
<b>PHA 701 Home Health/Hospice Practice Experience</b> .....	<b>5</b>
<b>PHA 702 Indian Health Services Practice Experience</b> .....	<b>5</b>
<b>PHA 703 Pharmacy Administration Practice Experience</b> .....	<b>5</b>
<b>PHA 704 Nutrition Support Practice Experience</b> .....	<b>5</b>
<b>PHA 705 Clinical Research Practice Experience</b> .....	<b>5</b>
<b>PHA 706 Critical Care Practice Experience</b> .....	<b>5</b>
<b>PHA 707 Infectious Disease Practice Experience</b> .....	<b>5</b>
<b>PHA 708 Surgery Practice Experience</b> .....	<b>5</b>
<b>PHA 709 Nephrology Practice Experience</b> .....	<b>5</b>
<b>PHA 710 Pharmacokinetics Practice Experience</b> .....	<b>5</b>
<b>PHA 711 Oncology Practice Experience</b> .....	<b>5</b>
<b>PHA 712 Nuclear Pharmacy Practice Experience</b> .....	<b>5</b>
<b>PHA 713 Managed Care Practice Experience</b> .....	<b>5</b>
<b>PHA 714 Community Pharmacy Practice Experience</b> .....	<b>5</b>
<b>PHA 716 Hospital/Institutional Pharmacy Practice Experience</b> .....	<b>5</b>
<b>PHA 717 Community Health and Patient Monitoring Practice Experience</b> .....	<b>5</b>

PHA 718 Advanced Clinical Lab Monitoring.....	3
PHA 718L Advanced Clinical Lab Monitoring Lab .....	0
PHA 720 Advanced Medicinal Chemistry.....	3
PHA 723 Ethics in Healthcare Practice.....	2
PHA 724 Pharmacoeconomics.....	2
PHA 725 Topics in Medicinal Chemistry .....	3
PHA 727 U.S. HealthCare Systems.....	2
PHA 728 Current Issues in Pharmacy Practice .....	3
PHA 729 Advanced Pharmacy Marketing and Management.....	2
PHA 740 Advanced Pharmacology .....	3
PHA 741 Patient Assessment and Self Care I.....	2
PHA 741L Patient Assessment and Self Care I Lab .....	0
PHA 742 Patient Assessment and Self Care II .....	2
PHA 742L Patient Assessment and Self Care II Lab .....	0
PHA 744 End of Life Care.....	1
PHA 745 Topics in Pharmacology.....	3
PHA 746 Professional Pharmacy Leadership Skills .....	1
PHA 747 Advanced Clinical Nutrition .....	1
PHA 748 Topics in Neonatal and Pediatric Pharmacotherapy.....	1
PHA 749 Care of the Geriatric Patient .....	1
PHA 750 Critical Care Therapeutics.....	2
PHA 751 Immunotherapeutics.....	2
PHA 752 Drugs of Abuse and Addiction .....	2
PHA 753 Women and Children's Health .....	2
PHA 754 Complementary and Alternative Medicine .....	1
PHA 756 Pharmacotherapeutics I .....	5
PHA 757 Pharmacotherapeutics II.....	5
PHA 758 Pharmacotherapeutics Application Lab I.....	1
PHA 759 Advanced Pharmaceutics .....	3
PHA 760 Clinical Pharmacokinetics.....	3
PHA 761 Pharmacotherapeutics III .....	4
PHA 762 Pharmacotherapeutics IV.....	4
PHA 763 Pharmacotherapeutics V .....	4
PHA 764 Pharmacotherapeutics Application Lab II.....	1
PHA 765 Topics in Pharmaceutics .....	3
PHA 767 Early Practice Experience V .....	0.5
PHA 768 Early Practice Experience VI .....	0.5
PHA 770 Pediatrics Practice Experience .....	5
PHA 771 Geriatrics Practice Experience .....	5
PHA 772 Internal Medicine I Practice Experience.....	5
PHA 773 Internal Medicine II Practice Experience .....	5
PHA 774 Ambulatory Care Practice Experience .....	5

PHA 775 Psychiatry Practice Experience .....	5
PHA 780 International Pharmacy Practice Experience .....	5
PHA 784 Seminar I.....	1
PHA 785 Seminar II .....	1
PHA 790 Seminar .....	1
PHA 791 Independent Study.....	1-3
PHA 792 Topics .....	1-3
PHA 798 Thesis .....	1-7

## PHIL (Philosophy)

### Undergraduate Courses

PHIL 100 Introduction to Philosophy (COM).....	3
Introduces competing philosophical views of reality, perception, learning, and values, emphasizing their relevance to the contemporary world.	
PHIL 200 Introduction to Logic (COM).....	3
Introduces the formal study of argumentation, including forms of logic, inductive and deductive reasoning, proofs, refutations, and fallacies.	
PHIL 215 Introduction to Social-Political Philosophy .....	3
The search for order for society; major political and social theories from Socrates to the present and critical analysis of these theories. The relation of theories of human nature, metaphysics, epistemology, and ethics to the order in society.	
PHIL 220 Introduction to Ethics (COM).....	3
Examines the major currents and components of ethical theory from classical times to the present, investigating problems arising from specific theories, as well as critically analyzing the validity of these theories for current ethical concerns.	
PHIL 313 Great Philosophers .....	2-3
Explores the thinking of a selected philosopher. Seeks to understand the ideas behind the philosopher's thinking and their implication for the modern world. (May be repeated for a total of 9 hours).	
PHIL 320 Professional Ethics.....	3
The study of major normative ethical theories and their application to concrete ethical situations likely to arise in the professional workplace. Emphasis placed on potential conflicts between the goals of the professions and the imperatives of the ethical life, and possibilities for resolution of such conflicts.	
PHIL 331 Philosophy of Science .....	3
An investigation into the nature of science from the perspectives of the scientific disciplines themselves and from the study of the history of scientific development. Inquiry into the structure of scientific method, the scope and limitations of scientific knowledge, and the implications of competing paradigms of scientific world view.	
PHIL 383 Bioethics (G) .....	4
Crosslisted with BIOL 383.	
PHIL 423 Political Philosophy .....	3
Crosslisted with POLS 461.	
PHIL 424 Modern Political Philosophy (AW) .....	3
Crosslisted with POLS 462.	

- PHIL 454 Environmental Ethics (COM)** .....3  
 Presents humanity's relationship to the environment, its responsibility to nature, and its obligations to future generations, attending to both theory and applications, including the debate over causes of environmental crisis, the value of endangered species, the wilderness, and natural objects; the seriousness of the growing global population and obligations to feed the poor, the feasibility of sustaining an ecological responsible society. Crosslisted with REL 332.
- PHIL 470 Philosophy of Religion (COM)** .....3  
 Presents critical inquiry concerning the concept of faith and its relation to reason and belief, the nature of religious experience, concepts of the sacred and the divine, and problems of cross-cultural understanding.
- PHIL 492 Topics (COM)**.....1-5
- PHIL 494 Internship** .....1-12

### Dual Listed Courses

- PHIL 491-591 Independent Study (COM)**.....1-4

## PHST

- PHST 692 Topics for Physics Educators**.....0-12

## PHTH (Physical Therapy)

- PHTH 142 Introduction to Physical and Occupational Therapy** .....1  
 Introduces students to the professions of physical and occupational therapy.
- PHTH 491 Independent Study** .....1-3
- PHTH 494 Internship** .....1-12
- PHTH 496 Field Experience (COM)**.....1-12

## PHYS (Physics)

### Undergraduate Courses

- PHYS 101 Survey of Physics (COM)**.....4  
 This is a one-semester conceptual course, designed to cover a broad range of physics topics. Critical thinking skills are developed as students apply topics to various problem situations. Students are encouraged to relate concepts learned to personal areas of interest. Topics include mechanics, states of matter, wave motion, sound and electricity magnetism. Credit will not be allowed in both PHYS 101 and PHYS 111-113 or PHYS 211-213. Corequisite course PHYS 101L.
- PHYS 101L Survey of Physics Lab (COM)** .....0  
 This laboratory accompanies PHYS 101. Corequisite course PHYS 101.
- PHYS 111 Introduction to Physics I (COM)**.....4  
 This is the first course in a two semester algebra-level sequence, covering fundamental concepts of physics. The sequence is appropriate for pre-professional majors requiring two semesters of physics. Topics include classical mechanics, thermodynamics, and waves. P, MATH 102, 115, 120, 121, 123, 125, 281, or consent. Corequisite course PHYS 111L.

- PHYS 111L Introduction Physics I Lab (COM)**.....0  
 This laboratory accompanies PHYS 111. Corequisite course PHYS 111.
- PHYS 113 Introduction to Physics II (COM)**.....4  
 This course is the second course in a two semester algebra-level sequence, covering fundamental concepts of physics. Topics include electricity and magnetism, sound, light, optics, and some modern physics concepts. P, PHYS 111. Corequisite course PHYS 113L.
- PHYS 113L Introduction Physics II Lab (COM)**.....0  
 This laboratory accompanies PHYS 113. Corequisite course PHYS 113.
- PHYS 185 Introduction to Astronomy I (COM)**.....2  
 This is a descriptive course that introduces students to solar system astronomy. Emphasis is placed on the development of astronomy, optical instruments and techniques, and solar system objects. Corequisite course PHYS 185L.
- PHYS 185L Introduction to Astronomy I Lab (COM)**.....1  
 This laboratory accompanies PHYS 185. Corequisite course PHYS 185.
- PHYS 187 Introduction to Astronomy II (COM)**.....2  
 This course is a descriptive course that introduces stellar astronomy. Emphasis will be placed on stars, nebulae, galaxies, and cosmology. Corequisite course PHYS 187L.
- PHYS 187L Introduction to Astronomy II Lab (COM)** .....1  
 This laboratory accompanies PHYS 187. Corequisite course PHYS 187.
- PHYS 211 University Physics I (COM)**.....4  
 This is the first course in a two semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students majoring in physical science or engineering. Topics include classical mechanics and thermodynamics. P, MATH 123 or MATH 125. Corequisite course PHYS 211L.
- PHYS 211L University Physics I Lab (COM)** .....0  
 This laboratory accompanies PHYS 211. Corequisite course PHYS 211.
- PHYS 213 University Physics II (COM)** .....4  
 This course is the second course in a two semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students majoring in physical science or engineering. Topics include electricity and magnetism, sound, light, and optics. P, PHYS 211. Corequisite course PHYS 213L.
- PHYS 213L University Physics II Lab (COM)**.....0  
 This laboratory accompanies PHYS 213. Corequisite course PHYS 213.
- PHYS 291 Independent Study (COM)**.....1-3
- PHYS 292 Topics (COM)**.....1-3
- PHYS 316 Measurement Theory and Experiment Design (AW)**.....2  
 This course looks at accuracy, precision and uncertainty and how these quantities propagate as experimental laboratory measurements are converted to experimental results. P, PHYS 213 or PHYS 113. Corequisite course PHYS 316L.
- PHYS 316L Measurement Theory and Experiment Design Lab** .....0  
 Laboratory portion of PHYS 316. Corequisite course PHYS 316.
- PHYS 318 Advanced Laboratory I** .....1  
 Students perform selected experiments in classical and modern physics which illustrate principles and the development of physics, and emphasize experiment design and data analysis. P, PHYS 316 and PHYS 331 or consent.

**PHYS 331 Introduction to Modern Physics (COM).....3**  
 This course concentrates on observations and theories of the 20th Century that carried the physicists' world-view beyond the classical. P, PHYS 213 or PHYS 113 or consent.

**PHYS 341 Thermodynamics (COM).....2**  
 This course is an intermediate level thermodynamics course dealing with systems from a macroscopic perspective. Topics include the first and second laws of thermodynamics, phase diagrams, and equilibria. P, PHYS 213 and MATH 225.

**PHYS 343 Statistical Physics (COM).....2**  
 This course provides a systematic introduction to the use of statistical principles applied to the study of thermodynamic systems. P, PHYS 331, PHYS 341, and MATH 321 or consent.

**PHYS 361 Optics (COM).....3**  
 This is an intermediate level study of geometrical and physical optics. Topics include analysis of refraction phenomena, thick lenses, wave nature of light, interference, diffraction, and polarization. P, PHYS 213 or PHYS 113 and MATH 225.

**PHYS 418 Advanced Lab II .....1**  
 Students perform selected experiments in modern physics: gamma ray spectroscopy, half life, beta decay, positron annihilation, neutron capture, bubble chamber events, nuclear statistics, etc. P, PHYS 316.

**PHYS 435 Introduction to Nuclear Engineering.....3**  
 This course considers the design of nuclear fission and fusion reactors and particle accelerators including discussion of basic nuclear properties, the fission process and reactor control, fusion reactors, environmental effects and nuclear waste management. P, PHYS 331 or consent.

**PHYS 464 Senior Design I .....1**  
 This is the first course of the departmental capstone senior design sequence. The student will write the specifications for a design project and complete the initial design phase for this project addressing economic, environmental, social and success criteria. P, senior standing in the Physics Department.

**PHYS 465 Senior Design II .....2**  
 This course completes the departmental capstone senior design project. The student will construct, assemble, and test the project that they designed in PHYS 464. P, PHYS 464. Corequisite course PHYS 465L.

**PHYS 465L Senior Design II Research .....0**  
 This is the laboratory portion of PHYS 465 where the design developed in PHYS 464 is built, tested, and made to work. Corequisite course PHYS 465.

**PHYS 473 Quantum Mechanics II .....3**  
 P, PHYS 471.

**PHYS 481 Mathematical Physics (COM).....4**  
 This course looks at mathematical methods used to formulate and solve problems in various fields of physics. Topics are chosen from: series solutions, special functions, computational methods, complex variables, multi-variate methods, transform methods, and other areas of mathematical applications to physics. P, PHYS 331, MATH 331, or consent.

**PHYS 485 Introduction to Astrophysics .....3**  
 This course entails the study of stars, star clusters and galaxies. This will include the application of the principles of atomic structure and radiation laws to the interpretation of stellar and nebular spectra, energy generation by thermonuclear reactions and nucleosynthesis, theoretical and observational aspects of stellar evolution and the constituents and structure of stellar systems. P, PHYS 185, PHYS 331, MATH 321.

**PHYS 494 Internship (COM) .....1-4**

**PHYS 496 Field Experience (COM).....1-4**

**PHYS 497 Cooperative Education (COM).....1-4**

### Dual Listed Courses

**PHYS 421-521 Electromagnetism (COM) .....4**  
 This is a course in the principles of electricity and magnetism, with applications to dielectric and magnetic materials. Topics include the development of Maxwell's equations, and applications. P, PHYS 213 and MATH 321.

**PHYS 433-533 Nuclear and Elementary Particle Physics (COM) .....3**  
 This course covers fundamental topics in nuclear physics and elementary particles. Topics include radioactivity, nuclear spectra and structure, nuclear models, elementary particle theories and high energy physics. P, PHYS 331 or 471.

**PHYS 439-539 Solid State Physics (COM) .....3**  
 This course looks at solid materials from a microscopic level. Topics include basic crystal structure; mechanical and thermal properties; and electronic processes with reference to electrical properties of metals, semiconductors, and insulators. P, PHYS 331 and MATH 321.

**PHYS 449-549 Science of Solids.....3**  
 This course covers topics directed at satisfying student interests in areas such as magnetism, semi-conductors, superconductors, ferroelectrics, and devices based on these aspects of solids. The role of defects in solids and strength of materials may also be included. P, PHYS 439 or consent.

**PHYS 451-551 Classical Mechanics (COM) .....4**  
 This is a systematic introduction to classical mechanics emphasizing motion in three dimensions. Topics include central forces, harmonic oscillations, non-inertial reference frames, rigid body motion, and Lagrangian and Hamiltonian Mechanics. P, PHYS 113 or PHYS 213 and concurrent registration in MATH 321.

**PHYS 469-569 Photonics .....3**

**PHYS 471-571 Quantum Mechanics (COM).....4**  
 This is a systematic introduction to quantum mechanics, emphasizing the Schrodinger equation. Topics include simple soluble problems, the hydrogen atom, approximation methods and other aspects of quantum theory. P, PHYS 331, MATH 321 or consent.

**PHYS 490-590 Seminar (COM).....1-3**

**PHYS 491-591 Independent Study (COM) .....1-4**

**PHYS 492-592 Topics (COM) .....1-4**

## Graduate Courses

PHYS 691 Independent Study .....	1-3
PHYS 692 Topics .....	1-3
PHYS 721 Electrodynamics I.....	3
PHYS 723 Electrodynamics II.....	3
PHYS 743 Statistical Mechanics .....	3
PHYS 751 Theoretical Mechanics.....	3
PHYS 771 Quantum Physics I .....	3
PHYS 773 Quantum Physics II.....	3
PHYS 775 Tensors and General Relativity .....	3
PHYS 779 Group Theory in Quantum Mechanics .....	3
PHYS 780 Theoretical Physics.....	0-18
PHYS 787 Research .....	1-9
PHYS 788 Research or Design Paper.....	1-2
PHYS 791 Independent Study .....	1-3
PHYS 792 Topics .....	1-3
PHYS 798 Thesis .....	1-7

## PLAN (Planning)

### Dual Listed Courses

#### PLAN 471-571 Principles of State, Regional and Community

**Planning** .....3  
 Purpose, structure, and dynamics of the planning process. Identification of different types of planning. Inter-dependencies among persons who contribute to the planning process and are trained in separate academic disciplines. Basic techniques employed within different phases of the planning process. 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  
 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, PLAN 471-571.

## POLS (Political Science)

### Undergraduate Courses

POLS 100 American Government (COM).....	3
A study of the basic principles of the American system of government with emphasis on problems relating to governmental structure and policies.	
POLS 102 American Political Issues (COM).....	3
Provides an in-depth exploration of a particular problem or issue, such as environmental control, minorities or poverty. Students learn the basic skills needed to succeed as a political science major.	

**POLS 165 Political Ideologies** .....3  
 Ideas defending communism, fascism, and democracy, including variations such as democratic socialism, Christian democracy, capitalism, liberalism, New Left, neo-conservatism, liberation theology. Practice of ideology. Concepts of comparative analysis.

**POLS 210 State and Local Government (COM)**.....3  
 An analysis of the legal status, powers and functions, intergovernmental relations and political problems of state and local governments.

**POLS 253 Current World Problems (G)**.....3  
 An examination of several current world problems with a focus on creating world order. Course content varies to accommodate current issues.

**POLS 305 Women and Politics** .....3  
 Study of the role women play in the American political process as activists as well as voters in the late 20th century. Particular emphasis is placed on barriers women face in gaining access to political power in public and private institutions, and the impact legislation and court decisions have had on the role of women in American society. Crosslisted with WMST 305.

**POLS 316 South Dakota Legislative Issues (COM)** .....1-3  
 An analysis of the issues confronting the state legislature, with attention to political, economic, and sociological dimensions, emphasizing the role of party leaders, interest groups, and communication media.

**POLS 320 Public Administration (COM)**.....3  
 This course uses simulations and public management cases, as well as contemporary public administration literature, to introduce students to the theory and practice of public administration. Students work in teams to resolve issues and problems common to the public service environment.

**POLS 330 Civil Rights and Liberties** .....3  
 Individual First Amendment guarantees, constitutional rights of the accused in the criminal process and equal protection of the law as interpreted through U.S. Supreme Court decisions. Crosslisted with CJUS 331.

**POLS 341 Europe Democratic Government (COM)**.....3  
 Comparative study of selected governments of West Europe, especially Britain, France, Germany, and Italy; decision-making institutions; political culture; political parties.

**POLS 343 Russian Politics** .....3  
 Study of government, politics, and some aspects of society in Russia and the region; emphasis on current politics.

**POLS 347 Latin American Politics** .....3  
 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 (COM)** .....3  
 How nations/states behave and why they behave as they do in their relations with each other.

**POLS 352 European Union** .....3  
 An interdisciplinary offering which examines integration theory and the structures and politics of the European Union. The theme of the course's content will vary from offering to offering in order to accommodate the availability of cooperating instructors from other disciplines.

**POLS 391 Independent Study (COM)**.....1-6

**POLS 417 American Indian Government and Politics**.....3  
 An in-depth investigation of Federal, State and tribal laws, and the historical development and status of treaties, legislation, court decisions, and tribal governments.

**POLS 430 Constitutional Law (COM)**.....3  
 A study of the interpretation of the federal Constitution through leading decisions of the supreme court.

**POLS 432 The American Presidency (COM)**.....3  
 A study of the constitutional background, development, powers, responsibilities and roles of the American presidency, with comparisons to other executives.

**POLS 435 Political Parties and Campaigns (COM)**.....3  
 United States political parties; functions, organization, techniques and significance of parties; varieties of state and local systems; and behavior of the electorate and interest groups.

**POLS 436 The Mass Media and Politics**.....3  
 Perspectives on the relationship between the press and American politics, including the media as a political institution, press relations with Congress and the presidency, and media effects on public opinion. Both traditional media outlets (print and broadcast) and New Media sources (e.g., cable TV and the web) will be examined.

**POLS 438 The Legislative Process (COM)**.....3  
 A study of the development, structure, powers, processes, problems, and personnel of major legislative bodies with emphasis on the U.S. Congress.

**POLS 445 Canada (COM)**.....3  
 An introduction to Canadian politics emphasizing process, institutions, behavior, and substantive policy with attention to perspectives which may be supplied by other disciplines, such as geography, history, economics, anthropology, and literature.

**POLS 454 International Law and Organization (COM)**.....3  
 This course examines the development and application of the rules and norms that govern the relations between countries. Special attention will be paid to international law on the use of force, the law of the sea, and jurisdiction. The course will also look at international tribunals beginning with Nuremberg and concluding with the International Criminal Court.

**POLS 461 Early Political Philosophy (COM) (AW)**.....3  
 Focus on classical Greek and Roman political thought. Basis on which these theories rest and the explanatory power of the various thought structures. Includes Plato, Aristotle. Crosslisted with PHIL 423.

**POLS 462 Modern Political Philosophy (COM) (AW)**.....3  
 Focus on political theory since the Renaissance. Includes Locke Rousseau, and others. Crosslisted with PHIL 424.

**POLS 490 Seminar (COM)**.....1-3

**POLS 494 Internship**.....1-12

### Dual Listed Courses

**POLS 482-582 Travel Studies**.....1-5  
 This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.

**POLS 491-591 Independent Study (COM)**.....1-3

**POLS 492-592 Topics (COM)**.....1-5

## PR (Park Management)

### Undergraduate Courses

**PR 301 Park Interpretation**.....3  
 Principles and methods employed to promote resource awareness and communicate information about natural, cultural, and managerial features of parks and recreation areas to park visitors and resource users. The planning, development and use of interpretive techniques and media such as personal services, public relations, publications, audio-visual programs, exhibits, and environmental education activities. P, PRM 101, PRM 202 or by consent. Corequisite course PR 301L.

**PR 301L Park Interpretation Lab**.....0  
 Corequisite course PR 301.

**PR 303 Forest Ecology and Management**.....3  
 The basics of environmental factors which control the growth of trees and forests and how forests in North America are managed. Corequisite course PR 303L. Crosslisted with BOT 303.

**PR 303L Forest Ecology and Management Lab**.....0  
 Corequisite course PR 303. Crosslisted with BOT 303L.

**PR 401 Advanced Park Management**.....3  
 Current philosophies, advanced techniques, and synthesis of park management principles. P, PRM 101, PRM 202, PRM 300 and PR 301 or by consent. Corequisite course PR 401L.

**PR 401L Advanced Park Management Lab**.....0  
 Corequisite course PR 401.

## PRM (Park and Recreation Management)

### Undergraduate Courses

**PRM 100 Introduction to Park and Recreation**.....1  
 Introduction to the discipline and exploration of professional careers, historical development of the profession, expectations and opportunities in park and recreation services.

**PRM 101 Parks and Society**.....3  
 Introduction to park and recreation resource management including fundamentals governing public park and recreation agencies. Includes administrative organization, history, types and benefits of parks.

**PRM 202 Outdoor Recreation Resource Management**.....3  
 Development and management of outdoor recreation areas and resources including planning, administration, and management practices as they relate to parks, forests, land and water resources, wildlands, and private areas. analysis of participation trends, opportunities, and resource supply. P, PRM 101 or consent. Corequisite course PRM 202L.

**PRM 202L Outdoor Recreation Resource Management Lab**.....0  
 Corequisite course PRM 202.

**PRM 300 Park and Recreation Facility Management**.....3  
 Principles and practices of park and recreation operations and facility management including planning, fiscal and personnel management, regulations, liability, visitor safety and control, and the maintenance and protection of natural resources, equipment, and related indoor and outdoor facilities. Students will gain experience and demonstrate proficiency in written, oral and interpersonal communication. P, PRM 101, PRM 202 or consent. Corequisite course PRM 300L.



**PRM 300L Park and Recreation Facility Management Lab** .....0  
 Corequisite course PRM 300.

**PRM 302 Commercial Recreation and Tourism** .....3  
 Exploration of the commercial recreation and tourism aspects which have become the world's number one industry. Areas of examination include the history, trends, supply, demand, relationships to tourism, management, development and technical assistance in this rapidly expanding industry. P, PRM 101, PRM 202 or by consent.

**PRM 360 Recreation and Outdoor Programming** .....3  
 Development of the various methods, fundamentals, and materials using modern techniques needed for planning, developing, implementing, and evaluating recreation and outdoor programs for diverse populations in representative service areas.

**PRM 491 Independent Study** .....1-2

**PRM 492 Topics** .....1-4

**PRM 494 Internship** .....1-12  
 Select either (a) or (b): (a) *Field Work Experience*. Summer work experience with department approved park or recreation system, agency, or institution. One credit per semester or equivalent time unit. (b) *Professional Internship*. A supervised on-the-job practical experience program. P, junior standing and must have completed 2 years of the Park and Recreation Management curriculum, or consent of adviser. 3-12 credits per semester.

**PRM 496 Field Experience** .....1-12

**PRM 497 Cooperative Education** .....1-12

**PRM 498 Undergraduate Research/Scholarship** .....1-3

**PS 213 Soils** .....2  
 Development and classification of soils; physical, biological, and chemical properties; management aspects, including water, fertility, and erosion; soils in the environment. P, CHEM 106-106L or CHEM 112-112L. Corequisite course PS 213L.

**PS 213L Soils Lab** .....1  
 Corequisite course PS 213.

**PS 223 Principles of Plant Pathology** .....2  
 Principles underlying cause, spread, symptomology, diagnosis, and control of plant diseases. Principles exemplified by detailed study of specific diseases. Laboratory stresses diagnosis and experimental elucidation of principles. P, BIOL 103-103L or BIOL 153-153L or BOT 201-201L. Corequisite PS 223L.

**PS 223L Principles of Plant Pathology Lab** .....1  
 Corequisite PS 223.

**PS 243 Principles of Geology** .....3  
 The earth's land and natural resources, their characteristics and economic uses together with the water and energy resources contained in them are examined under the principle of stewardship. A fundamental emphasis using information derived from the scientific method to arrive at intelligent stewardship perspectives and practices prevails through the course. P, CHEM 106 or CHEM 112 or equivalent.

**PS 244 Geological Resources of South Dakota Lab** .....1  
 The geology laboratory consists of a field study across South Dakota and back observing how our land and natural resources are being economically and aesthetically utilized and discussing their future from a stewardship perspective. Most of South Dakota's mining and extractive industries together with groundwater utilization and possibilities for contamination will be studied. P, PS 243.

**PS 303 Seed Technology** .....2  
 Seed testing; history, testing methods, and seed testing organizations. Seed development, maturation, anatomy, physiology, dormancy, and aging processes. Identification and classification of crop and weed seeds. P, PS 103-103L or HO 111-111L. Corequisite course PS 303L.

**PS 303L Seed Technology Lab** .....1  
 Corequisite course PS 303.

**PS 305 Insect Biology (COM)** .....2  
 An introduction to the general biology and classification of insects. Course emphasis placed on taxonomy, methods of identification, and ecological role of insects. Students will become familiar with basic insect anatomy and morphology, classification at the order level with exemplary families that include taxa of agricultural or environmental interest, and acquire an ability to sight recognize particular species that have agricultural, environmental, wildlife, and human and livestock health importance. Field trips and a collection are required. Crosslisted with ZOOL 305. P, MATH 102 or higher, and one of following: BIOL 103-103L, BOT 201-201L, or BIOL 153-153L. Corequisite course PS 305L or ZOOL 305L.

**PS 305L Insect Biology Lab (COM)** .....1  
 Corequisite course PS 305 or ZOOL 305.

**PS 307 Insect Pest Management** .....2  
 Covers the major insect pests of the Northern Great Plains with emphasis on field biology, recognition, field scouting, and economic thresholds. Pest management strategies of insects affecting row crops, small grains, hayland and rangeland will be included. Pesticide application methods and safety are included. P, BIOL 103/103L, or BIOL 153/153L, or BOT 201/201L. Corequisite course PS 307L.

## PS (Plant Science)

### Undergraduate Courses

**PS 101 Opportunities in Plant Science** .....1  
 An introduction to the diversity of disciplines within the Plant Science Department; and overview of career opportunities; resume development; and career goal setting for professions within the plant sciences.

**PS 103 Crop Production** .....2  
 Practices and principles; crop distribution; growth processes; response to environment. Grain and forage crops, including their distribution, use, improvement, growth, harvesting, and marketing. Corequisite course PS 103L.

**PS 103L Crop Production Lab** .....1  
 Corequisite course PS 103.

**PS 200 Introduction to Weed Management** .....1  
 An introduction to common weeds of the upper Midwest in crop, lawn, range, and pasture settings. The use of cultural, biological, chemical, and physical methods of weed management will be discussed. Sprayer calibration and safe and effective use of herbicides in the environment. Corequisite course PS 200L.

**PS 200L Introduction to Weed Management Lab** .....1  
 Weed identification, sprayer calibration, herbicide mixing techniques, and other lab related activities will be handled in the laboratory. Corequisite course PS 200.

<b>PS 307L Insect Pest Management Lab</b> .....1 Corequisite course PS 307.	<b>PS 343 Weed Science</b> .....2 Fundamentals of mechanical, cultural, biological and chemical weed control practices and factors affecting control. Herbicide classification and mechanism of action. Plant and seed identification of common weeds of North Central States and their interaction with desirable plants. P, PS 103-103L or HO 111-111L; and CHEM 108-108L, or CHEM 120-120L, or CHEM 326-326L. Corequisite course PS 343L.
<b>PS 308 Grain Grading</b> .....1 Grain grading, crop and weed seed identification. Grain market grading and quality determinations. Plant identification of field crops and weeds of major importance in the United States. P, PS 103-103L. Corequisite course PS 308L.	<b>PS 343L Weed Science Lab</b> .....1 Corequisite course PS 343.
<b>PS 308L Grain Grading Lab</b> .....1 Corequisite course PS 308.	<b>PS 362 Environmental Soil Management</b> .....2 Management systems designed to maintain soil productivity and environmental quality are examined. Soil problems important in production systems and environmental management including compaction, erosion, and nonpoint pollution are analyzed based on underlying environmental and agronomic principles. Computer simulation models are used and applied to soil problems. P, PS 213-213L. Corequisite course PS 362L.
<b>PS 310 Soil Geography and Land Use Interpretation (G)</b> .....2 Relationship of soil characteristics and soil classification to land use interpretations. Laboratory exercises involve field and laboratory procedures used in soil survey investigations. Field trip. Crosslisted with GEOG 310. P, PS 213-213L or GEOG 132-132L. Corequisite course PS 310L.	<b>PS 362L Environmental Soil Management Lab</b> .....1 Corequisite course PS 362.
<b>PS 310L Soil Geography and Land Use Interpretation Studio</b> .....1 Corequisite course PS 310.	<b>PS 383 Principles of Crop Improvement (AW)</b> .....2 Evaluation of crop species, reproduction in crop plants, use of genetic variability, traits of interest, breeding programs, designs and management. Heritability, plant introduction, vegetative propagation, hands-on lab demonstrations. Crosslisted with HO 383. P, PS 103-103L or HO 111-111L, BIOL 103-103L or BIOL 153-153L or BOT 201-201L. Corequisite course PS 383L.
<b>PS 312 Grain and Seed Production and Processing</b> .....3 Distribution, adaptation, and culture of grain crops. Production and harvesting of seed crops. Seed processing, cleaning procedures, machinery, conditioning drying, storage, and marketing; production of certified and hybrid seed crops. P, PS 103-103L or HO 111-111L.	<b>PS 383L Principles of Crop Improvement Lab</b> .....1 Corequisite course PS 383.
<b>PS 313 Forage Crop and Pasture Management</b> .....3 Grasses and legumes; their establishment, management, and use for hay, pasture, and silage. P, BIOL 101 or BIOL 151. Field trips required.	<b>PS 390 Seminar (AW)</b> .....1
<b>PS 320 Crop Judging</b> .....1-2 Advanced course in seed and plant identification of crops and weeds, seed analysis and grain grading. Students are expected to enroll in Grain Grading (PS 308) the preceding spring semester and to enroll in PS 320 during the fall semester to compete in regional and national contests. PS 103-103L, PS 308-308L.	<b>PS 440 Crop Management with Precision Farming</b> .....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 223-223L and PS 305-305L, or PS 307-307L and PS 323 and PS 343-343L and STAT 281. Corequisite course PS 440L.
<b>PS 321 Soil Judging</b> .....1 Practical experience in evaluating the physical and chemical properties of soils important in soil judging and in making land use decisions. Soil forming factors, soil classification, land use interpretations, and soil morphology. Participation in regional intercollegiate soil judging contests and field trips. May be repeated for a maximum of 3 credits. P, PS 213-213L.	<b>PS 440L Crop Management with Precision Farming Lab</b> .....1 Corequisite course PS 440.
<b>PS 323 Soil Fertility and Plant Nutrient Management</b> .....3 Soil fertility management and its effects on the growth of crops, including evaluation, uptake and utilization of specific ions by plants, use of fertilizer elements to alter soil fertility, importance of crop residue management to maintain and improve productivity, and chemical composition of fertilizers and their characteristics. P, PS 213-213L.	<b>PS 475 Water Quality in Agriculture</b> .....3 P, CHEM 106-106L or CHEM 112-112L or BIOL 101-101L or BIOL 151-151L.
<b>PS 333 Diseases of Field Crops</b> .....2 Extensive survey of diseases affecting major food, fiber, and oilseed crops of the world. Emphasis is on diagnosis and disease management strategies. P, PS 223-223L. Corequisite course PS 333L.	<b>PS 483 Irrigation – Crop and Soil Practices</b> .....3 Problems of irrigated agriculture. Soil salinity and salt-affected soils, water quality, management of irrigated crops; cropping systems; water, fertility requirements of irrigated agriculture, water movement, storage, and release in soils. P, PS 213-213L and MATH 102, or MATH 115, or MATH 123.
<b>PS 333L Diseases of Field Crops Lab</b> .....1 Corequisite course PS 333.	<b>PS 491 Independent Study</b> .....1-4
<b>PS 334 Diseases of Horticultural Crops</b> .....2 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, PS 223-223L. Corequisite course PS 334L.	<b>PS 494 Internship</b> ..... 5-2
<b>PS 334L Diseases of Horticultural Crops Lab</b> .....1 Corequisite course PS 334.	<b>PS 498 Undergraduate Research/Scholarship</b> .....1-4

## Dual Listed Courses

<b>PS 412-512 Environmental Soil Chemistry</b> .....3
Fundamentals of soil chemical properties and processes important for the sound management of soil resources. Topics include sorption/desorption of inorganic and organic compounds, bioavailability of nutrients and contaminants, oxidation/reduction, phase equilibria, soil organic matter, soil mineralogy, ion exchange, and saline/sodic soils. P, PS 213-213L and CHEM 108-108L, or CHEM 120-120L.
<b>PS 415-515 Mycology</b> .....2
Comprehensive taxonomic survey of the Kingdom Fungi; reproductive biology, physiology, genetics, and ecology of fungal organisms; relationship of fungi to human affairs. Crosslisted with BIOL 415-515. Corequisite course PS 415L-515L.
<b>PS 415L-515L Mycology Lab</b> .....1
Corequisite course PS 415-515.
<b>PS 420-520 Biological Control</b> .....3
Introduction to the principles of biological control of arthropod, weed, and vertebrate pest populations through the use of natural enemies, including predators, parasites, and diseases. Topics will include the history, theory, and practice of biological control, and relevant aspects of the genetics, ecology and behavior of natural enemies.
<b>PS 421-521 Soil Microbiology</b> .....2
Microbial species of agricultural soils, environmental factors affecting their numbers and activity, and biochemical changes brought about by these organisms. Crosslisted with MICR 421. P, BIOL 151-151L and BIOL 153-153L, or BOT 201-201L. Corequisite course PS 421L-521L.
<b>PS 421L-521L Soil Microbiology Lab</b> .....1
Corequisite course PS 421-521.
<b>PS 431-531 Insect Ecology</b> .....3
This course will examine the ecological relationships between insects and their environment. Topics will include natural history; population dynamics; interactions between insects and their food plants, predators, and diseases; insect evolutionary ecology; and insect agroecology and ecological pest management.
<b>PS 446-546 Agroecology (G)</b> .....3
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.
<b>PS 450-550 Field Study of Plant Disease Diagnosis</b> .....1
Diagnosis of diseases in field and horticultural crops; observing and studying the relationships among hosts, pathogens, and their environments. Emphasis on field disease recognition and laboratory diagnostic techniques. Alternate years. P, consent. Corequisite course PS 450L-550L.
<b>PS 450L-550L Field Study of Plant Disease Diagnosis Lab</b> .....1
Corequisite course PS 450-550.
<b>PS 453-553 Advanced Genetics</b> .....3
Procedures in genetic studies as they relate to molecular and classical genetic applications. Crosslisted with BIOL 453-553. P, BIOL 371.
<b>PS 465-565 Molecular Biology II Lab</b> .....2
Screening recombinant DNA libraries; DNA sequencing; analysis of proteins; detection of proteins; RNA transfer and hybridization analyses; use of nucleic acid and protein databases. Crosslisted with BIOL 465-565. P, PS 462-562, or BIOL 462-562 and PS 464-564, or BIOL 464-564.

<b>PS 473-573 Rural Real Estate Appraisal</b> .....2
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. Crosslisted with AGEC 473. P, PS 213-213L, AGEC 271-271L. Corequisite course PS 473L-573L.
<b>PS 473L-573L Rural Real Estate Appraisal Lab</b> .....1
Corequisite course PS 473-573.
<b>PS 480-580 Environmental Stress Physiology</b> .....3
Physiology and cellular response of plants to environmental stresses. Crosslisted with HO 480-580 and BIOL 480-580. P, BOT 327-327L.
<b>PS 492-592 Topics</b> .....1-3
<b>PS 492L-592L Topics Lab</b> .....0

## Graduate Courses

<b>PS 704 Viral and Bacterial Diseases of Plants</b> .....2
<b>PS 704L Viral and Bacteriological Diseases of Plants Lab</b> .....2
<b>PS 714 Genetics of Disease Resistance and Host-Plant Pathogen Interaction</b> .....3
<b>PS 714L Genetics of Disease Resistance and Host-Plant Pathogen Interaction Lab</b> .....1
<b>PS 720 Insect Anatomy and Physiology</b> .....2
<b>PS 720L Insect Anatomy and Physiology Lab</b> .....1
<b>PS 721 Integrated Crop Pest Management</b> .....3
<b>PS 722 Behavioral Management of Insects</b> .....2
<b>PS 722L Behavioral Management of Insects Lab</b> .....1
<b>PS 732 Field Studies in Pedology</b> .....2
<b>PS 733 Advanced Soil Genesis</b> .....3
<b>PS 741 Crop Breeding Techniques</b> .....1
<b>PS 743 Physical Properties of Soil</b> .....3
<b>PS 744 Soil N, P, and K</b> .....3
<b>PS 745 Soil/Plant Secondary Macronutrients/Micronutrients</b> .....2
<b>PS 746 Plant Breeding</b> .....3
<b>PS 754 Chemical Properties of Soil</b> .....3
<b>PS 756 Quantitative Genetics</b> .....3
<b>PS 761 Taxonomy of Insects</b> .....3
<b>PS 761L Taxonomy of Insects Lab</b> .....1
<b>PS 763 Environmental and Physiological Aspects of Crop Production</b> .....2
<b>PS 773 Cytogenetics</b> .....2
<b>PS 773L Cytogenetics Lab</b> .....1
<b>PS 781 Plant Science Graduate Seminar</b> .....1
<b>PS 783 Crop-Water Relationships</b> .....2
<b>PS 785 Soil and Plant Analysis</b> .....2

**PS 785L Soil and Plant Analysis Lab** .....1  
**PS 786 Biometrical Genetics**.....3  
**PS 787 Advanced Plant Breeding**.....3  
**PS 791 Independent Study** .....1-2  
**PS 792 Topics** .....1-6  
**PS 798 Thesis** .....1-7  
**PS 898D Dissertation-PhD**.....1-7

## PSYC (Psychology)

### Undergraduate Courses

**PSYC 101 General Psychology (COM)** .....3  
 This course is an introduction survey of the field of psychology with consideration of the biological bases of behavior, sensory and perceptual processes, learning and memory, human growth and development, social behavior and normal and abnormal behavior.

**PSYC 102 Introduction to Psychology** .....4  
 Fundamentals of behavior, including maturation, physiological processes, sensation and perception, learning, motivation, emotion and frustration, personality, abnormal processes, and methods of investigation. P, major 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  
 Contemporary research related to psychological concepts expounded in PSYC 101 and 102. P, Psychology Major, PSYC 101 or 102.

**PSYC 244 Environmental Psychology**.....3  
 This course surveys the empirical and theoretical work on the influence of the physical environment on human behavior and experience. Topics include the use of space, stressors and esthetics as related to human beings, the optimum design of buildings, homes and institutions, and the effect of humans on the natural environment. Designed for both psychology majors and non-majors. P, PSYC 101 or 102.

**PSYC 267 Psychology of Personal Adjustment (COM)** .....3  
 This course covers the dynamics of normal human personality and behavior with an emphasis on the mechanisms used to promote effective personal and interpersonal behavior.

**PSYC 287 Controversial Issues in Psychology** .....3  
 This course involves an intensive look at the branches of and topics in psychology with particular emphasis on critical thinking applied to controversial issues. Critical thinking is clear, accurate, and defensible thinking; thus, this course is designed to help students develop the intellectual tools they need to learn from and analyze information independently. This course meets the Critical Thinking Requirement in Psychology. P, PSYC 101 or 102.

**PSYC 289 Pseudoscience and Psychology**.....3  
 Pseudoscience and Psychology will identify the characteristics of conventional sciences versus what is called pseudoscience, and critically examine disputed areas in psychology and human behavior. Special emphasis is placed on how to critically evaluate anecdotes and published reports of anomalous human behavior, beliefs, and experiences. This course meets the Critical Thinking Requirement in Psychology. P, PSYC 101 or 102.

**PSYC 301 Sensation and Perception (COM)**.....3  
 This course is a study of the bases of sensation and perception including the physics and physiology of sensory receptor function, central nervous system functions in information processing, and cognitive and attentional factors in perception. P, PSYC 101 or 102.

**PSYC 305 Learning and Conditioning (COM)** .....3  
 This course covers traditional conditioning experimentation and phenomena, primarily as revealed through animal research. Principles of reinforcement and factors which influence the conditioning process are discussed in detail. P, PSYC 101 or 102.

**PSYC 324 Psychology of Aging**.....3  
 Focuses on the theories, research and practice concepts relevant to psychological factors in the aging process. Topics covered include cognition, personality, and death and dying. P, PSYC 101 or 102.

**PSYC 327 Child Psychology (COM)** .....3  
 This course covers the physical, social, emotional and intellectual aspect of child development. P, PSYC 101 or 102.

**PSYC 331 Industrial and Organizational Psychology (COM)** .....3  
 This course covers the application of psychological principles to such problems as employee selection, supervision, job satisfaction, and work efficiency. P, PSYC 101 or 102.

**PSYC 357 Psychological Therapies** .....3  
 Traditional and contemporary methods of psychotherapy. Interviewing techniques and the professional assistant's role. P, PSYC 101 or 102 and PSYC 451 or 461.

**PSYC 358 Behavior Modification**.....3  
 Principles of learning applied to human behavior modification. P, PSYC 101 or 102.

**PSYC 367 Psychological Gender Issues** .....3  
 This course surveys the current theoretical and research issues in the development of gender and explores the impact of gender on the lives of women and men. Topics include societal and biological influences on psychological development, achievement, motivation, sex roles, stereotyping, socialization, sexuality, and personality. Crosslisted with WMST 367. P, PSYC 101 or 102.

**PSYC 373 Research Methods in Experimental Psychology (COM)** .....3  
 A detailed survey of methods for conducting psychological research, this course covers experimental design, reliability, validity, and the nature of controls. P, PSYC 101 or PSYC 102; STAT 281.

**PSYC 373L Research Methods in Experimental Psychology Lab (COM)** .....1  
 This course provides experience in laboratory techniques. These include: animal care and handling, data collection and analysis and experimental design. Corequisite course PSYC 373.

**PSYC 374 Experiments in Psychology** .....3  
 Review of representative past research in experimental psychology and execution of class laboratory projects. P, PSYC 373 or consent.

**PSYC 374L Experiments in Psychology Lab**.....1  
 Corequisite PSYC 374.

**PSYC 375 Research Methods in Psychology** .....3  
 Overview of research methodology and literature for Psychology majors in the Applied or Psychological Services curricula. P, STAT 281 and PSYC 101 or 102.

<b>PSYC 390 Seminar</b> .....	1	<b>PSYC 441 Social Psychology (COM)</b> .....	3
<b>PSYC 406 Cognitive Psychology (COM)</b> .....	3	This course covers basic principles of social psychology including concepts and methods utilized in analyzing individual and group interactions. P, PSYC 101.	
This course is a survey of recent research and theory in cognitive process concerning the representation, storage, retrieval and interactions of units of thought. It considers adaptability, intelligence and knowledge from an experimental point of view. P, PSYC 101 or 102.		<b>PSYC 451 Psychology of Abnormal Behavior (COM)</b> .....	3
<b>PSYC 407 Cognition and the Visual Arts</b> .....	3	This course is a comprehensive survey of abnormal personality and behavior. It includes an examination of the origins, symptoms and treatment of psychological disorders. P, PSYC 101.	
This course provides an intensive study of cognition and art in which each student is expected to apply his or her critical analysis to the subject matter. It is designed to broaden the student's cultural perspective and to provide an opportunity for integration of psychology and art history. It is multi-disciplinary, multicultural, focuses on themes that affect the world community, promotes critical thinking, and involves a rigorous writing component. ARTH 101 or ARTH 212 are recommended but not required. P, PSYC 101 or 102.		<b>PSYC 461 Theories of Personality (COM)</b> .....	3
<b>PSYC 409 History and Systems of Psychology (COM) (AW) (G)</b> .....	3	Students will learn about the role of philosophy and science and their contributions to the development of personality theory. Students will examine, in depth, the theoretical contributions made in the areas of psychoanalytic, behavioristic, and humanistic personality theories. The students will be able to articulate their own beliefs concerning the development of human personality. P, PSYC 101.	
This course is a survey of the origin and development of psychology. Special attention is given to the systems of thought that have emerged since the founding of psychology as an empirical science. P, PSYC 101 or 102.		<b>PSYC 477 Psychology Testing and Measurement (COM)</b> .....	3
<b>PSYC 411 Physiological Psychology</b> .....	3	Test theory is covered in this course along with principles of construction and analysis of psychological tests. P, PSYC 101, STAT 281.	
Role of physiological mechanisms in behavior. Nervous, biochemical and muscular systems that control or modify human and animal adjustment. P, PSYC 101 or 102.		<b>PSYC 480 Clinical Neuropsychology</b> .....	3
<b>PSYC 413 Advanced Physiological Psychology</b> .....	3	This course will cover an introduction to the field of Clinical Neuropsychology. General principles, techniques, and tools used within the field of Clinical Neuropsychology will be discussed, including; history and development of Clinical Neuropsychology as a discipline, development of general diagnostic skills in Clinical Neuropsychology, methods of clinical interviewing in Neuropsychology, introduction to assessment tools used in Clinical Neuropsychology, differential diagnosis of Neuropsychological disorders, rehabilitation of patients with neuropsychological disorders, current and historically important experimental studies describing brain and behavior relationships, and current major topics of interest for Clinical Neuropsychologists. P, PSYC 101 or PSYC 102, PSYC 451; PSYC 411 and PSYC 477 recommended.	
This course will build upon the fundamental biological foundations of the physiology of behavior covered in PSYC 411 and cover additional areas of the biological bases of behavior. Additional coverage will be provided of the biological basis of higher brain-behavior relations such as states of consciousness, ingestive behaviors, learning, memory, cognitive and verbal behavior, sexual and emotional behavior and behavioral deficits in these and associated areas. P, PSYC 101 or 102; PSYC 411 is recommended.		<b>PSYC 491 Independent Study (COM)</b> .....	1-3
<b>PSYC 414 Drugs and Behavior (COM)</b> .....	3	<b>PSYC 494 Internship (COM)</b> .....	1-12
The psychobiological bases of the use/abuse of alcohol, drugs and other substances are covered in this course along with current theory, research approaches and findings. P, PSYC 101 or 102.		<b>PSYC 496 Field Experience (COM)</b> .....	1-12
<b>PSYC 417 Health Psychology (COM)</b> .....	3	<b>PSYC 498 Undergraduate Research/Scholarship (COM)</b> .....	1-12
This course is an investigation of the psychological aspects of health and of physical disorders and disease processes. It will explore psychological interventions targeted at prevention as well as those focusing on the resolution or management of disorders. P, PSYC 101 or 102.			
<b>PSYC 427 Child Psychopathology</b> .....	3		
Child Psychopathology is an introduction to the study of abnormal child psychology viewed from the perspective of psychological science. The course focuses on developing familiarity with specialized topics within the field of child psychopathology. Students will learn to distinguish among categories of mental disorders of childhood according to the DSM-IV-R and will gain knowledge of typical signs, symptoms and associated features of these disorders. Epidemiological findings, contemporary hypothesis regarding etiology and psychological and biological treatment interventions and prevention relevant to each disorder will be examined. The course emphasizes the scientific basis of child psychopathology and examines the research methods used to test hypotheses regarding etiology and treatment/prevention outcomes. P, PSYC 101 or PSYC 102, and PSYC 327, and PSYC 451.			

### Dual Listed Courses

<b>PSYC 440-540 Forensic Psychology</b> .....	3
Forensic Psychology is the application of the science and profession of psychology to questions and issues relating to law and the legal system. This course is a state-of-the-art survey of central topics at the interface of psychology, and the law. The field of forensic psychology encompasses contributions made in a number of different areas – research, clinical practice, public policy, and teaching/training – from a variety of orientations within the field of psychology, such as developmental, social, cognitive, industrial-organizational and clinical. P, PSYC 101 or 102.	
<b>PSYC 482-582 Travel Studies (G)</b> .....	1-4
This travel study course is designed to provide extra-mural educational experiences, as approved by and under the direction of a faculty member, and may be in cooperation with faculty and administrators of other institutions. Students will participate in hands-on activities and design educational activities for presentation at selected locations. Includes pre-travel orientation, post-travel self-evaluation, and a written report.	
<b>PSYC 492-592 Topics (COM)</b> .....	1-4

## Graduate Courses

**PSYC 591 Independent Study**.....1-4

## RANG (Range Science)

### Undergraduate Courses

**RANG 100 Opportunities in Animal and Range Sciences** .....1  
 An overview of careers and opportunities in the Animal and Range Sciences. Crosslisted with AS 100.

**RANG 105 Introduction to Range Management**.....3  
 Basic principles and application of range science including ecosystem structure, function and management. Water and nutrient cycles, energy flow, plant physiology, grazing management and grazing systems will be discussed. Identification and management of important range plants in the Northern Great Plains are included. Range improvements such as seeding, fertilization, brush control and prescribed burning will be introduced. Corequisite course RANG 105L.

**RANG 105L Introduction to Range Management Lab** .....0  
 Corequisite course RANG 105.

**RANG 210 Range Plant Identification**.....2  
 Instruction and practice in the recognition of important native and introduced range plants of North America. Corequisite course RANG 210L.

**RANG 210L Range Plant Identification Lab** .....0  
 Corequisite course RANG 210.

**RANG 215 Introduction to Integrated Ranch Management** .....3  
 This course introduces the basic principles of ranching and the food and fiber system. Students will be exposed to the complexities of modern agricultural production systems. Topics include: natural resources as the basis for successful ranching; the family as the major supplier of labor and capital; animal and agronomic production systems; economic and financial forces; risk and opportunity; agricultural policy and law; the decision making process; and stress as the driving force of change. Students will incorporate outside readings into discussions and practice planning exercises held during lab sessions.

**RANG 321 Wildland Ecosystems** .....3  
 Structure, function and multiple-use management of the major wildland ecosystems of North America. Ecological concepts and renewable resource management strategies will be examined.

**RANG 325 Measurement Topics** .....3  
 This course will be offered yearly. The two sections will be offered in alternate summers, scheduled independent of regular summer sessions. May be repeated for a total of 6 credits, but only if both sections are taken.

*Section 1 – Natural Resource Measurements:* Two-week field course, with reports and assignments due within one month of formal course completion. Principles of sampling, field sampling methods, analysis of data and problem solving. Emphasis will be on measurement of important plant, animal, and climatic attributes, and on factors important in interpretation of that information. Course will provide substantial field experience, as well as experience using computers to analyze data and develop scientific reports. P, STAT 281, or consent of instructor.

*Section 2 – Rangeland Analysis and Monitoring:* Two-week field course, with reports and assignments due within one month of formal course completion. Emphasis will be on a variety of methods for evaluating rangeland “health,” range condition, successional status, and trend, and for monitoring rangelands, including rationale, establishment of monitoring sites, monitoring methods, and analysis of data. Students will gain hands-on experience in field sampling, data collection, data analysis, and report writing. P, STAT 281 or consent of instructor. Corequisite course RANG 325L.

**RANG 325L Measurement Topics Lab** .....0  
 Corequisite course RANG 325.

**RANG 400 Judging Teams** .....1  
*Section 4 – Range Plant ID:* Instruction and practice in identification of important range plants of North America.

*Section 5 – URME Instruction and practice:* in general range science knowledge and problem solving. Participation in the national Undergraduate Range Management Exam (URME) contest. P, consent of instructor.

**RANG 415 Range Improvements and Grazing Management** .....4  
 Management of rangelands with fire, herbicides, biocontrol agents, mechanical treatment, and livestock grazing. Grazing systems and their impact on vegetation management, weed control, livestock production, wildlife habitat improvement, soil protection and watershed improvement. Corequisite course RANG 415L.

**RANG 415L Range Improvements and Grazing Management Lab** .....0  
 Laboratory sessions to complement lecture material from RANG 415. Field trips to area range sites will be included. Corequisite course RANG 415.

**RANG 485 Advanced Integrated Ranch Management** .....3  
 A capstone course that requires students to integrate knowledge from previous coursework and experiences. Focus is on decision-making, analysis, and planning with respect to ranching enterprises. A key component of the course will be an extensive ranch planning exercise, which integrates the many factors influencing ranch sustainability and which incorporates the use of decision-support tools to evaluate management strategies. P, RANG 215, senior standing or consent.

**RANG 485L Advanced Integrated Ranch Management Lab** .....0

**RANG 489 Current Issues in Animal and Range Sciences (AW)**.....1  
 Senior capstone course requiring students to conduct independent research of the scientific literature on a current issue in the animal and/or range science field, formulate a position based upon the current science, and communicate this position via written and oral presentations. Crosslisted with AS 489.

**RANG 494 Internship** .....1-12

**RANG 497 Cooperative Education** .....1-12

### Dual Listed Courses

**RANG 421-521 Grassland Fire Ecology**.....3  
 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. Crosslisted with WL 421-521. P, consent. Corequisite course RANG 421L-521L.

**RANG 421L-521L Grassland Fire Ecology Lab** .....0  
 Corequisite course RANG 421-521.

**RANG 491-591 Independent Study**.....1-3

**RANG 492-592 Topics** .....1-3

## RECR (Recreation)

### Undergraduate Courses

- RECR 140 Introduction to Recreation**.....3  
 To introduce the student to recreation and leisure literature, philosophies, theories, history, basic concepts and professional organizations. This course offers an introduction to leisure from the viewpoint of the individual as a consumer and of agencies as providers. You can expect to better understand and appreciate the importance of leisure to your own and society's well being. Also, because leisure is a major industry in the world, the course provides an overview of the management of valuable recreation, park, sport and tourism resources. (May be taught on demand.)
- RECR 260 Fundamentals of Recreation Leadership**.....3  
 Philosophy and interpretations of leadership as it relates to recreational activities.
- RECR 330 Therapeutic Recreation (COM)**.....3  
 Theoretical and philosophical foundations of therapeutic recreation, behavioral, therapeutic use of activity; recreative interaction-intervention techniques, survey of major services and agencies.
- RECR 342 Recreational Sports Programs and Administration (COM)**.....3  
 Organization and administration of intramural sports on elementary, secondary, college, and university levels. Program planning, facilities, equipment and financing of intramural sports program.
- RECR 350 Recreational Facilities and Area Design (COM)**.....3  
 An introduction to the principles and practices of planning, financing, management and maintenance of recreation facilities.
- RECR 362 Recreation Across the Lifespan** .....3  
 Exploration of relevant issues affecting the role of recreation and leisure on human development and its impact on healthy fetal development from conception until death. Examination of the diverse, multicultural perspectives on recreation and leisure, its centrality throughout history and influence on how civilizations define themselves.
- RECR 395 Practicum (COM)**.....1-3
- RECR 410 Current Issues in Recreation (AW)** .....3  
 Individual reports and group discussions on recent research and management developments in recreation employment opportunities and procedures for employment. Taken before the internship. P, RECR 260, consent. Crosslisted with PE 490.
- RECR 440 Administration of Leisure Services (COM)**.....3  
 Organization and administration of community recreation, program planning and recreational program areas.
- RECR 491 Independent Study (COM)** .....1-9
- RECR 494 Internship (COM)**.....1-12
- RECR 496 Field Experience (COM)**.....1-12

## REL (Religion)

### Undergraduate Courses

- REL 213 Introduction to Religion**.....3  
 An introduction to the academic study of religion, focusing on the variety of methods which can be used to facilitate discussion about religion issues in public and pluralistic setting.

- REL 224 Old Testament (COM)** .....3  
 Surveys the sources and development of the peoples and literature of the Old Testament.
- REL 225 New Testament (COM)** .....3  
 Presents the history, writings, and theological themes of the New Testament.
- REL 237 Religion in American Culture** .....3  
 Examines both the diversity of religious expression and tradition found within American culture (from Adventism to Zen) and the impact of American culture upon those traditions. Religious dimensions of selected features of the American enterprise: popular culture; politics; construction of the landscape; war and peace; social conflict; race, ethnicity, and gender.
- REL 238 Native American Religions** .....3  
 A survey of Native American religious traditions and their relation to both traditional and contemporary cultures. Focus on ritual, myth and practice in traditional settings, as well as forms of religious resurgence in the 20th century. Crosslisted with AIS 238.
- REL 250 World Religion (COM) (G)** .....3  
 Introduces the major religions of humankind, examining the function and diversity of religious expression in human experience, and the role of these religions in international relations.
- REL 270 Middle East Survey** .....3  
 This will be a team-taught course, utilizing the expertise of faculty with disciplinary knowledge relevant to the Middle East, and also the expertise of faculty from the Middle East. The following departments contributed guest lectures when this course was taught as an experimental course: Geography, Visual Arts, Military Science, Economics, Psychology, English, and Philosophy and Religion. Students had an opportunity to visit with Sunni and Shi'ite Muslims and Christians from the region, and Arabs, Iranians and Kurds. The textbooks are selected to compensate for the lack of on-campus expertise in the political history of the Middle East. Crosslisted with GEOG 270.
- REL 331 Feminism and Theology**.....3  
 A critical examination of traditional theological areas from the perspective of feminist theologians. Areas covered include women in the Bible, Church history, and the contemporary Church. Crosslisted with WMST 331.
- REL 332 Environmental Ethics**.....3  
 Focus on contemporary and traditional efforts to think about the environment in moral terms, with attention to practical issues illustrating the role of moral reflection in the shaping of public policy. Crosslisted with PHIL 454.
- REL 360 Moral and Ethical Perspectives on Death and Dying**.....3  
 Attitudes and issues that focus on death and dying in society, the religious and moral dimensions of these attitudes and issues.
- REL 370 Philosophy of Religion (COM)**.....3  
 Critically studies such issues as the nature and existence of God, the relations of reason to faith and man to the divine, plus non-western theologies.
- REL 401 History of Western Religious Thought I**.....3  
 This course surveys important issues in western religious thought from first century Christian origins through the "great medieval synthesis" of the thirteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon emergence and growth of Christian doctrine and ecclesiology. Crosslisted 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 Counter reformation of the sixteenth century. While both Jewish and Islamic developments are examined, emphasis is placed upon the development of Christian doctrine. Crosslisted with with HIST 402.

**REL 492 Topics** .....1-5

**REL 494 Internship** .....1-12

**Dual Listed Courses**

**REL 491-591 Independent Study (COM)** .....1-3

**RUSS (Russian)**

**Undergraduate Courses**

**RUSS 101 Introductory Russian I (COM)** .....4  
 Fundamentals of language, enabling the student to understand, speak, read and write simple Russian. Emphasis on practical usage.

**RUSS 102 Introductory Russian II (COM)**.....4  
 Fundamentals of language, enabling the student to understand, speak, read and write simple Russian.Emphasis on practical usage. P, RUSS 101.

**RUSS 201 Intermediate Russian I (COM)** .....3  
 Continuation of first year Russian. More intensive drill of both grammar and conversation. Emphasis on conversation, grammar review, and the short story. P, RUSS 102.

**RUSS 202 Intermediate Russian II (COM)**.....3  
 Continuation of first year Russian. More intensive drill of both grammar and conversation. Emphasis on conversation, grammar review, and the short story. P, RUSS 201.

**RUSS 393 Workshop (COM)**.....1-4  
 Special, intense sessions in specific topic areas.Approximately 45 hours of work is required for each hour of credit. Workshops may vary in time range, but typically use a compressed time period for delivery. They may include lectures, conferences, committee work, and group activity.

**SCST**

**Graduate Courses**

**SCST 601 Science in Our World**.....1-7

**SCST 602 Modeling and Mathematics** .....2

**SE (Software Engineering)**

**Undergraduate Courses**

**SE 270 Foundation of Software Engineering** ..... 3  
 This course covers the basics of software engineering principles including different software development techniques, requirement analysis, project planning, software design and management. The user interface issues, specification and implementation of components, design quality and basic support tools are also covered. Corequisite course CSC 300.

**SE 291 Independent Study** .....1-5

**SE 292 Topics**.....1-5

**SE 294 Internship**.....1-8

**SE 298 Undergraduate Research/Scholarship** .....1-3

**SE 320 Software Requirements and Formal Specifications (AW)**.....3  
 An in-depth coverage of software requirements analysis and formal specification Topics include requirements specification and definition; requirements prototyping; functional requirements specification; nonfunctional requirements specification; and legacy systems. The course also covers formal methods applicable to software development with an emphasis on methods such as transformational techniques, logic-based formalisms, algebraic and model-based specifications. P, SE 270 and CSC 300.

**SE 330 Human Factors and User Interface (G)** .....3  
 This course covers the major frameworks, methods, and approaches to designing, engineering, implementing, and testing user interfaces. It also covers human-machine interaction, design requirements, task analysis, and implementation of the user-interface. P, SE 270, CSC 422.

**SE 340 Software Architecture** .....3  
 The fundamental building blocks and patterns for construction of software systems are examined. The course covers the fundamental elements of software systems in the context of the design process. The conceptual, module interconnection and execution architecture of software are also discussed. The conceptual architecture describes the system in terms of its major design elements and the relationships among them. P, SE 320.

**SE 391 Independent Study** .....1-5

**SE 392 Topics**.....1-5

**SE 398 Undergraduate Research/Scholarship** .....1-3

**SE 410 Software Test and Quality Assurance**.....3  
 This course covers the importance of software quality assurance and configuration management. Software process improvement and software reliability are emphasized. Topics include software process metrics and their use in Quality Assurance, testing approaches, methods and techniques. Development of Quality Assurance plans, reviews, inspections and audits, and formal testing will be discussed. P, SE 340.

**SE 420 Software Project Management**.....3  
 This course focuses on organizational and technical roles in software engineering management. Models of software engineering life cycle, unit development, maintenance, software reuse and metrics are discussed. Software maturity framework, strategies of implementing software, software process assessment, project planning principles and tools, software configuration management, managing software quality and usability, leadership principles, ethical and legal issues are also covered. P, SE 340.

**SE 440 Embedded Systems Programming**.....3  
 This course focuses on modern methods, techniques, and tools for specification, design, and implementation of embedded systems. An overview of the platforms, tools, and processes used in developing software for embedded systems. A hands-on approach experimenting with real-time embedded systems programming. P, SE 410 and EE 347-347L.

**SE 464 Senior Design I**.....3  
 This is a capstone senior design team project. Students will work as part of a team to develop solutions to problems posed by customers. The project may require considerable software development or evolution and maintenance of existing software products. Students will write the specifications and complete the initial design. Oral and written reports are required. P, SE 420.



<b>SE 465 Senior Design II</b> .....	<b>3</b>
The objective of this course is to produce, test and present the design specified in Senior Design I. Each team will deliver a final working product, formal software development documentation, and give a final presentation on the project. P, SE 464.	
<b>SE 490 Seminar</b> .....	<b>1-3</b>
<b>SE 491 Independent Study</b> .....	<b>1-5</b>
<b>SE 492 Topics</b> .....	<b>1-5</b>
<b>SE 494 Internship</b> .....	<b>1-3</b>
<b>SE 496 Field Experience</b> .....	<b>1-3</b>
<b>SE 497 Cooperative Education</b> .....	<b>1-5</b>
<b>SE 498 Undergraduate Research/Scholarship</b> .....	<b>1-6</b>

## Graduate Courses

<b>SE 591 Independent Study</b> .....	<b>1-3</b>
<b>SE 592 Topics</b> .....	<b>1-5</b>
<b>SE 791 Independent Study</b> .....	<b>1-3</b>
<b>SE 792 Topics</b> .....	<b>1-3</b>
<b>SE 794 Internship</b> .....	<b>1-3</b>

## SEED (Secondary Education)

### Undergraduate Courses

<b>SEED 314 Supervised Clinical/Field Experience</b> .....	<b>1</b>
Supervised students will observe and practice various teaching strategies in lab setting, middle schools, and high schools. P, EDFN 338 or SEED 287, EDFN 475. Corequisite courses EPSY 302, SEED 450.	
<b>SEED 371 Lab Organization and Management</b> .....	<b>1-3</b>
<b>SEED 400 Curriculum and Instruction in Middle and Secondary Schools</b> .....	<b>4</b>
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. P, EDFN 338 or SEED 287; EDFN 475, EPSY 302, SEED 450, SEED 314. Corequisite courses SEED 410 and 488.	
<b>SEED 405 Audio Visual Methods and Materials</b> .....	<b>1</b>
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. Corequisite course SEED 405L.	
<b>SEED 405L Audio Visual Methods and Materials Lab</b> .....	<b>0</b>
Corequisite course SEED 405.	
<b>SEED 410 Social Foundations, Management and Law</b> .....	<b>2</b>
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. P, EDFN 338 or SEED 287; EDFN 475, EPSY 302, SEED 450, SEED 314. Corequisite courses SEED 400 and 488.	

**SEED 411 7-12 Speech Methods (COM)** .....

**2-3**  
 Students develop and understanding of the tools of inquiry of 7-12 speech; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 speech; the ability to assess student learning in 7-12 speech; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

**SEED 413 7-12 Science Methods (COM)**.....

**3**  
 Students develop an understanding of the tools of inquiry of 7-12 sciences; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 science, the ability to assess student learning in 7-12 science; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

**SEED 415 7-12 Social Science Methods (COM)**.....

**3**  
 Students develop an understanding of the tools of inquiry of 7-12 social science; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 social science; the ability to assess student learning in 7-12 social science; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

**SEED 418 7-12 Mathematics Methods (COM)** .....

**2-3**  
 Students develop an understanding of the tools of inquiry of 7-12 math; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 math; the ability to assess student learning in 7-12 math; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

**SEED 418L 7-12 Mathematics Methods Lab** .....

**0**  
 Corequisite course SEED 418.

**SEED 424 7-12 Language Arts Methods (COM)** .....

**3**  
 Students develop an understanding of the tools of inquiry of 7-12 language arts, integrating reading, writing, speaking, and listening; the ability to design, deliver, and evaluate a variety of instructional strategies and processes that incorporate learning resources, materials, technologies, and state and national curriculum standards appropriate to 7-12 language arts; the ability to assess student learning in 7-12 language arts; and to apply these knowledge, skills, and attitudes to real life situations and experiences.

**SEED 450 7-12 Teaching Reading in Content Area (COM)** .....

**2**  
 Introduction to the teaching of basic reading skills in all content areas of K-12 and secondary education. Methods, materials, and research findings used in teaching discipline-specific reading.

**SEED 488 7-12 Student Teaching (COM)** .....

**2-16**  
 Students preparing for teaching in the secondary school will observe, participate, and teach under the supervision of the regular classroom teacher in an approved elementary school. An additional "Mandatory Fee" applies to this course.

**SEED 491 Independent Study** .....

**1-9**

**SEED 494 Internship** .....

**3-12**

**SEED 496 Field Experience** .....

**3-12**

**SEED 497 Cooperative Education**.....

**3-12**

## Dual Listed Courses

SEED 492-592 Topics (COM) .....	1-5
SEED 493-593 Workshop .....	1-3

## Graduate Courses

SEED 672 Motivation and Discipline .....	3
SEED 690 Seminar .....	1-3
SEED 740 Secondary School Curriculum.....	3
SEED 748 Secondary Curriculum Practicum .....	1

## SOC (Sociology)

### Undergraduate Courses

<b>SOC 100 Introduction to Sociology (COM) (G)</b> .....	3
Comprehensive study of society, with analysis of group life, and other forces shaping human behavior.	
<b>SOC 150 Social Problems (COM) (G)</b> .....	3
A study of present day problems in contemporary societies, such as racism, sexism, ageism, alcoholism, drug addiction, physical and mental health, war and environmental issues – their significance and current policies and action.	
<b>SOC 233 An Introduction to Leadership</b> .....	1
Learn basic skills and theory necessary to be an effective leader. Areas such as time and conflict management, communication skills, motivation, self-analysis are stressed.	
<b>SOC 240 The Sociology of Rural America (COM) (G)</b> .....	3
Focus on rural society, rural communities, population composition and trends, social processes, social participation in rural organizations and agencies; American agriculture in a global context; and changing relationship between country and city in contemporary society.	
<b>SOC 250 Courtship and Marriage (COM)</b> .....	3
Courtship and marriage period given special emphasis, as are problems of mate selection, marital adjustments, reproduction, child-parent relations, divorce, and later years of marriage.	
<b>SOC 270 Introduction to Social Work (COM)</b> .....	3
A study of social services to children, family, aged, public welfare clients, mentally ill, and the criminal justice system, also includes history of social work methods. P, SOC 100 or 150.	
<b>SOC 271 Social Work Skills and Methods I</b> .....	3
Basic concepts and methods common to all social service practice; focus on developing interactional skills. P, SOC 270.	
<b>SOC 286 Service Learning</b> .....	1-3
Opportunity to gain service learning and/or mentoring experience. Credit will not count toward credits for major or minor. (Limit of 4 credit hours.) P, major or minor, minimum GPA of 2.0 to enroll, SOC 100. Graded S/U.	
<b>SOC 307 Research Methods I</b> .....	3
The research process; selection and formulation of research problems; concepts, propositions and scientific theories; elementary research design; data collection procedures and computer applications. Course research projects when possible.	

**SOC 308 Research Methods II** .....3  
 Method for data manipulation and presentation; discussion of principles for selection of analysis techniques; index and scale construction; tabular presentation and interpretation; and oral and written report development.

**SOC 325 Domestic and Intimate Violence** .....3  
 A seminar focusing on the problems associated with violent behaviors in American households. Special attention will be devoted to the structural, cultural and social-psychological factors contributing to the abuse and battering of family members. In addition, the use of force as a problem solving mechanism will be examined. Crosslisted with WMST 325.

**SOC 330 Self and Society (COM)**.....3  
 A social psychological exploration of the factors linking self and society, with an examination of the social construction of reality. P, SOC 100 or 150.

**SOC 350 Race and Ethnic Relations (COM) (G)**.....3  
 A survey of contemporary ethnic and racial groups and selected minorities in South Dakota, the United States and other countries; special attention will be given to sociological concepts and theories relevant to intergroup dynamics, social structures, and communication. P, SOC 100 or 150.

**SOC 351 Criminology (COM)**.....3  
 Focuses on theories of crime, juvenile delinquency and justice, laws, systems of criminal behavior, victimization, and corrections. P, SOC 100 or 150.

**SOC 353 Sociology of Work (COM)**.....3  
 Focus on human behavior in work environments. Topics include social organization of work; managing human resources; management-labor relations; role of pay and benefits; problems of personnel adjustment; and work related social tensions and conflict. P, SOC 100 or 150.

**SOC 354 Victimology** .....

3  
 An up-to-date examination of the victim-offender relationship, including: characteristics of those victimized; forms of victimization; the role of the victim in contributing to their own injuries and losses; and, state and federal programs designed to ameliorate physical, emotional and economic suffering.

**SOC 382 The Family (COM)**.....3  
 Focus is on the development and maintenance of the family as a social institution with emphasis on comparative family systems and the contemporary American family from the standpoint of social class, ethnic background and family crises. P, SOC 100 or 150.

**SOC 400 Social Policy (COM)** .....

3  
 A review of social welfare legislation; current trends and issues in, and implementation and administration of, social policy in a variety of practice areas. P, SOC 100 or 150.

**SOC 403 Sociological Theory (COM) (AW)** .....

3  
 This is an introduction to the classics in social theory, various schools of social thought, and modern developments in the discipline. It also covers the major ideas of the classical and modern theorists, the social environment in which they wrote, and the implications of their contributions. P, SOC 100 or 150.

**SOC 440 Urban Sociology (COM) (G)**.....3  
 A study of the urban community, focusing on its development, social structures and institutional patterns. P, SOC 100 or 150.

**SOC 453 Industrial Sociology** .....

3  
 An investigation of industrial societies with attention given to social trends creating industrialization, the development of organizations, the evolution of work-roles, international relations between industrial and non-industrial nations, and the future of industrial societies.

<b>SOC 483 Sociology of Gender Roles (COM) (G)</b> .....	3
Female and male roles in relation to one another in a changing world are foci of this course. The nature of gender roles, their origin and maintenance, institutional features, and their variations over time and across cultures are examined. Crosslisted with WMST 383. P, SOC 100 or 150.	
<b>SOC 490 Seminar (COM)</b> .....	1-3
<b>SOC 491 Independent Study (COM)</b> .....	1-3
<b>SOC 492 Topics (COM)</b> .....	1-3
<b>SOC 494 Internship</b> .....	1-12
<b>SOC 496 Field Experience</b> .....	1-12
<b>SOC 497 Cooperative Education</b> .....	1-12

### Dual Listed Courses

<b>SOC 402-502 Social Deviance (COM)</b> .....	3
This course examines the nature of negatively evaluated behaviors and the process by which customs, rules and normative structure of society are constructed. P, SOC 100 or 150.	
<b>SOC 433-533 Leadership and Organizations (COM)</b> .....	3
Emphasis is on the emergence of leadership patterns, group dynamics, small groups, and leadership in management. P, SOC 100 or 150.	
<b>SOC 455-555 Juvenile Delinquency (COM)</b> .....	3
A study of the youthful offender and the causes and consequences of delinquent behavior; preventive and rehabilitation programs are also discussed. P, SOC 100 or 150.	
<b>SOC 456-556 Community Corrections (COM)</b> .....	3
An examination of the history of adult and juvenile treatment and punishment. Emphasis is upon contemporary community based treatment as well as traditional prison-based incarceration. The process of sentencing, particularly the role of the pre-sentence investigation (PSI) is covered. Special attention is devoted to internship and career possibilities in the corrections arena. P, SOC 351.	
<b>SOC 460-560 Advanced Criminology (COM)</b> .....	3
An extensive examination of major criminological issues and theories including sociological definitions of crime. P, SOC 351.	
<b>SOC 462-562 Population Studies (COM)</b> .....	3
A study of human populations with respect to size, distribution, and structure, with emphasis on theories of population growth and decline, population policies, and impacts on the environment. P, SOC 100 or 150.	
<b>SOC 482-582 Sociology of Law</b> .....	3
This course focuses on the relationship between law and society. Topics include the organization of law in society, law and social control, law as a method of conflict resolution, law as a mechanism of social change, law as a profession, and methods of inquiry in research. The course will also look at alternative dispute resolution techniques, for example mediation. Comparative, and cross-cultural materials will be used throughout the class to emphasize diversity in law.	
<b>SOC 485-585 Applied Sociology</b> .....	3
This course articulates the use of sociological concepts in practical settings. Applied and clinical approaches will be explored. A theoretical model for applied sociology will be developed and applied to businesses, organizations, medicine, aging, youth, law, communities, criminal justice, recreation, social services, educational facilities, and additional areas of student interest.	

### Graduate Courses

<b>SOC 620 Social Organization</b> .....	3
<b>SOC 621 Social Stratification</b> .....	3
<b>SOC 630 Social Change</b> .....	3
<b>SOC 640 Rural Community Development</b> .....	3
<b>SOC 709 Evaluation Research</b> .....	3
<b>SOC 710 Research Methods</b> .....	3
<b>SOC 711 Qualitative Research Methods</b> .....	3
<b>SOC 712 Sociological Theory I</b> .....	3
<b>SOC 713 Sociological Theory II</b> .....	3
<b>SOC 714 Race, Class, Gender Intersections</b> .....	3
<b>SOC 715 Theory Construction</b> .....	3
<b>SOC 716 Symbolic Interaction</b> .....	3
<b>SOC 720 Profession of Sociology</b> .....	3
<b>SOC 762 Applied Demography</b> .....	3
<b>SOC 764 Modern Demographic Theory</b> .....	3
<b>SOC 766 World Population Issues</b> .....	3
<b>SOC 790 Seminar</b> .....	1-4
<b>SOC 791 Independent Study</b> .....	1-3
<b>SOC 794 Internship</b> .....	1-6
<b>SOC 798 Thesis</b> .....	1-7
<b>SOC 898D Dissertation-PhD</b> .....	1-12

### SPAN (Spanish)

#### Undergraduate Courses

<b>SPAN 101 Introductory Spanish I (COM) (G)</b> .....	4
Introduces the fundamental elements of Spanish sentence structure and vocabulary. Promotes speaking, listening and writing within a cultural context. Class work may be supplemented with required aural/oral practice outside of class.	
<b>SPAN 102 Introductory Spanish II (COM) (G)</b> .....	4
Introduces the fundamental elements of Spanish sentence structure and vocabulary. Promotes speaking, listening, and writing within a cultural context. Class work may be supplemented with required aural/oral practice outside of class. P, SPAN 101.	
<b>SPAN 201 Intermediate Spanish I (COM)</b> .....	3
Students use previously learned elements of fundamental Spanish to improve speaking, reading, writing, and listening skills. Authentic materials promote the understanding of Hispanic culture. P, SPAN 102.	
<b>SPAN 202 Intermediate Spanish II (COM)</b> .....	3
Continuation of 201 with more emphasis on using grammar structures in an interactive way. Further study of the Hispanic world. Students planning to major or minor in Spanish are encouraged to take 212 concurrently. P, SPAN 201.	

**SPAN 211 Intermediate Oral Practice I (COM) .....2**  
 Conversational work, oral reports. May be taken concurrently with SPAN 201 or SPAN 202. P, SPAN 102.

**SPAN 212 Intermediate Oral Practice II (COM).....2**  
 Conversational work, oral reports. May be taken concurrently with SPAN 202. P, SPAN 102.

**SPAN 283 Applied Spanish.....1-3**  
 Practical Spanish useful in diverse situations, such as conversation, foreign travel, commerce, the theatre, etc. Topics will vary. May be repeated for a maximum of nine (9) credits. P, SPAN 102 or consent. Classwork may be supplemented by work in the language laboratory.

**SPAN 308 Spanish for the Health Professions .....2-3**  
 The course will build on the student's knowledge of the Spanish language with a specific emphasis on the language a health professional will need when communicating with a patient. Medical terminology, anatomy, personal information and expressions of feelings will be at the core of the course. The course will also address related cultural issues. P, this course will require two years of college Spanish or written permission from the Department.

**SPAN 310 Practical Language Skills .....3**  
 This course is required of all Spanish Majors and Minors. It focuses on many of the more difficult basic grammatical points (e.g., ser/estar, preterito/imperfecto and the uses of the subjunctive) as well as more advanced structures.

**SPAN 330 Reading and Writing for Communication.....3**  
 Development of reading and writing proficiency through examination of writings from the Spanish-speaking world. Emphasis on vocabulary needed to read and discuss literary and authentic periodistic readings. Introduction to research methods will also be included. P, SPAN 310 or concurrent.

**SPAN 340 Phonetics .....3**  
 Introduces the intermediate/advanced student of Spanish to the sound system of the language. Emphasis on developing the student's ability to understand and to produce sounds unique to the Spanish language. P, SPAN 310 or concurrent.

**SPAN 350 Spanish for Business Communication (COM).....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, SPAN 202.

**SPAN 353 Introduction to Spanish Literature I (COM).....3**  
 Introduction to Spanish literature through reading and discussion. P, SPAN 202.

**SPAN 355 Introduction to Latin-American Literature I (COM).....3**  
 Introduction to Spanish American literature through readings with discussion in Spanish. P, SPAN 202.

**SPAN 433 Spanish Civilization and Culture (COM) (AW).....3**  
 Geography, history, politics, and arts of Spain.

**SPAN 435 Latin American Civilization and Culture (AW).....3**  
 Geography, history, politics, and arts of Latin America. P, SPAN 310.

**SPAN 443 Linguistics .....3**  
 An in-depth study of Spanish linguistics; may include advanced phonetics, syntax, aspects of the history of the Spanish language and the varieties of Spanish spoken throughout the world. P, SPAN 310.

**SPAN 444 Introduction to Translation .....3**  
 An introduction to the principles and practice of translating a variety of text types from Spanish to English and from English to Spanish. P, at least one 300-level class.

**SPAN 476 19th and 20th Century Spanish Literature .....3**  
 Major movements and works. Reading, writing and discussions in Spanish. Topics vary. P, SPAN 310, or consent.

**SPAN 484 20th Century Spanish American Literature .....3**  
 Major movements and works. Reading, writing and discussions in Spanish. Topics vary. P, SPAN 310, or consent.

**SPAN 491 Independent Study (COM) .....1-6**

**SPAN 492 Topics (COM) .....1-3**

## Graduate Courses

**SPAN 591 Independent Study .....1-6**

**SPAN 592 Topics.....1-4**

## SPCM (Speech Communication)

### Undergraduate Courses

**SPCM 101 Fundamentals of Speech (COM) .....3**  
 Introduces the study of speech fundamentals and critical thinking through frequent public speaking practice, including setting, purpose, audience, and subject.

**SPCM 201 Interpersonal Communication (COM) .....3**  
 Studies modes of interpersonal communication through readings, and experiential discussions of the role of interpersonal communications in common situations within our society.

**SPCM 205 Communication Studies.....3**  
 An overview of the communication discipline, theory, and practice. P, Advanced Placement in Speech or consent.

**SPCM 215 Public Speaking (COM) .....3**  
 Sharpens students skills in platform speaking events, covering the preparation for and delivery of competitive speaking formats including oral interpretation, persuasive, expository, impromptu, extemporaneous, and after dinner speaking.

**SPCM 222 Argumentation and Debate (COM).....3**  
 Explores argument as a communication activity, construction sound arguments in a variety of venues and analyzing the contribution of argument to public dialogue on contemporary issues.

**SPCM 281 Speech and Debate Activities (COM) .....1-4**  
 Initiates active participation in competitive public speaking, including debate, oral interpretation, and non-competitive public performances.

**SPCM 305 Communication Research (COM) (AW).....3**  
 An exploration of basic theoretical and practical principles of quantitative and qualitative research methods in the study of communication. Students learn to form research questions; work with resources such as academic journals, popular culture, and the internet; use recognized research formats and write research proposals.

**SPCM 320 Communication in Interviewing (COM) .....3**  
 Provides an in-depth study of the interviewing process, including information gathering, persuasion, appraisal, and employment interviews, emphasizes theoretical knowledge from the perspectives of both the interviewer and interviewee, as well as skill development in interviewing techniques

**SPCM 340 Oral Interpretation of Literature (COM) .....3**  
 Examines the theory and practice of the performance of texts, the artistic, aesthetic, and carefully considered sharing of our personal understanding of literary selection, involving analysis, planning, rehearsing, and effective sharing of meaning with an audience.

**SPCM 405 Theories of Communication (COM) .....3**  
 Examines communication theories and philosophies, emphasizing clarification through theory of daily communication processes, and relating theory to traditional and developing research methods.

**SPCM 415 Communication and Gender (COM) .....3**  
 A study of gender theories as well as gendered communication practices within the contexts of interpersonal and organizational relationships and social and cultural forces.

**SPCM 417 Political Communication (COM) .....3**  
 Studies the rhetoric of selected political figures, movements, and campaigns that have changed lives and culture. Students develop an understanding of rhetorical strategies and their cultural impact within public life.

**SPCM 434 Small Group Communication (COM) .....3**  
 Explores prominent concepts and theories of human small group interaction, cultivating critical assessments of communication strategies in task, social, and therapeutic groups.

**SPCM 442 Group Performance of Literature .....3**  
 Various styles of Reader's Theatre are studied. Includes solo and group performance of multiple literary selections. P, SPCM 340 or consent.

**SPCM 460 Family Communication (COM).....3**  
 Studies systems of relational communication in a variety of family contexts, with particular emphasis on stability, continuity and change. The role of family in personal, social, cultural development is studied, as well as changing family dynamics of power, myth, ritual, and connection.

**SPCM 470 Intercultural Communication (COM) (G) .....3**  
 A study of theoretical dimensions of intercultural communication as well as specific characteristics of intercultural study. Emphasis is placed on complex, mindful, creative and invitational communication, which welcomes diversity and its richness.

**SPCM 476 7-12 Speech Methods .....3**  
 Problems of the speech teacher. Curriculum, instructional materials, and methods.

**SPCM 491 Independent Study (COM) .....1-3**

**SPCM 494 Internship (COM).....1-12**

**SPCM 452-552 General Semantics .....3**  
 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.

**SPCM 482-582 Travel Studies.....1-5**  
 This travel study course is designed to provide extra-mural educational opportunities, approved and directed by a faculty member in Communication Studies Theatre. It may be in cooperation with faculty and administrators of other institutions. Students will be involved in hands-on activities and design educational activities for presentation at selected locations as well as SDSU. Includes pre-travel orientation, post travel self-evaluation, and a written report.

**SPCM 492-592 Topics (COM).....1-5**

## Graduate Courses

**SPCM 605 Current Approaches to Communication .....3**

**SPCM 700 Instructional Methods in Communications.....3**

**SPCM 707 Speech/English/Drama for Teachers.....1-3**

**SPCM 766 Rhetorical Theory .....3**

**SPCM 791 Independent Study.....1-2**

**SPCM 792 Topics .....1-3**

**SPCM 798 Thesis.....1-7**

## SPED (Special Education)

### Undergraduate Courses

**SPED 300 Students With Exceptionalities (COM).....3**  
 Characteristics and needs of exceptional individuals including review of special education legislation and special methods focusing on elementary level students with special needs.

**SPED 401 Introduction to Educating Secondary Students with Disabilities (COM).....1**  
 An introduction to the characteristics and needs of exceptional individuals including review of special education legislation and focusing on middle and secondary level students.

**SPED 450 Gifted and Talented (COM).....3**  
 This course focuses on the nature and needs of the gifted child.

**SPED 451 Curriculum and Instruction in Gifted (COM) .....3**  
 This course focuses on curriculum, development and teaching strategies for the gifted.

**SPED 452 Nature of Creativity and Assessment (COM).....2-3**  
 This course focuses on the nature of creativity and assessment of creativity.

## Dual Listed Courses

**SPCM 410-510 Organizational Communication (COM) (AW) .....3**  
 Explores communication processes in organizational contexts, theories of leadership, decision making and conflict, the application of principles that facilitate communication in organizations, and other selected topics.

**SPCM 416-516 Rhetorical Criticism (COM).....3**  
 Evaluates American speakers from colonial to contemporary times.

# STAT (Statistics)

## Undergraduate Courses

<b>STAT 210 Introduction to SAS Programming</b> .....1	
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.	
<b>STAT 281 Introduction to Statistics (COM)</b> .....3	
A study of descriptive statistics including graphs, measures of central tendency and variability and an introduction to probability theory, sampling and techniques of statistical inference with an emphasis on statistical applications. P, MATH 102 or 115 or 120 or 121 or 123 or 125.	
<b>STAT 381 Introduction to Probability and Statistics (COM)</b> .....3	
Introduction to probability theory, discrete and continuous distributions, sampling distributions and the Central Limit Theorem with general principles for statistical inference and applications of random sampling to hypothesis testing, confidence limits, and regression. P, MATH 125.	
<b>STAT 442 Analysis of Variance and Regression</b> .....3	
Data interpretation, hypothesis testing and modeling with analysis of variance and regression. P, STAT 281, 381, or MATH 381.	
<b>STAT 485 Theory of Statistics I</b> .....3	
P, MATH/STAT 381.	
<b>STAT 498 Undergraduate Research/Scholarship</b> .....1-3	

## Dual Listed Courses

<b>STAT 410-510 Programming Using SAS</b> .....2	
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).	
<b>STAT 412/512 Programming Using SAS II</b> .....2	
A continuation of STAT 410/510, including SAS/STAT, SAS Macro, IML, and projects in data stimulation. P, STAT 410 or STAT 510.	
<b>STAT 440-540 Basic Research Statistics</b> .....3	
An introductory/Review course in probability and statistics for graduates students or students preparing for graduate school. Includes topics such as discrete probability, discrete and continuous random variables, sampling, confidence intervals and hypothesis tests, including Chi-Square and F tests. P, MATH 102.	
<b>STAT 441-541 Statistical Methods II</b> .....3	
Analysis of variance, various types of regression, and other statistical techniques and distributions. Sections offered in the areas of Biological Science and Social Science. P, STAT 281, or MATH/STAT 381, or STAT 210 or STAT 410. Credit not given for both STAT 541 and STAT 581.	
<b>STAT 445-545 Nonparametric Statistics</b> .....3	
Covers many standard nonparametric methods of analysis. Methods will be compared with one another and with parametric methods where applicable. Attention will be given to: (1) analogies with regression and ANOVA; (2) emphasis on construction of tests tailored to specific problems; and (3) logistic analysis. P, MATH 381 or STAT 381.	

<b>STAT 455/555 Matrix Algebra for Statistics</b> .....3	
Matrix/Linear Algebra concepts especially useful in statistics, focusing on those not covered in a typical undergraduate linear algebra course, such as quadratic forms, idempotent, positive definite, generalized inverse, matrix decomposition, and matrix calculus. P, MATH 215.	
<b>STAT 460/560 Time Series Analysis</b> .....3	
Statistical methods for analyzing data collected sequentially in time where successive observations are dependent. Includes smoothing techniques, decomposition, trends and seasonal variation, forecasting methods, models for time series: stationarity, autocorrelation, linear filters, ARMA processes, non-stationary processes, model building, forecast errors and confidence intervals. P, STAT 381 or MATH 381 or instructor's consent.	
<b>STAT 482-582 Statistics for Physical Science</b> .....3	
Introduction to statistical design, one-way completely randomized design, testing contrasts and multiple comparison procedures, simple and multiple linear regression, factorial designs, fractional factorial designs and mixed models. SAS software is used extensively. P, MATH/STAT 381. Credit will not be given for both STAT 482 and STAT 441.	
<b>STAT 486-586 Design of Surveys (COM)</b> .....3	
Constructing and analyzing designs for survey investigations; simple random, stratified, cluster, multistage, and multiphase designs; and methods of estimation. Techniques and methods of obtaining and reporting survey information. P, STAT 381 or permission of the instructor.	
<b>STAT 490-590 Seminar</b> .....1-2	
<b>STAT 491-591 Independent Study</b> .....1-3	
<b>STAT 492-592 Topics (COM)</b> .....1-3	

## Graduate Courses

<b>STAT 615 Multivariate Analysis I</b> .....3	
<b>STAT 661 Design of Experiments I</b> .....3	
<b>STAT 662 Quality Control</b> .....3	
<b>STAT 685 Statistical Inference I</b> .....3	
<b>STAT 687 Regression Analysis I</b> .....3	
<b>STAT 720 Bayesian Statistics</b> .....3	
<b>STAT 730 Bioassay</b> .....3	
<b>STAT 735 Introduction to Clinical Trials</b> .....3	
<b>STAT 740 Survival Analysis and Reliability</b> .....3	
<b>STAT 742 Spatial Statistics</b> .....3	
<b>STAT 746 Linear Models I</b> .....3	
<b>STAT 761 Design of Experiments II</b> .....3	
<b>STAT 780 Advanced Statistical Methods</b> .....1-18	
<b>STAT 785 Statistical Inference II</b> .....3	
<b>STAT 787 Regression Analysis II</b> .....3	
<b>STAT 791 Independent Study</b> .....1-3	
<b>STAT 792 Topics</b> .....1-3	

## THEA (Theatre)

### Undergraduate Courses

<b>THEA 100 Introduction to Theatre (COM)</b> .....3	
Introductory course designed to enhance the student's enjoyment and understanding of the theatrical experience. Play readings, films, and demonstrations acquaint the students with the history and techniques of the theatrical art.	
<b>THEA 101 Introduction to Theatre</b> .....3	
Background of theatrical arts: production, plays, history, and theory. Credit will not be allowed for THEA 101 in addition to credit in THEA 100.	
<b>THEA 131 Introduction to Acting (COM)</b> .....3	
Designed for the non-major interested in exploring acting as a means of improving communication skills and self-expression. Includes specific process for role development, text analysis, and opportunities to practice the craft and art of acting.	
<b>THEA 135 Theatre Activities-Acting</b> .....1	
Credit earned by active participation in acting roles. May be repeated for a total of 8 credits. P, consent.	
<b>THEA 145 Theatre Activities-Technical</b> .....1	
Credit earned by backstage and crew work. May be repeated for a total of 8 credits. P, consent.	
<b>THEA 191 Independent Study</b> .....1	
P, consent of instructor and department chair.	
<b>THEA 240 Stage Costuming (COM)</b> .....3	
Introduction to the equipment, materials, and techniques of theatrical costuming. Includes practical projects in the use of stitching techniques, pattern making, fabric modification, and costume crafts.	
<b>THEA 241 Stagecraft (COM)</b> .....3	
Theory and practical experience in theatre production. Lab work on two major theatre productions. Corequisite course THEA 241L.	
<b>THEA 241L Stagecraft Lab (COM)</b> .....0	
Accompanies THEA 241. Corequisite course THEA 241.	
<b>THEA 243 Make-Up (COM)</b> .....3	
Principles of theatrical makeup techniques, including character analysis and practical application.	
<b>THEA 351 Directing (COM)</b> .....3	
Introduction to the techniques and concerns of the stage director, including composition, movement, and tempo-rhythm. Script analysis and scene presentation form the core of the course.	
<b>THEA 355 Children's Theatre (COM)</b> .....3	
Children's theatre is an art form. Students become proficient in organization, design, and presentation of a children's theatre program.	
<b>THEA 375 Theatre Arts Management</b> .....3	
Emphasis on theory and practice of Arts Management as an important feature of the Theatre Arts discipline. Students will become proficient in the organization, promotion, budgeting, and operation of a performing arts program.	
<b>THEA 435 History of American Musical Theater (COM)</b> .....3	
History and development of American musical theatre from 1866 to the present.	

<b>THEA 441 Scene Design (COM)</b> .....3	
Principles and practices of scenic design, including the scenic image, movement patterns, color, form, and rendering techniques.	
<b>THEA 445 Lighting (COM)</b> .....3	
Basic principles and practices of lighting design, including basic electricity, script analysis, color, and directionality. Corequisite course THEA 445L.	
<b>THEA 445L Lighting Lab (COM)</b> .....0	
Accompanies THEA 445. Corequisite course THEA 445.	
<b>THEA 455 Advanced Acting (COM)</b> .....3	
Textual analysis, movement and acting styles for the theatre.	
<b>THEA 480 Summer Theatre</b> .....1-5	
Credit earned by participation with Prairie Repertory Theatre Company. May be repeated to a total of 10 credits, but only 5 may be applied to a minor. P, consent.	
<b>THEA 491 Independent Study (COM)</b> .....1-6	
P, consent of instructor and department chair.	
<b>THEA 492 Topics (COM)</b> .....1-5	

### Dual Listed Courses

<b>THEA 410-510 Dramatic Literature (AW)</b> .....3	
Analysis of important drama through present day.	
<b>THEA 460-560 History of Theatre</b> .....3	
Periods, theatres, and representative dramatic literature from the classical to the present day.	
<b>THEA 494-594 Internship (COM)</b> .....0-12	
P, consent.	

### Graduate Courses

<b>THEA 791 Independent Study</b> .....1-2	
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## TTL (Technology for Teaching and Learning)

### Undergraduate Courses

<b>TTL 193 Workshop</b> .....1-3	
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### Graduate Courses

<b>TTL 500 Technology for Teaching and Learning</b> .....3	
<b>TTL 501 Technology for Teaching and Learning Follow Up</b> .....2	
<b>TTL 502 Differentiating Instruction</b> .....2	
<b>TTL 503 Techniques for Teaching and Learning Follow Up</b> .....1	
<b>TTL 510 Distance Technology</b> .....3	

## VET (Veterinary Science)

### Undergraduate Courses

<b>VET 101 Animal Care and Welfare</b> .....1	Training course in the care and handling of animals.
<b>VET 103 Introduction to Veterinary Medicine</b> .....1	Information will be provided concerning various aspects of veterinary medicine including: pre-veterinary education requirements, veterinary colleges, professional opportunities in veterinary medicine, and allied fields associated with veterinary medicine, governmental regulations, animal welfare, future trends, and other topics. Pass/fail.
<b>VET 223 Anatomy and Physiology of Domestic Animal</b> .....4	This course will familiarize students with the anatomical structures and physiological functions of the organ systems of domestic animals. Similarities in the structure and function of organ systems of various domestic animals will be emphasized. P, CHEM 120 or 326. Corequisite course VET 223L.
<b>VET 223L Anatomy and Physiology of Domestic Animals Lab</b> .....0	Corequisite course VET 223.
<b>VET 493 Workshop</b> .....1-4	
<b>VET 494 Internship (COM)</b> .....1-12	
<b>VET 496 Field Experience (COM)</b> .....1-12	
<b>VET 497 Cooperative Education (COM)</b> .....1-12	
<b>VET 498 Undergraduate Research/Scholarship</b> .....1-4	

### Dual Listed Courses

<b>VET 403-503 Animal Diseases and Their Control</b> .....3	This course will discuss the various factors that contribute to the development of animal disease and how these factors can be manipulated to prevent or control disease. Emphasis will be placed on understanding disease control concepts and assessment of disease impact.
<b>VET 424-524 Medical and Veterinary Virology</b> .....3	Basic course discussing the characterization, structure, and replication of viruses and the pathogenesis of viral disease in man and animals. P, MICR 433. Crosslisted with MICR 424-524.
<b>VET 491-591 Independent Study</b> .....1-3	
<b>VET 492-592 Topics</b> .....1-3	

### Graduate Courses

<b>VET 623 Advanced Mammalian Physiology</b> .....5	
<b>VET 788 Master's Research Problems</b> .....2-3	
<b>VET 791 Independent Study</b> .....1-4	
<b>VET 792 Topics</b> .....1-3	
<b>VET 793 Workshop</b> .....1-4	

## WEL (Wellness)

### Undergraduate Courses

<b>WEL 100 Wellness for Life (COM)</b> .....1	This course introduces the importance and holistic nature of the six dimensions of personal wellness and fitness. The course will provide the necessary knowledge and skills to make informed decisions which will lead to the development of a healthy lifestyle. Various issues related to the dimensions of wellness will be discussed. Students will have the opportunity to assess their current health status and identify potential risk factors.
<b>WEL 100L Wellness Lab (COM)</b> .....1	This laboratory experience applies wellness concepts taught in WEL 100 lecture. Students will gain a level of understanding about one's personal fitness level as well as learn a variety of skills to enhance personal wellness.
<b>WEL 192 Topics</b> .....1	

## WL (Wildlife and Fisheries Sciences)

### Undergraduate Courses

<b>WL 110 Environmental Conservation (G)</b> .....3	Ecological approach to conservation; human's past and present impact on world environments; wise use of natural resources, including soil, water, air, forests, rangelands, energy, wildlife, and fisheries.
<b>WL 220 Introduction to Wildlife and Fisheries Management</b> .....3	An introduction to the basic principles used in the management of wildlife and fish populations, their habitats, and their human users. The course is directed toward the presentation of general concepts that are integral to understanding the discipline.
<b>WL 230 Wildlife and Fisheries Techniques</b> .....3	Techniques involved with the collection and analysis of wildlife and fish population and habitat information and data analysis are the primary contents of the course. P, WL 220.
<b>WL 291 Independent Study</b> .....1-3	
<b>WL 363 Ornithology (COM)</b> .....4	Identification of bird species; life histories, ecology, habits, and special structural and physiological adaptations of various groups. Corequisite course WL 363L.
<b>WL 363L Ornithology Lab (COM)</b> .....0	Laboratory experience that accompanies WL 363. Corequisite course WL 363.
<b>WL 367 Ichthyology</b> .....3	Characteristics and relationships of fishes; adaptations, behavior, ecology, evolution, systematics, and zoogeography of fishes; and, identification and life histories of fishes. Corequisite course WL 367L.
<b>WL 367L Ichthyology Lab</b> .....0	Corequisite course WL 367.
<b>WL 370 Limnology</b> .....3	Physical, chemical, and biological characteristics of freshwater ecosystems. Analysis of factors and processes that operate in freshwater systems. Methods of quantifying these factors and processes. P, one semester of chemistry. Corequisite course WL 370L.



**WL 370L Limnology Lab** .....0  
 Corequisite course WL 370.

**WL 411 Principles of Wildlife Management** .....4  
 Application of ecological principles of the management of wild birds, mammals, and herps. History and development of wildlife management as a science; characteristics of, and factors affecting wildlife populations; techniques and theories of management; and, wildlife conservation. P, WL 363, ZOOL 355, or department written consent. Corequisite course WL 411L.

**WL 411L Principles of Wildlife Management Lab** .....0  
 Corequisite course WL 411.

**WL 412 Principles of Fisheries Management** .....3  
 Fisheries management as a science with an emphasis on freshwater fishes and ecosystems. Emphases include biota, habitat, and human management. P, WL 367 or department written consent. Corequisite course WL 412L.

**WL 412L Principles of Fisheries Management Lab** .....0  
 Corequisite course WL 412.

**WL 430 Human Dimensions in Wildlife and Fisheries (G)**.....4  
 Interactions among various stakeholders, resource management agencies, and the wildlife and fisheries resources are studied. Topics such as public attitudes and expectations; agency structure, administration, and policy; tangible and intangible values of fishes, wildlife, and their habitats; the concept of biophilia as motivation for resource use; public relations; the philosophy and ethics of resource use and management; and, wildlife and fisheries law and its enforcement are included. Corequisite course WL 430L.

**WL 430L Human Dimension Wildlife and Fisheries Lab** .....0  
 Corequisite course WL 430.

**WL 440 Fisheries and Wildlife Biometrics** .....2  
 Analysis and interpretation of fisheries and wildlife data that relate to assessment of research and management activities. Computer software application will be stressed. P, STAT 281, CSC 105, or department written consent. Corequisite course WL 440L.

**WL 440L Fisheries and Wildlife Biometrics Lab** .....0  
 Corequisite course WL 440.

**WL 490 Seminar** .....1

**WL 491 Independent Study** .....1-3

**WL 494 Internship** .....1-12

**WL 496 Field Experience (COM)**.....1-12

**WL 497 Cooperative Education (COM)** .....1-12

## Dual Listed Courses

**WL 413-513 Advanced Fisheries Management** .....3  
 Principles and techniques of selected practices for lentic and lotic fisheries sampling, assessment, and management. (P, department written consent for WL 413 only). Corequisite course WL 413L-513L.

**WL 413L-513L Advanced Fisheries Management Lab** .....0  
 Corequisite course WL 413-513.

**WL 415-515 Upland Game Ecology and Management** .....3  
 Upland game birds and mammals as components of ecosystems. Effects of farming; industry; social change; technology; and federal, state, and private programs on game and non-game species. Techniques for individual species management. (P, department written consent for WL 415 only). Corequisite course WL 415L-515L.

**WL 415L-515L Upland Game Ecology and Management Lab** .....0  
 Corequisite course WL 415-515.

**WL 417-517 Large Mammal Ecology and Management**.....3  
 Large mammal life histories and distributions. Relationships of nutrition, reproduction, interspecific competition, and predation to management of large mammal habitat and harvest. Techniques for research and management of large mammals. (P, department written consent for WL 417 only). Corequisite course WL 417L-517L.

**WL 417L-517L Large Mammal Ecology and Management Lab**.....0  
 Corequisite course WL 417-517.

**WL 419-519 Waterfowl Ecology and Management** .....3  
 Analysis of ecological and socio-economic factors affecting waterfowl habitat and populations. State and federal programs affecting wetland drainage and preservation. Field inspection of waterfowl habitat in the north-central states. (P, department written consent for WL 419 only). Corequisite course WL 419L-519L.

**WL 419L-519L Waterfowl Ecology and Management Lab** .....0  
 Corequisite course WL 419-519.

**WL 421-521 Grassland Fire Ecology** .....3  
 The course describes the ecological effects of fire on grassland ecosystem components, from soil and vegetation to wildlife and beef cattle. It also provides insight into the history of fires, the people who use them and why, the parts of a fire, how fires behave in relation to fuel and weather, and the conducting and safety of prescribed burns. (P, department written consent for WL 421 only). Crosslisted with RANG 421-521. Corequisite course WL 421L-521L.

**WL 421L-521L Grassland Fire Ecology Lab**.....0  
 Corequisite course WL 421-521.

**WL 423-523 Fish Culture**.....3  
 Extent and potential for aquaculture. Emphasis placed on culture methods of important commercial and sport fishes and invertebrates of North America. (P, department written consent for WL 423 only). Corequisite course WL 423L-523L.

**WL 423L-523L Fish Culture Lab** .....0  
 Corequisite course WL 423-523.

**WL 492-592 Topics** .....1-3

**WL 492L-592L Topics Lab (COM)**.....0

## Graduate Courses

**WL 712 Wetland Ecology and Management** .....3

**WL 712L Wetland Ecology and Management Lab** .....0

**WL 713 Animal Population Dynamics** .....3

**WL 713L Animal Population Dynamics Lab** .....0

**WL 714 Fish Structure and Function**.....3

**WL 714L Fish Structure and Function Lab** .....0

**WL 715 Wildlife Research Design** .....3

**WL 715L Wildlife Research Design Lab**.....0

**WL 717 Aquatic Trophic Ecology** .....3

**WL 717L Aquatic Trophic Ecology Lab**.....0

**WL 718 Ecology of Aquatic Invertebrates** .....3

WL 718L Ecology of Aquatic Invertebrates Lab .....0  
 WL 719 Stream Ecology and Management .....3  
 WL 719L Stream Ecology and Management Lab.....0  
 WL 790 Seminar .....1  
 WL 791 Independent Study.....1-3  
 WL 798 Thesis .....1-7

## WMST (Women's Studies)

### Undergraduate Courses

WMST 101 Introduction to Women's Studies.....3  
 Exploration of women's issues in both historical and contemporary contexts, including introduction to feminist theory.

WMST 248 Women in Literature .....3  
 Study of literature by and about women. Course materials may range from early times to the present and may also include non-American literature. Crosslisted with ENGL 248.

WMST 250 Development of Human Sexuality.....3  
 A basic course which explores the biological, behavioral, and cultural aspects of human sexuality. The course focuses on individual sexual development, interpersonal aspects of sexual behavior and social/cultural values and beliefs about sexuality and sex roles throughout the lifespan. Crosslisted with HDFS 250.

WMST 305 Women and Politics .....3  
 Study of the role women play in the American political process as activists as well as voters in the late 20th century. Particular emphasis is placed on barriers women face in gaining access to political power in public and private institutions, and the impact legislation and court decisions have had on the role of women in American society. No prerequisites. Crosslisted with POLS 305.

WMST 325 Domestic and Intimate Violence.....3  
 A seminar focusing on the problems associated with violent behaviors in American households. Special attention will be devoted to the structural, cultural and social-psychological factors contributing to the abuse and battering of family members. In addition, the use of force as a problem solving mechanism will be examined. Crosslisted with SOC 325.

WMST 331 Feminism and Theology .....3  
 A critical examination of traditional theological areas from the perspective of feminist theologians. Areas covered include women in the Bible, Church history, and the contemporary Church. Crosslisted with REL 331.

WMST 349 Women in American History .....3  
 This course will investigate the role of women in the history of the United States. It will attempt to discover what impact women had on the course of events. Selected women and their careers will be highlighted. Crosslisted with HIST 349.

WMST 367 Psychological Gender Issues .....3  
 This course surveys the current theoretical and research issues in the development of gender and explores the impact of gender on the lives of women and men. Topics include societal and biological influences on psychological development, achievement motivation, sex roles, stereotyping, socialization, sexuality, and personality. Crosslisted with PSYC 367. P, PSYC 101 or 102.

WMST 383 Sociology of Gender Roles .....3  
 Female and male roles in relation to one another in a changing world are the focus of this course. The nature of sex roles, their origin, and their variations over time and across cultures are examined. Crosslisted with SOC 483.

WMST 392 Topics .....3

WMST 453 Socio-Psychological Aspects of Dress .....3  
 Examination of clothing behavior from sociological, psychological and cultural perspectives. Crosslisted with AM 453. P, SOC 100, PSYC 101.

WMST 491 Independent Study .....1-3  
 P, WMST 101.

WMST 492 Topics.....3

### Dual Listed Courses

WMST 419-519 Women in Media.....3  
 This course examines contributions of women to the mass media from colonial era to present. It also studies the portrayal of women by the news media and by advertising, and it studies the roles currently played by women in the media and in supporting areas of advertising and public relations. Crosslisted with MCOM 419.

## ZOOL (Zoology)

### Undergraduate Courses

ZOOL 302 Animal Behavior (COM) .....3  
 Animal behavior from many aspects, including communication, social organization, orientation, imprinting, courtship and mating, agonistic behavior, control systems, and the evolution of behavioral patterns. P, BIOL 101 or BIOL 151.

ZOOL 305 Insect Biology (COM).....3  
 An introduction to the general biology and classification of insects. Course emphasis placed on taxonomy, methods of identification, and ecological role of insects. Students will become familiar with basic insect anatomy and morphology, classification of the order level with exemplary families that include Taxa of agricultural or environmental interest, and acquire an ability to sight recognize particular species that have agricultural, environmental, wildlife, and human/livestock health importance. Field trips and a collection are required. Crosslisted with PS 305. P, MATH 102 or higher, and one of following: BIOL 103-103L, BOT 201-201L, or BIOL 153-153L. Corequisite: PS 305L or ZOOL 305L.

ZOOL 305L Insect Biology Lab (COM) .....0  
 Laboratory experience that accompanies ZOOL 305. Corequisite course PS 305 or ZOOL 305.

ZOOL 355 Mammalogy (COM).....3  
 Identification of game, fur bearing, and small mammals; taxonomy of these groups, life histories and habits, preparation of study skins and skeletons; special reference to those occurring in Northern Great Plains area. P, BIOL 101 or BIOL 151. Corequisite course ZOOL 355L.

ZOOL 355L Mammalogy Lab (COM) .....0  
 Laboratory experience that accompanies ZOOL 355. Corequisite course ZOOL 355.

**ZOOL 365 Vertebrate Zoology (COM) .....4**  
 Structure and ways of life of the vertebrate classes. General anatomy, organ systems, and special characteristics of each class of vertebrates as well as detailed classification of the major Taxa down to the family level. P, BIOL 151. Corequisite ZOOL 365L.

**ZOOL 365L Vertebrate Zoology Lab (COM).....0**  
 Laboratory experience that accompanies ZOOL 365. Corequisite course ZOOL 365.

**ZOOL 441 Histology (COM).....4**  
 Microscopic study of cells and fundamental tissues. Structures of organs and systems are stressed to integrate structure and function. P, BIOL 151. Corequisite course ZOOL 441L.

**ZOOL 441L Histology Lab (COM) .....0**  
 Laboratory experience that accompanies ZOOL 441. Corequisite course ZOOL 441.

**ZOOL 483 Developmental Biology (COM).....4**  
 Analysis of the processes of animal development beginning with the formation of female and male gametes (ova and sperm) and ending with organ differentiation. Evolutionary concepts of animal development, developmental genetics, and molecular biological approaches to the analysis of development. P, BIOL 151. Corequisite course ZOOL 483L.

**ZOOL 483L Developmental Biology Lab (COM) .....0**  
 Laboratory experience that accompanies BIOL 483. Corequisite course ZOOL 483.

**ZOOL 491 Independent Study .....1-4**

**ZOOL 494 Internship .....1-12**

**ZOOL 496 Field Experience .....1-12**

**ZOOL 498 Undergraduate Research/Scholarship .....1-4**

## Dual Listed Courses

**ZOOL 467-567 Parasitology (COM) .....3**  
 The broad field of animal parasitology, including protozoa, helminths, and arthropods. Emphasis on identification, life histories, control, and economic and medical importance. Laboratory includes morphology and identification of representative groups of parasites, as well as techniques of diagnosis of parasitic disease. Crosslisted with BIOL 467-567. P, BIOL 101 or BIOL 151. Corequisite courses ZOOL 467L-567L.

**ZOOL 467L-567L Parasitology Lab (COM) .....0**  
 Laboratory experience that accompanies ZOOL 467. Crosslisted with BIOL 467L-567L. Corequisite course ZOOL 467-567.

**ZOOL 492-592 Topics .....1-5**

## Graduate Courses

**ZOOL 623 Advanced Mammalian Physiology .....5**

**ZOOL 761 Taxonomy of Insects.....3**

**ZOOL 761L Taxonomy of Insects Lab .....1**

**ZOOL 788 Research Problem .....1-3**

**ZOOL 791 Independent Study .....1-4**

**ZOOL 792 Topics .....1-5**



## SERVICES AND FACILITIES.....361

<i>Agricultural Experiment Station (AES)</i> .....	362
<i>Alumni Association</i> .....	362
<i>Animal Disease Research and Diagnostic Laboratory (ADRDL)</i> .....	362
<i>Career and Academic Planning Center</i> .....	363
<i>Chief Information Technology Office</i> .....	364
<i>Cooperative Extension Service (CES)</i> .....	365
<i>Crime Reports</i> .....	365
<i>Diversity Enhancement, Office of</i> .....	365
<i>Endowed Chairs</i> .....	366
<i>Engineering Resource Center (ERC)</i> .....	367
<i>Environmental Health &amp; Safety Office</i> .....	367
<i>Fees</i> .....	368
<i>Refunds</i> .....	369
<i>Financial Assistance</i> .....	370
<i>Foundation, SDSU</i> .....	371
<i>Intercollegiate Athletics</i> .....	371
<i>International Affairs</i> .....	372
<i>Intramurals and Recreational Sports and Sports Clubs</i> .....	372
<i>Library, Hilton M. Briggs</i> .....	372
<i>Logos, Seals, Caricatures, Wordmarks (Official University Symbols)</i> .....	373
<i>McCrary Gardens</i> .....	374
<i>Museums/Collections</i> .....	375
<i>Physical Plant</i> .....	375
<i>Print Lab</i> .....	375
<i>Residential Life—Housing and Food Service</i> ....	376
<i>Service Learning</i> .....	376
<i>Student Affairs Division</i> .....	377
<i>The Union</i> .....	378
<i>University Relations</i> .....	379
<i>Water and Environmental Engineering Research Center (WEERC)</i> .....	379
<i>Water Resources Institute (WRI)</i> .....	380
<i>Wellness Center</i> .....	380

# Agricultural Experiment Station (AES)

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The Agricultural Experiment Station is one of three activities at SDSU that define the land-grant university. The mission of the South Dakota Agricultural Experiment Station (SDAES) is to conduct research to enhance the quality of life in South Dakota through the beneficial use and development of human, economic, and natural resources.

Serving as South Dakota's Land-Grant Institution, SDSU is home to the premier research programs in the state. Research programs in SDAES directly support the teaching programs offered in the College of Agriculture and Biological Sciences and the educational programs delivered by the SD Cooperative Extension Service (SDCES). The SDAES extends the reach of the University through multi-state programs shared with other Land-Grant institutions that bring objective answers home to all South Dakotans. With an enduring mission of practical research, SDAES serves agriculture, enhances our quality of life, and brings economic development to South Dakota.

Research priorities are based in several theme areas relevant to South Dakota agriculture, including: biostress, agricultural production, natural resources and conservation, biotechnology, biobased energy and industries:

SDAES provides a base of new knowledge and service to South Dakotans. This new knowledge is effectively used by farmers, ranchers, homemakers, industry, classroom instructors, and Extension educators throughout the state. Courses in the College of Agriculture and Biological Sciences and in the College of Family and Consumer Sciences are especially strengthened by this new knowledge.

Much of the SDAES 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 problems. Beyond this, research on farms and ranches, in wildlife areas, in watersheds and with cooperating businesses and institutions results in scientific investigation being conducted in nearly every county of the state.

Research may be grouped in the following subject matter areas: livestock, crops and soils, community and public affairs, animal health, fertilizers, garden and orchard, home and consumer, water resources and irrigation, forestry, insects, farm machinery, marketing, business management, farm buildings, pollution, range and forages, fisheries, plant diseases, wildlife, sociology, and stress in plants, animals, and humans. Much of the research is integrated through the Biostress Mission.

Research is financed by State and Federal appropriations, industry grants, and Federal and State grants. Research results are published in Agricultural Experiment Station or Extension bulletins, scientific journals, and a quarterly publication, *Farm and Home Research*. Many of these publications are available from County Extension Offices or the Experiment Station Bulletin Room on campus.

For information contact the Director, John D. Kirby, Agricultural Experiment Station, SDSU, Box 2207, Brookings, SD 57007-0291, phone 605-688-4149 or e-mail: [sandra.rusten@sdstate.edu](mailto:sandra.rusten@sdstate.edu)

## Alumni Association

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The purpose of the SDSU Alumni Association, a separate entity from the University, is to foster a spirit of loyalty and fellowship among graduates, faculty, students, former students, and friends of the University, and to direct and/or participate in an organized cooperative

effort for the advancement, development, achievement, and honor of both South Dakota State University and its alumni.

The Executive Director, V.J. Smith, can be reached at 605-697-5198, e-mail: [vj.smith@statealum.com](mailto:vj.smith@statealum.com) or Box 515, Brookings, SD 57007-0299.

## Animal Disease Research and Diagnostic Laboratory (ADRDL)

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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, professional diagnosticians and faculty operate the lab. The faculty is actively involved with the traditional roles of service (professional outreach), research and teaching/advising. State general funds and user fees pay for the Laboratory's operation. The laboratory is a reference lab and only receives cases by referral from veterinarians or state officials. The ADRDL mission is to provide high quality veterinary diagnostic services and research as a means to promptly and accurately establish

causes of animal health problems. Such diagnoses will aid attending veterinarians and health officials in the treatment, control, prevention, and surveillance of animal diseases to the benefit of the SD livestock industry, other animal owners, and society at large. The ADRDL is one of 39 labs in the United States that is accredited by the American Association of Veterinary Laboratory Diagnosticians and is part of the National Animal Health Laboratory Network (NAHLN), as well as the Food Emergency Response Network (FERN).

The director, David H. Zeman, can be contacted at 605-688-5172 or by e-mail: [david.zeman@sdstate.edu](mailto:david.zeman@sdstate.edu)

# Career and Academic Planning Center

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## Introduction

Planning for a career after graduation should begin with the first advising session at SDSU. The College of General Studies and Outreach Programs and the Career and Academic Planning (CAP) Center, located in Medary Commons, offer a variety of services designed to assist with that planning. Students from all colleges and majors are welcome to take advantage of the support offered in the following areas.

## College of General Studies and Outreach Programs

(<http://www3.sdstate.edu/academics/collegeofgeneralstudiesandoutreachprograms/>)

It is not unusual for students to begin their university experience being undecided about their major and the College of General Studies is designed to help students reach an informed decision. Students are assigned to academic advisors who guide the exploration of degree programs that will allow the integration of their unique characteristics into a satisfying career. Students take general classes required for all students so they do not lose time toward graduation while researching their options. GS 100 University Experience, is a class offered to ease the transition to university life and familiarize students with campus resources. In addition, the College of General Studies offers three degrees: Bachelor of Applied Technical Science; Bachelor of Science degree with a major in Liberal Studies; and an Associate of Arts Degree in General Studies.

## Academic Success Support Services

([http://careercenter.sdstate.edu/generalstudies/academic\\_success/](http://careercenter.sdstate.edu/generalstudies/academic_success/))

Developing effective study skills is a key to academic success at the university level. GS 143, Mastering Lifetime Learning Skills, is a two-credit course offered to help students become more skillful learners. In addition, students may seek individual assistance with cultivating productive study skills, overcoming test anxiety and preparing for the CAAP proficiency exam.

## Tutoring Services

(<http://careercenter.sdstate.edu/tutoring/>)

The CAP Center provides free tutoring for SDSU students in select courses. Tutors work closely with students to help them set goals, increase their content knowledge and achieve positive academic outcomes. To this end, the tutoring staff provides one-on-one and small group tutoring and study skills training to help students develop the knowledge, confidence and skills necessary to reach their academic potential. To request tutoring, students may go to the CAP Center or visit the CAP Center tutoring website.

## Career Planning Services

The process of assessing interests and abilities and connecting them to majors and career plans can be exciting and frightening at the same time. Career counselors are available to support students in this process through the administration of interest and skill inventories and individual assistance with exploring career paths. A majors fair is held each fall to provide easy access to faculty from a wide range of SDSU majors. Information on careers and SDSU majors is available in the Career Resource Library and through the website. GS 101, Academic and Career Exploration, is a one-credit course which begins by building self-awareness, adds knowledge of the world of work, and focuses on future career and academic planning requirements. All new GS students are advised to take this class.

## Employment Services

(<http://careercenter.sdstate.edu>)

Uncovering the best employment opportunities takes time and the effort begins with the foundation of experience developed as early as the freshman year. Whether a student is searching for part-time or summer jobs, internships, or full-time employment, the CAP Center offers assistance in learning effective job searching techniques. Services include individual coaching on resume writing, developing job search strategies, and improving interviewing skills, as well as special events such as practice interviews with area employers. In addition, the CAP Center works with SDSU colleges to facilitate job fairs and on-campus interviews for the numerous employers that recruit SDSU students. Students may register with the free online career management system to search job listings, post resumes, sign up for on-campus interviews, research employers, and receive email notices regarding job listings. SDSU hosts an on-campus branch of the South Dakota Career Center through the CAP Center, for the convenience of students searching for part-time and summer jobs in Brookings and the around the state. GS 489, Transition to Careers, is a one-credit course offered for students preparing to make a successful passage from college to career.

# Chief Information Technology Office

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The Chief Information Technology Office (CITO) and its officer, Dr. Michael F. Adelaine, are responsible for coordinating all information technology operations at SDSU, including those of six individual technology units (Administrative and Research Computing, Agricultural Information Technology, Classroom Technology Services, Information Technology Services, Instructional Design Services, and University Networking Systems and Services), as well as the technology component of the Briggs Library, and the Computer Support Specialist and Student Technology Fellows programs.

Its goals include ensuring that students will have access to and proficiency in appropriate technologies to enhance their learning experience and become more competitive in the global marketplace; that faculty will have access to and proficiency in using appropriate technologies to improve teaching, learning, research, and service activities; that the University, colleges and departments will have the capabilities to deliver curricula, programs, and services to clientele and partners anytime, anywhere; and that timely and effective services will be provided in support of administrative and operational activities of the institution.

Dr. Adelaine's office is located in the Administration Building, Room 100. For more information about the CITO, or any of the IT units or programs described below, please call 605-688-4988, or visit us on the web at: <http://www3.sdstate.edu/TechnologySupport/Index.cfm>.

## **Administrative and Research Computing**

Administrative and Research Computing (ARC) provides computational resources for large-scale research on campus. Other research support is conducted through systems management of UNIX based mid-range and mainframe computers. Analysis and computer programming for management information and student information support are also ARC priorities.

The main office of ARC is located in the Administration Building, Room 124. For more information, please call 605-688-6134.

## **Agricultural Information Technology**

Agricultural Information Technology (AIT) is dedicated to meeting the technology needs of the College of Ag and Biological Sciences. This includes providing support to ABS faculty and staff, county Extension offices, farm and ranch research units, and the West River Ag Center.

The main office of AIT is located in the Ag Communications Center, Room 104C. For more information, call 605-688-4694.

## **Classroom Technology Services**

Classroom Technology Services (CTS) is responsible for all technology-enhanced and DDN classrooms located on the university campus, including initial installation, maintenance, and upgrades.

The main office of CTS is located in Pugsley Center, Room 101. For more information, call 605-688-6312

## **Information Technology Services**

Information Technology Services (ITS) serves as the primary point of contact for all students, faculty, and staff needing tech support, through its operation of the Support Desk (605-688-6776). Equipment loan, repair, and the maintenance of general use computer labs are also the responsibility of ITS.

The main office of ITS is located in Wecota Hall, Room 207. For more information, please call 605-688-6352.

## **Instructional Design Services**

Instructional Design Services (IDS) offers faculty services in instructional design, distributed learning, and the use of integrated media in the classrooms. They also provide students and staff with training in a wide variety of software programs and applications, as well as instruction in the use of equipment.

The main office of IDS is located in Pugsley Center, Room 101. For more information, call 605-688-6312.

## **University Networking Systems and Services**

University Networking Systems and Services (UNSS) provide the infrastructure upon which SDSU's network system is built and assures network access to the campus community. In addition, they maintain email mailboxes and prevent viruses and potentially harmful files from reaching end users.

The main office of UNSS is located in Wecota Hall, Room 207. For more information, call 605-688-6352.



# Cooperative Extension Service (CES)

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The SD Cooperative Extension Service (CES) provides the off-campus informal educational function of SDSU and encompasses the following broad areas of educational programming: Agriculture, Family and Youth Development/4-H. The mission of the CES is to disseminate and encourage the application of research-generated knowledge and leadership techniques to individuals, families, and communities in order to improve agriculture and strengthen the South Dakota family and community.

The Cooperative Extension Service brings the SDSU campus to every community across the state. Through the Extension educators and specialists, CES disseminates the findings of research and encourages the application of knowledge for solutions of problems and for opportunities encountered in everyday living. Much of the economic progress of families and communities can be traced to this unique type of non-formal, out-of-classroom learning opportunity provided to them for more than 90 years by SDSU in cooperation with the U.S. Department of Agriculture and county governments.

Approximately 50% of the funds supporting Cooperative Extension educational programs is appropriated to SDSU by the SD Legislature with 41% from Federal appropriations. Additionally, over \$2.75 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 (circumstances) of people who help determine instructional needs.

Cooperative Extension Service staff and South Dakota stakeholders have identified the following core values:

**Responsive** – Extension will exceed client expectations in the timeliness and quality of programs and information presented.

**Excellence** – The motivating factor for Extension's continued growth and improvement will be continued commitment to excellence.

**Accountable** – Relevant and useful data will be gathered and applied to decision-making about organizational changes, allocation of resources, program priorities, staffing patterns, and professional development for Extension personnel.

**Credibility** – Extension will address problems and issues with unbiased analysis and research-based answers.

**Respectful** – Rather than make decisions for the citizens of South Dakota, Extension will present alternatives and provide assistance in the decision-making process.

**Catalytic** – Through cooperative and collaborative partnerships, Extension will help cause changes across South Dakota.

The CES staff is dedicated to assisting individuals and groups meet the challenges of change in farming, ranching, marketing, the home, state and nation. The press, radio, TV, satellite, interactive audio-visual, the Internet, educational publications, group methods and individual contacts are used to inform and teach. Students are encouraged to become acquainted with the CES staff on campus and take advantage of the information available in Extension publications to enrich their course of study. Extension also offers rewarding career opportunities for graduates in agriculture, family and consumer sciences, natural resources, and other social sciences.

For information contact Gerald W. Warmann, Associate Dean, College of Agriculture and Biological Sciences and Director of SD Cooperative Extension Service, SDSU, Box 2207D, Brookings, SD 57007, or phone 605-688-4792 or e-mail: [gerald.warmann@sdstate.edu](mailto:gerald.warmann@sdstate.edu) or check out the web site at: <http://sdces.sdstate.edu>.

## Crime Reports

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South Dakota State University publishes an annual report each fall in compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crimes Statistics Act. The report which describes policies, enforcement, statistics, and prevention information programs is

distributed to all staff and students by accessing the web at [www3.sdstate.edu](http://www3.sdstate.edu); click on "Student Life" and then "Safety and Security." The crime report is also available upon request from the office of the Vice President for Student Affairs.

## Diversity Enhancement, Office of

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The purpose of the Office of Diversity Enhancement is to promote diversity in all its aspects by advising the university community, developing and implementing diversity enhancement programming, working to facilitate minority student recruiting and minority faculty and staff recruiting, and working to eliminate discrimination at SDSU. SDSU is committed to maintaining an environment which respects

dignity and encourages members of the campus community to achieve their maximum potential, free from discrimination and harassment. Students and staff are encouraged to contact the Director of Diversity Enhancement with questions and concerns relating to diversity issues on campus. The Office of Diversity Enhancement can be reached at 605-688-6361 or in SAD 217.



# Endowed Chairs

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An endowed chair is a prestigious faculty position supported entirely by private contributions. Individuals appointed to serve in such positions will be renowned in their fields of expertise and will add a special dimension of quality to the academic environment at South Dakota State University.

## Nutrition

An endowment fund established by the late Dr. Ethel Austin Martin, a 1916 SDSU graduate, has, for two decades, maintained an ongoing program of visiting professorships in human nutrition and now supports in perpetuity an endowed chair entitled the *Ethel Austin Martin-Edward Moss Martin Chair of Human Nutrition*.

The Chair of Human Nutrition was established at SDSU to ensure scholarly instruction in the broad aspects of the science of nutrition. This is a continuing campus position with faculty rank filled by a nutrition scientist selected for qualifications in the science of nutrition, and for understanding, skill and experience in advancing the multidisciplinary approach to nutrition education. This position is funded solely by the endowment.

The Visiting Professorships will continue to be conducted periodically as a major multidisciplinary function of the Chair Program. Typically, visiting professorships are for a period of days or weeks.

Programs supported by the Ethel Austin Martin endowment have no administrative affiliation with any one college or department of SDSU. The program is interdisciplinary and, therefore, is administered directly under the Vice President for Academic Affairs.

## Dairy Science

The Alfred Chair in Cheese Chemistry and Technology in Dairy Science has been established in recognition and in memory of the late Alfred Gonzenbach and Alfred Nef for their contributions to the cheese industry and economic development through establishment of Valley Queen Cheese Factory, Inc., in Milbank.

The Alfred Chair was created on July 1, 1991, and is funded by the SA Education Foundation in Watertown.

The Alfred Chair will be a continuing campus position with faculty rank filled by a dairy/food scientist with experience in cheese chemistry and technology. The addition of the Alfred Chair, a prestigious faculty appointment, is expected to maintain national prominence of the SDSU Dairy Science Department in the dairy processing profession.

## Electrical Engineering

The Hohbach Endowed Chair in Electrical Engineering was established through funds provided by Harold C. Hohbach, a Plankinton, SD, native and 1943 graduate of Electrical Engineering from SDSU. Mr. Hohbach is currently a patent attorney with offices in San Francisco and Palo Alto, California.

The purpose of the Hohbach Endowed Chair is to improve quality of education, research, and entrepreneurship. The primary focus is to develop applied research that will spur economic growth in the region, while supporting undergraduate and graduate teaching and promoting entrepreneurship among students.

The Hohbach Chair is a faculty rank position on campus within the Department of Electrical Engineering and is occupied by an individual with an established reputation in electrical engineering or a closely related field.

## Economics

The Milton Nies Chair in Enterprise Economics was established by the late Milton Nies, who spent most of his professional life as a businessman in Bismarck, North Dakota. Mr. Nies was a native of Eureka, South Dakota and graduated from South Dakota State University with a degree in Economics in 1950. He had a strong interest in business planning and in assisting new business startups. He initially worked for United Accounts, a business he later owned. He was collaborating with the SDSU Foundation on the particulars of the Nies Chair prior to his death in 2003.

The purpose of the Nies Chair is to provide leadership in market research and analysis, business assistance, new enterprise development, and entrepreneurship. Regionally based products and industries will be emphasized through teaching, research, and outreach activities. This person will establish a close working relationship with the South Dakota Enterprise Institute at SDSU.

The Nies Chair is a faculty position that will be held by a nationally recognized leader in enterprise economics education and research who possesses skills in economics, business management and development, and entrepreneurship.

# Engineering Resource Center (ERC)

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The ERC, established in 1986, exists to serve the University, citizens, and industry in South Dakota. Five complementary outreach and/or technology transfer programs make up the ERC. Thus, the knowledge gained from one program often supports or strengthens another program. The five programs are: Engineering Extension; Office of Remote Sensing; South Dakota Space Grant Consortium; Local Transportation Assistance Program; and the University/Industry Technology Service.

The ERC may undertake projects directly or use project teams composed of students, university faculty, and non-university experts. These teams may be discipline-specific or interdisciplinary.

The mission of **Engineering Extension** is to assist the private and public sectors of the state with their technical needs for the purpose of economic development. The primary activities of the program are:

1. Occupational safety and health surveys of the workplace for South Dakota employers.
2. Training and workshops and seminars to update skills regarding technical needs and to certify individuals who are required to work under specific government regulations.
3. Technical assistance that provides "hands-on" expertise that will solve safety and health technical problems for small industries, government agencies and others through industrial/mechanical engineering technologies.

The **Office of Remote Sensing (ORS)** works with multispectral, remotely sensed imagery, Global Positioning Systems (GPS) and

geographic information systems (GIS) for natural resource studies and mapping and K-16 outreach in South Dakota and elsewhere. The ORS coordinates a state-wide activity called SDView, which endeavors to distribute selected satellite data to users across the state.

The **South Dakota Space Grant Consortium** is a program funded in part by the National Aeronautics and Space Administration. Consortium members are SDSU, SDSM&T, Augustana College and the EROS Data Center. Goals of the Consortium are to create an enthusiasm for aerospace sciences among students and faculty and to encourage them to pursue careers in related fields.

The **South Dakota Local Transportation Assistance Program (LTAP)** assists local governments with technology and information needed to operate their transportation related agencies. Staff members are located in Brookings, Sioux Falls, Pierre and Rapid City.

The **University/Industry Technology Service (UITS)** links University resources to industry, business and government to solve technological problems and enhance economic development in South Dakota.

For information, contact Kevin Dalsted, Director, Engineering Resource Center, SDSU, Box 2220, Brookings, SD 57007-0199; phone 605-688-4184; e-mail: kevin.dalsted@sdstate.edu

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## Environmental Health & Safety Office

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The primary function of the Environmental Health and Safety office is to assist campus personnel in making SDSU a safe learning and working environment for faculty, staff, and students.

The EHS office is responsible for enforcing federal, state and local safety and environmental rules and regulations, including radiation, chemical, and biological safety; management of hazardous materials and conditions; management of indoor air quality in cooperation with Physical Plant; recycling of electronics, batteries, and heavy metal-containing light bulbs; disposal of hazardous wastes and other functions relating to research, teaching and administrative duties.

EHS provides training in the various areas listed above, not only to be in compliance with regulations, but to be sure that all SDSU students, staff and visitors, have an enjoyable and safe experience at SDSU.

For staff and students with questions concerning any of these functions, or to download SDSU's safety policies from the EHS web site, go to:

<http://www3.sdstate.edu/administration/environmentalhealth&safety>

Or contact EHS at:

Environmental Health & Safety

Shepard Hall 059; Box 2202

Phone: 605-688-4264

Email: EHS@sdstate.edu

# Fees

## 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.

## Charge for Students in Majors with Laptop Programs

Students whose majors require participation in a laptop program will be charged \$65 per semester for network connectivity. (Students who live in residential halls and are already paying for connectivity will be exempt.)

## Late Charges Assessed beginning Fourth Day of Classes

If you do not pay tuition and fees at the regular established due dates, you will be assessed a late charge. A late charge may be assessed each time you fail to satisfy your financial obligations within established due dates. Failure to pay in a timely manner could result in you being administratively withdrawn from the University.

## Field Trip Charge

Students enrolled in selected courses that involve field trips may be assessed for transportation, group admission, and entry fees. The amount charged will vary per course.

## Special Expenses for Education Students

Education students enrolled in selected Education courses are assessed a fee of \$135.75 per semester for Junior Field Experience, \$271.55 per semester for Senior Student Teaching, and \$135.75 one-time fee for Master's Level Internships.

## Special Expenses for Engineering Courses

A fee of \$18.05 per credit hour is charged for courses in the College of Engineering. This fee applies to Mathematics, Statistics, and Computer Science courses as well.

## Engineering/Science Lab Fee

\$28.50 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 \$404.05 for the Undergraduate program, \$162.95 for the RN Upward Mobility program, and \$162.95 for the Graduate program. Students enrolled in the Family Nurse Practitioner program are assessed a fee of \$597.70 per semester; students in the Accelerated Track, \$669.50 per semester. Students enrolled in Nursing, NACC, and HSC courses are assessed a fee of \$18.05 per credit hour.

## Special Expenses for Pharmacy students

Students in the Pharm.D. program are assessed a major fee of \$1,185.50 per semester 5 through 10. For semester 11 and 12, there is a \$74.10 per credit hour Pharm.D. clerkship (10 credit hours required). Students enrolled in Pharmacy courses are assessed a fee of \$18.05 per credit hour.

## Indebtedness

If you are indebted to the University and do not satisfy financial obligations when due, you may be denied admission to the University. You may be administratively withdrawn from the University after notice from the University and you will not be permitted to register or receive a transcript of grades until the indebtedness is paid. This applies to your indebtedness to the University for tuition, fees, required deposits and board, financial aid, but not to student organizations.

## Tuition, Living, and Other Expenses

Using Academic Year September 2005-May 2006

For current information see the web site:

[www3.sdstate.edu/Admissions/FinancialAid/CostEstimate](http://www3.sdstate.edu/Admissions/FinancialAid/CostEstimate)

All charges and procedures listed are subject to change pending Board of Regents action.

TUITION AND FEES	Resident*	Non-Resident
Tuition		
undergraduate on-campus per semester credit	\$ 76.35	\$242.60
graduate on-campus per semester credit	115.80	341.45
University Support Fee – per credit	62.80	62.80
Activity Fee – per credit	18.55	18.55
See accompanying text for the descriptions of fees		
for Engineering courses (including Mathematics courses), lab fees, and special expenses for Nursing, Pharmacy, and Education students.		
There is also an additional network connectivity fee per semester for students whose majors require participation in a laptop program.		

\* 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 7 Meal Plans ranging from \$737.30 to \$1,328.10 per semester. For more detailed information, contact the Food Service Office or Residential Life.

### Residence Hall Rent – per semester

Single occupancy	\$1,306.75	\$1,306.75
Double room	1056.55	1056.55

## TYPICAL EDUCATION EXPENSES FOR FULL TIME

### UNDERGRADUATE FOR ONE SEMESTER

Tuition – 16 credits	\$1,221.60	\$3,881.60
University Support & Activity Fees –		
Health Service, Union, Students' Association	1,301.60	1,301.60
Books and supplies (estimate)	630.00	630.00
Meal Plan (midpoint of range)	1,068.75	1,068.75
Residence hall rent	<u>1056.55</u>	<u>1056.55</u>
	\$5,278.50**	\$7,938.50**

\*\* Expenses will be higher if a student takes course work requiring lab fees or special discipline fees. See accompanying text.

## ELECTRONIC BILLING & ELECTRONIC PAYMENT OF TUITION & FEES

All tuition, fees, housing, food service and miscellaneous charges to student accounts will be on an electronic billing (eBilling) system and can be viewed on a secured website via the Internet. Payment of the student account can also be made electronically (ePayment) through the secure website. Students can authorize parents, spouse and other individuals to view the eBill and make ePayment on their student account. For additional information, see eBilling and ePayment website at <http://studentbill.sdstate.edu>.

## E-MAIL POLICY

E-mail messages sent by the University to the university assigned student e-mail addresses will constitute an official means of communication. It is the student's responsibility and obligation to access official university e-mail messages in a timely manner.

Students can check their e-mail by using their university issued e-mail accounts or by forwarding their e-mail to a system of their choice, if allowed by their home institution. If choosing the latter option, students will be responsible for keeping their forwarding information current. The University will have no obligation to track down returned mail due to a forwarding address that has expired or is incorrect for whatever reason. The University will only monitor returned e-mail coming from the university assigned e-mail accounts.

## PAYMENT PROCESS

By the third day of classes, each student makes a full payment of charges based on the number of credits early registered for, residency status, and campus housing. **Late fees will be assessed starting on the fourth day of classes.** We encourage students to mail payment before registration day.

Payment of tuition and fees can be made directly to the University by cash, check or electronic bank transfer.

Payment of tuition & fees using a debit or credit card can only be made through SDePay, electronic billing & payment system. American Express, MasterCard and Discover cards are accepted by SDePay. Visa Card is not accepted. A 2.75% service fee is assessed by and payable to infiNET, host provider of SDePay.

## CAMPUS CARD DEBIT SYSTEM-HOBO DOUGH

The student identification card is used as a debit card to access prepaid accounts. In addition to its extensive use in the food service system, the ID card accesses prepaid accounts, called HOBO DOUGH, for bookstore, campus vending, laundry, photo copying and printing, and selected off-campus businesses. Upon graduation or leaving the University, these funds will be returned in full upon request. No service charges are assessed for active accounts. However, accounts inactive for six months or more are assessed a monthly service charge. If the service charge exceeds the account balance, the account is automatically closed.

# Refunds

A petition process does exist for students or parents who feel that individual circumstances warrant exception from the published refund policy. Contact the Registrar, SAD 310, for information.

**Food Service and Room Rent Refunds.** Students with a room contract or food service contract will receive a refund based on the unused portion of the fee at the time of withdrawal up to the 60% point of the period. The balance of flex plan dollars will be refunded at 100%.

**Federal Financial Aid Recipients.** The U.S. Department of Education requires institutions to use the **Return of Title IV Funds** policy for students withdrawing from school and who are receiving Federal Title IV student financial aid. Title IV funds refers to the federal financial aid programs authorized under the Higher Education Act of 1965 (as amended) and includes the following programs: Federal Stafford Loan, Unsubsidized Stafford Loans, Parent Loans for Undergraduate Students (PLUS), Federal Perkins Loans, Federal Pell Grants, and Federal Supplemental Grants. Also, the Federal Nursing Loans and Federal Health Professions Loans use the Return to Title IV Funds calculation.

**A student's withdrawal date is** 1) When the student began the withdrawal process or officially notified SDSU of intent to withdraw by contacting the SDSU Registrar's Office; or 2) The midpoint of the period for a student who leaves without notifying SDSU; or at SDSU's option, the student's last documented date of academically-related activity.

**Return of Title IV Funds** is based on "earned" and "unearned" financial aid as related to the period of time the student is enrolled. Institutional charges comprise the amounts that had been assessed (paid or unpaid) and are **not** used in determining the Return of Title IV funds for a withdrawing student. During the first 60% of the period (academic term) a student "earns" Title IV funds and other applicable aid on a per

diem prorated manner based on a percentage of the enrolled period by dividing the number of days a student attended by the number of days in the period. Calendar dates are used, except breaks of at least 5 days are excluded from the calculation. A student who remains enrolled beyond the 60% point earns all aid (100%) for the period.

The "**unearned**" **Title IV funds** must be returned to the aid programs. Unearned aid is the amount of disbursed Title IV aid that exceeds the amount of Title IV aid earned based on attendance in the enrollment period. Uncoverable charges are derived from the unearned percentage calculation for the period multiplied by the institutional charges.

**Repayment of unearned aid** is first paid by any unearned (refunded) institutional charges. The student owes the difference between the total unearned amount and the refunded institutional charges.

**Return of Title IV funds**, by programs disbursed, are allocated in the following order: Unsubsidized Federal Stafford Loan, Federal Stafford Loan, Federal Perkins Loan, PLUS Loans, Federal Pell Grant, Federal Supplemental Grant, other Title IV assistance, other federal sources of aid, other state, institutional, and private aid, and last to the student.

**Responsibilities** of SDSU include providing information on the Return of Title IV Funds policy and procedure to students. This information is available at [www.sdstate.edu](http://www.sdstate.edu) and from the SDSU Financial Aid Office. SDSU is also responsible to complete calculations of the Return of Title IV Funds for federal financial aid recipients who are withdrawing from SDSU and to return any Title IV funds to the respective Title IV funds account. The student is responsible to repay any Title IV funds that the student was determined to be ineligible for via the Return to Title IV funds calculation.

# Financial Assistance

## General Information

Approximately 85% of the SDSU students attending full-time receive some type of financial assistance to help pay their educational costs. Financial assistance includes both need-based financial aid (grants, loans, work) as determined by the Free Application for Federal Student Aid, and other financial aid (scholarship, agency assistance, etc.) not based on need. Financial need is defined as the portion of educational costs not covered by family contributions. Average educational costs are determined by the Financial Aid Office and family contribution is calculated from information on the Free Application for Federal Student Aid (FAFSA).

The SDSU award policy gives priority for some federal financial aid programs to students completing the Free Application for Federal Student Aid before March 10. However, the largest financial aid programs, the Federal Pell Grant and the Federal Stafford Loan, do not have priority processing dates. Students must reapply for financial aid every academic year. Please refer to the SDSU web page for more information: [www.sdstate.edu](http://www.sdstate.edu) (Keyword: financial aid).

## Need-Based Financial Aid Programs

### I. General eligibility requirements

- A. Admission in an SDSU degree program.
- B. Enrolled as a full-time student to receive full award.
- C. United States citizen or eligible 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 (on SDSU financial aid web page). Satisfactory Progress is the measurement of a student's academic performance (credits completed, cumulative grade point average, and maximum credits attempted) toward the completion of the student's degree program. Students not meeting Satisfactory Progress Standards will have their federal financial aid eligibility suspended.

### II. Financial aid programs

SDSU participates in all of the federal financial aid programs. Specific information is available on the SDSU web page at [www.sdstate.edu](http://www.sdstate.edu). An SDSU Financial Aid award letter identifies the specific awards and other information is enclosed for the financial aid recipient.

- A. Grants are gift aid based on financial need.
  1. Federal Pell Grant awards are determined by a federal formula for the student's first bachelor 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 complete Entrance Loan Counseling.
  1. The Federal Stafford Loan Program is the largest financial need-based loan program. The Federal Stafford Loan is processed with financial institutions. The federal government pays the interest while the student is in school and during deferment periods. Interest and repayment begin six months after half-time enrollment ends; the interest rate is 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.
  6. 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 3,500 scholarships to undergraduate students. There are approximately 1,100 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 new student academic scholarships.

- A. Selected new freshman scholarships.
  1. Renewable scholarships, upon meeting academic standards, include: Bocklund; Stephen F. Briggs; Clarin; Ferguson; May; Nichols; and many named Foundation scholarships.
  2. Jackrabbit Guarantee to all new, first-time freshman students who score a 24 or higher ACT composite score. Scholarship is renewable when 30 SDSU credits completed each academic year and maintains a 2.5 or higher GPA. The \$1,000 minimum in scholarship assistance can be met by other named SDSU scholarships.
  3. Many general, departmental, and talent awards are also available.
- B. Upper class student scholarships are awarded by the college/department based on a student's academic record through a competitive scholarship application process.

- C. Talent and participation scholarship awards are available by contacting the specific areas:  
4-H: County Agents or Program Leader, SDSU  
Air Force ROTC: Professor of Aerospace Studies, SDSU  
Army ROTC: Professor of Military Science, SDSU  
Music: Music Department, SDSU  
Theatre: Theatre Department, SDSU
- D. Local and national scholarship information and applications may be available through your high school, various organizations and groups.

- 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, SAD 106, Brookings, SD 57007. Phone 605-688-4695, or e-mail: [sdsu.finaid@sdstate.edu](mailto:sdsu.finaid@sdstate.edu) for specific applications, forms, and information. Additional information can be accessed on the SDSU Home Page: [www.sdstate.edu](http://www.sdstate.edu)

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## Foundation, SDSU

The SDSU Foundation is a private, non-profit corporation which seeks, accepts, and administers private gifts for the support of programs at South Dakota State University.

The SDSU Foundation manages total net assets valued at more than \$80 million, including an endowment of more than \$60 million. The work of the SDSU Foundation provides support that translates to more than \$200,000 each week to assist the University in its missions of education, research and outreach.

Donations to the SDSU Foundation come in many forms including cash, marketable securities, real estate, equipment, personal property, and estate gifts.

A volunteer board governs the activities of the SDSU Foundation. David F. Marquardt is the Foundation's president.

For information on making a gift to SDSU, contact the SDSU Foundation at (toll-free) 1-888-747-SDSU (7378), send an e-mail to: [david.marquardt@sdsufoundation.org](mailto:david.marquardt@sdsufoundation.org); or check out the web site at: [www.sdsufoundation.org](http://www.sdsufoundation.org)

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## Intercollegiate Athletics

South Dakota State University is a Division I, National Collegiate Athletic Association member and offers competition in eleven sports for women and ten sports for men. The National Collegiate Athletic Association (NCAA) governs competition for both women and men. Women compete in cross country, equestrian, indoor and outdoor track and field, volleyball, basketball, swimming, golf, tennis, softball and soccer. Men compete in cross country, indoor and outdoor track and field, football, basketball, swimming, golf, tennis, wrestling and baseball.

South Dakota State athletic teams have experienced broad based success. They are recognized regionally and nationally each year for the athletic accomplishments and academic achievements for their student-athletes and coaches.

Every undertaking within South Dakota State University's Athletic Department is driven by a relentless commitment to excellence. We are committed to providing each and every student-athlete with a comprehensive collegiate experience. Academic achievement is important because it is the fundamental purpose of the student-athlete

experience. Social responsibility is also a vital component. We expect to contribute to the well-being of our campus, community and state. Positive student-athlete experiences and competitive success also define our program because they are integral to the student-athlete's growth. Our vision is to be a premier student-centered collegiate athletic program. We are working tirelessly to create a special place where student-athletes can develop life skills that lead not only to athletic success, but pave the way for victories long into their lives. The important work of creating that setting is the heart of our mission: to passionately and relentlessly create an environment, rooted in sportsmanship and ethical conduct, where motivated student-athletes can develop into lifelong champions. We are guided by a stringent set of values that will not be compromised: honesty, equity, academic integrity, fiscal integrity and social responsibility with the expectation of competing at the highest level.

For general athletic department information call 605-688-5625, for athletic ticket information call 605-688-5422 or 1-800-JACKS-TX (SD only) or e-mail: [tamara.loban@sdstate.edu](mailto:tamara.loban@sdstate.edu)

# International Affairs

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The Office of International Affairs (OIA) serves as the administrative unit at SDSU where programs and activities designed to assist the entire university and its constituents in gaining an international perspective are initiated, coordinated, and managed. These activities include semester- or year-long student and faculty international exchanges, short-term study abroad programs for students, international seminars for faculty, as well as on-campus programs designed to help internationalize the university.

The Office of International Programs (now Affairs) was established in 1988 and initiated its first international agreements for exchanges with Yunnan Normal University, in Kunming, China; with Chungnam National University, in Daejeon, South Korea; and with Manchester Metropolitan University, Manchester, England, among others.

Today, through the efforts of the OIA, SDSU has agreements with two dozen international universities, on six continents, and holds memberships in several prominent national and international organizations, including the Association for International Education Administrators (AIEA), the American Council on Education's Internationalization Collaborative, the International Student Exchange Program (ISEP), the Council on International Educational Exchange (CIEE), Cooperative Center for Study Abroad (CCSA), and the College Consortium for International Studies (CCIS).

For more information about the Office of International Affairs, please contact the Director at 605-688-4706, Karl.Schmidt@sdstate.edu or SAD 315, Box 2201, SDSU, Brookings, SD 57007-2098.

# Intramurals and Recreational Sports and Sports Clubs

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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 605-688-4724 or website: <http://www3.sdstate.edu/Athletics/Intramurals>

# Library, Hilton M. Briggs

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Library services and collections are housed in the spacious three-level Briggs Library, which is named for President Hilton M. Briggs, who served the University from 1958 to 1975. Library collections consist of more than 625,000 bound volumes, 314,000 government documents, 79,000 maps, and additional miscellaneous materials.

More than 1,700 journal titles are received currently, with another 31,000 titles available electronically in full text format. Information from these publications and more can be located using a strong collection of over 120 citation and full-text databases covering the literature of disciplines relevant to the SDSU curriculum.

Book and periodical holdings are conveniently available on open stacks for use by students and faculty during the 97 hours per week the library is open.

A wide variety of other resources and equipment also are available in the library including more than 60 public computer workstations providing access to the Internet and library databases, and to software

such as MS Word, MS Excel, MS PowerPoint and others. In addition, Briggs Library contains 8 group study/conference rooms for student use, 34 individual study rooms for faculty and graduate students, a resource room for the visually impaired, several informal lounge areas, and photocopiers on each floor. Special collections of archival, state and local history, and curriculum materials also are maintained within the library building.

Hilton M. Briggs Library also is a founding member of the South Dakota Library Network, which provides electronic access to the holdings of 70 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 4.2 million titles that are available through interlibrary loan to students at any member institution. In addition, interlibrary loan services make it possible to borrow material from thousands of other libraries worldwide.

# Logos, Seals, Caricatures, Wordmarks

## Official University Symbols

University Relations approves the use of the name or logo of South Dakota State University (in any form) for printed publication or for any type of merchandise, i.e., hats, t-shirts, mugs, etc., to be distributed. The merchandise items must also carry a corresponding club or event name.

**NOTE: All SDSU logos, seals, caricatures or word marks are licensed and cannot be used without permission.**

*Official Name:*

**South Dakota State University or SDSU (no periods)**

*Official School Colors:*

**Blue (PMS 287) and Yellow (PMS 109)**

*Athletic Teams Nickname:*

**Jackrabbits or Jacks**

*These names (or wordmarks) are registered:*

South Dakota State University™

Hobo Day™

Dirty Lil™

Wearly Willie™

Jackrabbits™

Jacks™

Cereal Bowl™

Oak Lake Field Station™

Midwest Market Analysis™

Garden Line™

Go Jacks®

On Call®

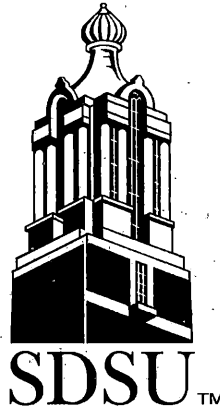
Today's Ag®

Beef Bowl®

You can go anywhere from here!®

Jackrabbit Guarantee®

Pride of the Dakotas®



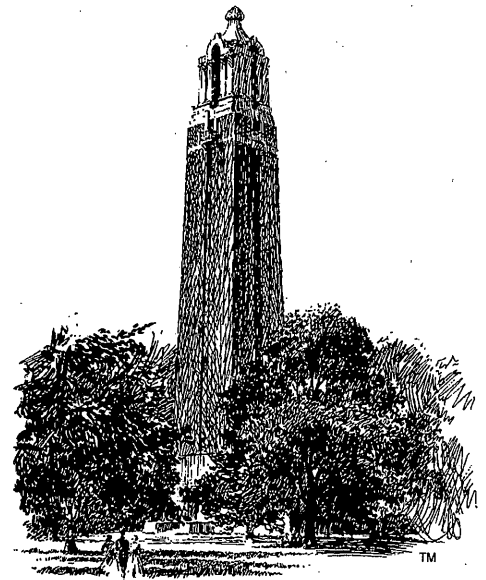
Official SDSU Logo  
(as of May 1994)



Official SDSU Seal



Official Oak Lake Field  
Station Logo



Original drawing of the Campanile by Hubert Mathieu. The Office of University Relations trademarked the drawing in 1983.



Official Logo celebrating  
SDSU's 125 years

*For information on usage, please contact:*

**Office of University Relations**

**Box 2230**

**South Dakota State University**

**Brookings, SD 57007-1498**

**Telephone: 605-688-6161**

**Fax: 605-688-6357**



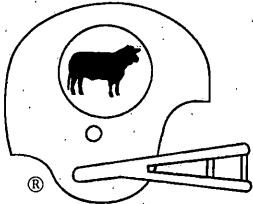


The Athletic Department's official sports logo.



"Dirty Lil" and "Weary Willie" represent the spirit of Hobo Days (SDSU's Homecoming).

**BEEF BOWL**



Official Cereal Bowl Logo



SDSU Athletic teams are nicknamed the "Jackrabbits"



Official Midwest Market Analysis Logo (Television Production)



Official Garden Line Logo (Television Production)



Official Today's Ag Logo (Television Production)

## McCrorry Gardens

McCrorry Gardens is recognized as one of the top small ornamental display gardens in the United States. It is operated by the Department of Horticulture, Forestry, Landscape and Parks. McCrorry Gardens has grown to its present stature primarily through donations by Friends of McCrorry Gardens, professional associations, and corporate donations. Primary goals are teaching, public education, and ornamental plant research. It is composed of a 20-acre public display area and a 45-acre arboretum.

The Gardens are open daily from dawn until dusk; no entry fee is charged but donations are encouraged. Trees, shrubs, ground covers, annuals, and perennials are featured throughout the gardens. For more information, call 605-688-5136 or e-mail: david.graper@sdstate.edu

# Museums/Collections

The **South Dakota Art Museum's** collection of over 6,000 objects consists of paintings, photographs, textiles, sculptures and Native American art and artifacts. The Museum has a dynamic exhibition schedule featuring our permanent collection of paintings by Harvey Dunn, children's book author/illustrator Paul Goble, the Marghab Linen Collection, Native American art, in addition to rotating exhibits from outside sources.

The museum is located on the Medary Avenue at Harvey Dunn Street. The museum is open Free to the public Monday through Friday from 10:00am to 5:00pm, Saturdays from 10:00 to 4:00 and Sunday's from noon to 4 pm. The museum is closed on state holidays.

Visit the museum store to find unique handmade gifts, books and music by regional artists, and an outstanding collection of books on Native American history and culture.

For more information or to schedule a group tour, call 866-805-7590 or 605-688-4279, email [sdsu.sdam@sdstate.edu](mailto:sdsu.sdam@sdstate.edu) or visit our website at [www.southdakotaartmuseum.com](http://www.southdakotaartmuseum.com).

The University's **Agricultural Heritage Museum** collection of 100,000 objects interprets South Dakota agricultural history and rural heritage. The museum is concerned with human experiences that were shaped by the state's diverse environment.

The museum is located on the northwest corner of Medary Avenue and 11th Street in the old Stock Judging Pavilion. The museum is open FREE to the public Monday through Saturday from 10:00 AM to 5:00 PM and Sundays from 1:00 to 5:00 PM. The museum is closed on state holidays.

The museum gift shop is an excellent source of South Dakota history books, unique gifts, and the official SDSU Christmas ornaments.

For further information or to schedule a group tour, call 605-688-6226, e-mail [SDSU.agmuseum@sdstate.edu](mailto:SDSU.agmuseum@sdstate.edu) or visit our website at <http://www.agmuseum.com>

## Physical Plant

The Physical Plant Department is a service department established for the purpose of providing the necessary support to the teaching, research, and service missions of South Dakota State University.

The Physical Plant works to ensure that the buildings and grounds are operated and maintained in an appropriate and safe manner. Physical Plant must approve modifications in facilities and grounds, facilitating code interpretation.

Physical Plant is able to perform most building maintenance functions with in-house talents. South Dakota State University Electricians, Painters, Welders, Carpenters, Plumbers, HVAC Technicians, and Locksmiths provide service every day to the campus. The Engineering Section provides project management, master planning support, and maintenance support. The Mail Center processes all incoming and outgoing mail for SDSU departments. The US Post Office,

located in Yeager Hall, provides personal mail services for campus personnel, including rental mail boxes and UPS/FedEx drop off.

Faculty and Staff are encouraged to note problems or deficiencies in the areas of campus that you use. Please contact the Physical Plant with questions, comments or concerns.

Phone: 605-688-4136

E-mail: "SDSU Physical Plant Front Desk" from global address list

Office: Administration Bldg 304

Visit at: <http://pplant.sdstate.edu/>

Find: on-line service guide, customer forms, facilities information, maps and contact information for Physical Plant personnel.

## Print Lab

The Print Lab is an on-campus-printing department located in Yeager Hall, SYE 102. There is a charge for all Print Lab work, and the Print Lab only prints university-related materials.

With the advent of desktop publishing programs, writing and designing publications such as newsletters, brochures, posters, flyers, etc., has become much easier. Although nearly every office on campus has this capability, generally a publication designed "in house" does not necessarily mean it is "print ready."

To ensure projects are ready for printing, electronic pre-press procedures require University Relations or Ag Communications to prepare the computer files for the Print Lab. These procedures apply to the simplest business form or letterhead to the most complicated full-color brochure. Additionally, the offices of University Relations and Ag Communications are charged with the responsibility of overseeing the

consistent quality of publications, for both internal and external audiences.

Other than reprint orders and business cards, work done at the Print Lab must first be routed through University Relations (605-688-6161) or Ag Communications (605-688-4650).

Print Lab also has three manned copy centers on campus:

Ag Hall Copy Center (SAG 125), 605-688-4921

Biostress Copy Center (SNP 105), 605-688-4417

Print Lab Copy Center (SYE 102), 605-688-5111

For more information about the Print Lab's services, call 605-688-5111, or e-mail [brenda.quam@sdstate.edu](mailto:brenda.quam@sdstate.edu)

# Residential Life — Housing and Food Service

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The Department of Residential Life administers programs and facilities for all on-campus housing. Complete information and policies are printed in Residence Hall Handbook and Family Student Housing Information booklet. The Residential Life Office is located on the first floor of Caldwell Hall. The phone number is 605-688-5148.

**Residence Halls** – Residence Halls at SDSU are living/learning centers where students study, meet other students and are challenged to develop as individuals. Generally students who have less than four semesters of full-time enrollment at an institution of post high school education or who are not two or more years beyond graduation from high school are required to enter into residence hall and food service contracts with the University. Details on the Board of Regents' requirements can be reviewed by contacting the Department of Residential Life and/or are listed on the department's web pages. Requests for release from the residence hall obligation/contract must be in writing and postmarked on or before June 30 for fall semester and December 1 for new Spring Semester contracts to avoid a monetary penalty. Currently, residence hall double rooms rent is from \$2,113.10 to \$2930.00 depending on the assigned hall per academic year. Students who are not required to live in on-campus facilities may contact the Off-Campus Housing Assistance Office; the phone number is 605-688-5916.

**Residence Hall Confirmation Fee** – The Residence Hall Information and Application booklet are 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 Confirmation fee must accompany all applications for residence hall space. The fifty dollars will be credited toward the student's Hobo Dough account. Any person whose written request for release from the residency requirement is postmarked on or before June 30 for fall semester or December 1 for new spring semester, and who is released from the residency requirement, will have the \$50 dollars refunded. Any person who is canceled at their request after these dates will forfeit the Confirmation Fee.

**Family Student Housing** – 80 unfurnished, one-bedroom apartments and eight unfurnished, two-bedroom apartments are available for rent on campus. Currently, rent for the one-bedroom apartments ranges from \$230-\$304 per month. Rent for the two-bedroom apartments is \$362 per month. Each apartment includes a refrigerator, stove, and all utilities. To be eligible to apply for Family Student Housing you must have been accepted to SDSU, a spouse and/or at least one dependent will reside in the apartment with you and enrollment in a set number of credit hours are required. Contact Residential Life Office personnel for more information.

**University Apartments** – Four-bedroom apartments for single students are available in the Berg/Bailey apartment complex. Monthly rent, including all utilities, dishwasher, stove, refrigerator, and air conditioning, was \$281.65 per person in 2005-2006 and a slight increase is expected this coming year. Nine-month contracts are available and a \$50 confirmation fee is required when assignment is made. 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 Jack's Place at the Student Union and Medary Commons, along with convenience stores and Java City specialty beverages. There are several meal plans from which to choose, offering the student considerable variety to pick 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. The phone number is 605-697-2550.

## Service Learning

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South Dakota State University provides Service-Learning opportunities for students through the International Partnership for Service-Learning and Leadership, the SDSU Service-Learning Program, and departmental service-learning courses.

The International Partnership for Service-Learning and Leadership (IPSL) is a private academic organization with which SDSU is affiliated in order to provide semester-long service-learning opportunities on American Indian Reservations for students from around the globe. A maximum of 15 credits are earned through this program. Special costs are involved and arrangements are made through the IPSL office at 815 Second Ave, Suite 315, New York, NY 10017 (212-986-0989) or by contacting Valerian Three Irons, South Dakota IPSL Program Director (605-688-4423), at the SDSU Office for Diversity Enhancement. Application and consent are required.

The SDSU Service-Learning Program assists students and faculty in arranging service-learning courses utilizing any of a variety of service sites and varying lengths of service. Course credits are provided in accordance with the amount of service and study, and grades are based on the learning that takes place. Special costs are involved. Study may focus on a particular culture, social system, agency, skill set, or other topic chosen by the student. Application and consent are required. Contact the Office for Diversity Enhancement at 605-688-6361.

A number of individual departments have established service-learning courses, and students are encouraged to contact the specific department head for information. Assistance in this can be obtained from the Office for Diversity Enhancement (605-688-6361).

# 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, Multicultural Affairs, Native American Advising, Registration and Records, Residential Life, Student Union and Activities, TRiO Student Support Services, TRiO Upward Bound, and Veterans Affairs. If you have questions or need information about any of these areas, contact the Vice President for Student Affairs office in SAD 318, phone 605-688-4493. The specific programs and services offered by the departments are listed below and elsewhere in this catalog.

**Admissions** – Questions concerning enrollment information, admission and transfer evaluation should be directed to Admissions Office, SAD 200, South Dakota State University, Box 2201, Brookings, SD 57007-0649, phone 605-688-4121.

**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 605-688-6146, West Hall 112, for further information.

**Office of Disability 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 Coordinator of Disability Services is located in Administration Building 101 (SAD 101), phone 605-688-4504.

**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. Counseling and medical services are available to students and referrals to other agencies are available to everyone on campus. Call 605-688-6146 or 605-688-4157 for information.

**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 SAD 106, phone 605-688-4695.

**Health Education and Prevention Services** – The Health Education and Prevention Services are sponsored by Student Health and Counseling. The program emphasizes awareness, prevention, and response to sexual assault and date rape. Closely related issues of alcohol/drug abuse, STDs (including HIV/AIDS), and unplanned pregnancies are addressed. The Health and Counseling Department supports student peer educators who are available to present awareness

and prevention programs on the above topics for student organizations, classes when requested by the instructor and residence hall student staff training. The counseling staff is available for victim assistance and response in case of sexual assault or violence. A close working relationship is maintained with other community agencies involved in prevention and response to violence and sexual assault. Confidentiality is assured at all times for the student/victim. Individuals with questions or personal concerns are asked to call the Health and Counseling Department at 605-688-6146 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 605-688-5588 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 United States. For further information, contact the office at SAD 210, SDSU, Brookings, SD 57007, phone 605-688-4122.

**Multicultural Affairs** – The Multicultural Affairs Office (OMA) at South Dakota State University develops campus initiatives that demonstrate the valued practice and philosophy of multiculturalism within the university community. Programs and activities developed by the office promote high achievement among the increasing number of minority students at South Dakota State University. The Multicultural Affairs Office enhances and complements the University mission by broadening the social, cultural, educational and recreational experience of students. OMA offers support to students of color, implements multicultural and diversity programming, assists in the retention of students of color, advises cultural organizations, and coordinates the Minority Peer Mentor Program.

**Native American Student Advising** – SDSU provides an adviser for Native American students to aid them in their adjustment to university life. The adviser assists students in the areas of financial aid, academic planning, and personal concerns, as well as providing information about Native Americans to the college and area community. For further information, contact the office at 605-688-6129, SSU 065.

**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; processes enrollment verifications; administers the withdrawal process; oversees transfer credits; 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 SAD 310, phone 605-688-6195.

**TRiO Student Support Services** – TRiO Student Support Services is a federally funded TRiO grant program designed to support students in achieving academic success. To assist students' success at SDSU the following support services are available through the SSS Program: 1) scholarship opportunities to help with college costs (minimum \$300); 2) individualized support in managing academic pursuits; 3) personalized financial, career, and social support services to ease transitions through college; 4) tutorial services in a variety of course areas (including math, English, and basic sciences); 5) referral assistance to other campus support services; and 6) priority registration at the beginning of each academic semester. Since services to students are individualized, participation in the program may substantially increase participants' chances for success at SDSU. The ultimate goal of SSS is to increase the number of students who are retained and graduated from SDSU. To be eligible for services, a participant must fit one of the following criteria: 1) a first generation student – neither parents finished a 4-year college degree, 2) an individual with a documented disability that impacts ability to be successful in an academic program, and/or 3) an individual from an economically disadvantaged family who needs financial assistance to attend and be successful in college. For more information on Student Support Services, visit the office in SSU 065. Phone 605-688-6653.

**TRiO Upward Bound** – Upward Bound is a federally funded TRiO grant program designed to support high school students in their preparation for successful college entrance. The program provides support in areas of tutoring, mentoring, cultural enrichment, college tours, personal development, and academic preparation to ultimately have students enroll and graduate with a college degree. The students attend a residential summer academic program at SDSU delivered in cooperation with the Office of Academic Affairs. We are committed to exposing our students and their parents to the college campus environment and having South Dakota State University faculty and staff play a major role in their campus experience. Upward Bound can be contacted in SSU 065 or by phone at 605-688-5933.

**Veterans Affairs** – SDSU is a fully accredited university eligible to provide GI Bill educational assistance for qualified veterans and dependents. Eligible dependents and veterans should contact the Veterans Service Office, SAD 108, South Dakota State University, Box 2201, Brookings, SD 57007, phone 605-688-4700, for application forms and information concerning their benefits.

South Dakota resident veterans who served on active duty during a declared war or who participated in an U.S. Department of Defense declared conflict or hostility and who have no remaining VA benefits may qualify for tuition assistance through a South Dakota state program. To determine eligibility, veterans should contact the Financial Aid Office, SAD 106, or phone 605-688-4702.

SDSU is also approved for processing a state program which provides reduced tuition for South Dakota National Guard students. Please direct questions about this program to the Registrar's Office, SAD 208, 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.

## The Union

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The Union strives to maintain a safe and welcoming atmosphere, quality services and programs that are responsive to the needs of the community, with a focus on supporting the development and education of our students.

The Union is comprised of three management areas as indicated in the following paragraphs.

The Union oversees the recognition process for student organizations, manages and maintains the J-SORC (Jackrabbit Resource area for student organizations including many leadership resources and computer lab with printers and scanner) as well as provides advisement and support to two organizations (the University Program Council (UPC) and the Greek Fraternity system). UPC, a student organization with a programming focus, sponsors a wide array of activities under the following committees: Arts, Community Service, Concerts, Hobo Day, Lectures/Forums, Publicity/Graphics, Recreation/Travel, Showcase, Social Awareness, and Special Events. The Greek Fraternity system (men's and women's) receives support and advisement from the Student Activities office. SDSU Greek life includes the following chapters: Alpha Xi Delta, Alpha Gamma Rho, Ceres, Chi Omega, Delta Chi, FarmHouse, Lambda Chi Alpha, Sigma Alpha Epsilon, Sigma Phi Delta, Sigma Phi Epsilon. Student Activities also coordinates the National Student Exchange (NSE) program, and Leadership Development.

The Union coordinates the New Student Orientation (NSO) program in its entirety. NSO is the first step to achieving goals as a new, re-admit,

or transfer student at SDSU. The New Student Orientation program introduces students to our campus community, easing the transition to South Dakota State University and building lasting connections with other students, faculty and staff. The New Student Orientation office coordinates three major orientation programs: summer, fall, and spring orientation. Each program is designed with the student in mind.

The Union staff manages the overall operation of the University Student Union. The Union provides the following services: Union Manager/Setup Crew, Outback Jacks (billiards, banner/sign making, outdoor recreational equipment rental and off-campus housing), State Tech (lighting, staging and sound reinforcement for university events), Information Exchange (check cashing, fax and copy service, posting approval, ticket sales and notary service), and Central Reservations (reservation of campus facilities).

The *Collegian* publication, Students' Association, Student Legal Services, KSDJ 90.7, Greek Life, University Program Council, Dining Services: the Market and Jacks', the Bookstore, Card Services/Hobo Dough, and fifteen meeting rooms including the Volstorff Ballroom add to the already extensive list of student organizations and services housed in the University Student Union.

For more information regarding the Union call 605-688-4960 or fax at 605-688-4973.

# University Relations

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University Relations (UR) is located in the Communications Center between the Administration Building and the Rotunda. This office offers a number of services in two broad categories to the campus.

## Media

- Announcements of university activities and events of special interest to the general public via newspapers, radio, television, and the SDSU website.
- Promotion of student, faculty, departmental, and college accomplishments through news releases to area media.

For media needs, contact Andrea Kieckhefer at 605-688-4541 or e-mail: [andrea.kieckhefer@sdstate.edu](mailto:andrea.kieckhefer@sdstate.edu).

## Publications

University Relations works closely with the campus Print Lab, the on-campus-printing department located in Yeager Hall, SYE 102. With the advent of desktop publishing programs, writing and designing publications such as newsletters, brochures, posters, flyers, etc., has become much easier. Although nearly every office on campus has this capability, generally a publication designed "in house" does not necessarily mean it is "print ready."

To ensure projects are ready for printing, electronic pre-press procedures require University Relations to prepare the computer files for the Print Lab. These procedures apply to the simplest business form or letterhead to the most complicated full-color brochure. Additionally, the Office of University Relations is charged with the responsibility of overseeing the consistent quality of publications, for both internal and external audiences.

University Relations offers writing and design services for brochures, flyers, post cards, posters, newsletters and magazines for departments and colleges.

UR produces the *e.connect*, a weekly Web-based listing of campus special events, activities, general announcements, and position announcements for distribution to staff, faculty, and administrators; and *Today at State*, a twice weekly listing of campus special events, activities, general announcements, and interview announcements for distribution to students.

University Relations approves the use of the name or logo of South Dakota State University in any form. **All SDSU logos, seals, caricatures or word marks are licensed and cannot be used without permission.**

For publication and printing needs, contact the Office of University Relations at 605-688-6161.

## Water and Environmental Engineering Research Center (WEERC)

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The Water and Environmental Engineering Research Center (WEERC) is located in the College of Engineering at SDSU. Formerly named the Northern Great Plains Water Resources Research Center (NGPWRRRC), WEERC conducts research, education and outreach activities through principal investigators who are faculty members in the Engineering College. WEERC projects are funded by governmental agencies, cities, and industry, and are focused on engineering solutions to water resources and environmental problems. Recent project topics include municipal and industrial water and wastewater treatment, water supply and wastewater disposal systems, environmental remediation,

hydrological phenomena, and hydraulics of natural and engineered systems. These projects often involve collaboration with other SDSU departments or off-campus units. WEERC also maintains an environmental chemistry laboratory in Crothers Engineering Hall in conjunction with the Civil and Environmental Engineering Department. The laboratory supports research projects, environmental engineering courses, and outreach/service activities.

For information, contact Delvin DeBoer, Director, WEERC, SDSU, Box 2219, Brookings, SD 57007-0096; phone 605-688-5210; e-mail [delvin.deboer@sdstate.edu](mailto:delvin.deboer@sdstate.edu).

# Water Resources Institute (WRI)

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The mission of the Water Resources Institute (WRI) is to coordinate research and training at South Dakota State University and other affiliated educational institutions and agencies across the state in the broad area of water resources. It administers funds received from the U.S. Department of the Interior, as made available through the Water Resources Research Act of 1984 and from the state of South Dakota. Funds received through these sources targeted for research are directed toward solving state, regional, and national water problems. The institute currently supports undergraduate and graduate students as well PhD candidates in our mission to train the next generation of water scientists. WRI supports and conducts water research of significance to South Dakota and the North Central Region. The Institute maintains a laboratory which is open to students and researchers for use of microscopes, centrifuge, and other lab equipment in conjunction with research projects.

The Water Resources Institute co-sponsors the Big Sioux Water Festival in Brookings, SD, which has hosted more than 15,000 4th grade

students during the past thirteen years, and makes presentations at water festivals in Huron, Aberdeen and Pierre. Other youth-based programs include "Lakes are Cool" at the NeSoDak Outdoor Campus, and the Aberdeen Youth Sport Fishing Day.

WRI also provides service to the public related to identifying and solving water quality problems. This includes recommendations with interpretation of sample analysis and providing informational materials related to the potential solution to those water quality problems. The Institute also provides a specific service to irrigators by providing recommendations on soil and water compatibility. These services are available to all South Dakotans.

WRI is located in the Agricultural Engineering building and is associated with the College of Agriculture and Biological Sciences.

For more information, contact the Water Resources Institute by phone at 605-688-4910, by e-mail: [sdsu.wri@sdstate.edu](mailto:sdsu.wri@sdstate.edu) or on the World Wide Web at <http://wri.sdstate.edu>.

## Wellness Center

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The Wellness Center is an on-campus, multi-use facility including health and fitness areas located in the Stanley J. Marshall HPER building. Our mission is to "Provide a holistic approach to health and well-being through mind/body experiences by serving the students, faculty, and community." Programs are designed to meet the diverse needs of all. Group exercise programs include, but are not limited to Pilates, Yoga, kickboxing, step aerobics, boot camp, water aerobics, and SPINNING. Individual programming such as Fitness Evaluations, Personal Training, Nutrition, and Weight Control are available at a

reasonable cost to students. The Wellness Center includes a 1/8-mile indoor walk/run track, a 25-yard indoor pool, basketball courts, cardiovascular equipment and resistance/weight training equipment. Employment opportunities for students include, graduate assistant, service desk attendant, weight room attendant, lifeguard, group exercise instructors, and personal trainers.

Phone: 605-688-6415

E-mail: [shari.landmark@sdstate.edu](mailto:shari.landmark@sdstate.edu)

Web: <http://www.gojacks.com>, click on Wellness Center.



ORGANIZATION AND  
ADMINISTRATION.....381

*Organization and Administration*.....382

*Affiliations and Accreditations* .....384



# Organization and Administration

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**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 Harvey Jewett, IV*  
President  
(Term expires March 31, 2011)  
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*Honorable Randy Morris*  
Vice President  
(Term expires March 31, 2010)  
Spearfish

*Honorable Dean Krogman*  
Secretary  
(Term expires March 31, 2009)  
Brookings

*Honorable Kathryn Johnson*  
(Term expires March 31, 2011)  
Rapid City

*Honorable Tonnis H. Venhuizen*  
Student Regent  
(Term Expires July 1, 2006)  
Armour

*Honorable James Hansen*  
(Term expires March 31, 2007)  
Pierre

*Honorable Richard Belatti*  
(Term expires March 31, 2009)  
Madison

*Honorable Carole Pagonos*  
(Term expires March 31, 2009)  
Sioux Falls

*Honorable Terry Baloun*  
(Term expires March 31, 2010)  
Highmore

*Honorable Robert T. (Tad) Perry*  
Executive Director  
Pierre

## General Administration

---

President  
Peggy Gordon Miller, Ed.D.  
Provost and Vice President for  
Academic Affairs  
Carol J. Peterson, Ph.D.  
Executive Vice President for  
Administration  
Michael P. Reger, Ph.D.

Associate Vice President for  
Academic Affairs  
Mary Kay Helling, Ph.D.  
Assistant Vice President for  
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Wesley G. Tschetter, M.B.A.  
Associate Vice President for  
Academic Affairs and Chief Information  
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Michael F. Adelaine, Ph.D.

Registrar  
Matt Aschenbrener, Ed.D.  
Vice President for Student Affairs  
Marysz Palczewski-Rames, Ed.D.  
Vice President for Research and  
Sponsored Programs  
Kevin D. Kephart, Ph.D.

## Deans/Associate and Assistant Deans

---

*College of Agriculture and Biological Sciences*  
Gary D. Lemme, Ph.D., Dean  
Donald M. Marshall, Ph.D., Associate Dean  
and Director of Academic Programs  
Gerald W. Warmann, Ph.D., Associate  
Dean and Director of Cooperative  
Extension Service  
John D. Kirby, Ph.D., Associate Dean  
and Director of  
Agricultural Experiment Station

*College of Education and Counseling*  
Hank Rubin, Ph.D., Joint Dean  
Howard Smith, Ed.D., Associate Dean

*College of Engineering*  
Lewis F. Brown, Ph.D., Dean  
Richard A. Reid, Ph.D.,  
Assistant Dean

*College of General Studies and Outreach  
Programs*  
Gail Dobbs Tidemann, Ph.D., Dean  
Keith Corbett, Ed.D., Assistant to the 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*  
Brian L. Kaatz, Pharm.D., Dean  
Joel E. Houghlum, Ph.D., Assistant Dean

*Graduate School*  
Kevin D. Kephart, Ph.D., Dean  
John J. Ruffolo, Ph.D., Associate Dean

*Honors College*  
Robert V. Burns, Ph.D., Dean

*Library*  
Steve R. Marquardt, Ph.D., Dean

*College of Arts and Science*  
Jerry D. Jorgensen, Ph.D., Dean  
Daniel W. Landes, Ph.D., Assistant Dean

## Directors

---

### Academic Evaluation & Assessment

Jo Ann Sckerl, Ed.D.

### Academic Programs (College of AgBio)

Donald M. Marshall, Ph.D.

### Administrative and Research Computing

Delmar R. Johnson, M.Ed.

### Admissions

Tracy Welsh, B.A.

### AgBio Communications Unit

Barbara Suhr Hartinger, M.A.

### Agricultural Experiment Station

John D. Kirby, Ph.D.

### Agricultural Heritage Museum

Mac Harris, M.S.

### Agricultural Information Technologies

Michael F. Delaine, Ph.D.

### Alumni Association

V. J. Smith, B.S.

### Animal Disease Research and Diagnostic

### Laboratory (ADRDL)

David H. Zeman, D.V.M.

### Athletics

Fred Oien, Ed.D.

### Bookstore, University

Gary G. Burdick, B.A.

### Career and Academic Planning (CAP Center)

Susan Fredrikson, M.Ed.

### Center for Infectious Disease Research and Vaccinology

David H. Francis, Ph.D.

### Cooperative Extension Service

Gerald W. Warmann, Ph.D.

### Dining Services

David Menzel, B.S.

### Disability Services

Nancy Crooks, M.S.

### Diversity Enhancement

Allen R. Branum, Ph.D., Acting

### Engineering Resource Center (ERC)

Kevin Dalsted, M.S.

### Environmental Health & Safety

Gary Yarrow, Ph.D.

### Finance and Business/Controller

Jeff A. Siekmann, M.B.A.

### Financial Aid

Jay A. Larsen, M.Ed.

### 4-H Foundation

Nancy Swanson, M.A.

### Human Resources

Karyn Converse-Weber, M.A.

### Institutional Research

Jeri Kurtz, Ed.D.

### International Affairs

Karl J. Schmidt, Ph.D.

### Oak Lake Field Station

Nels Troelstrup, Ph.D.

### Physical Plant

Dean Kattelmann, M.S.

### Records

Matthew Aschenbrener, Ed.D.

### Residential Life

Michael Kervin, M.S.

### Sioux Falls Programs

Gail Dobbs Tidemann, Ph.D.

### South Dakota Art Museum

Lynn Verschoor, M.S.

### SDSU Foundation/Development

David Marquardt, M.A., President

### Student Activities

Jennifer Novotny, M.S.

### Transportation, Technology Transfer Service

Ali Selim, Ph.D.

### University Relations

Jennifer Crickard, M.A.

### Water and Environmental Engineering

### Research Center

Delvin DeBoer, Ph.D.

### Water Resources Institute

Van C. Kelley, Ph.D.

### West River Ag Center

Martin K. Beutler, Ph.D.

## Department Heads (by college)

---

### Agriculture and Biological Sciences

#### Agricultural and Biosystems Engineering

Van C. Kelley, Ph.D.

#### Animal and Range Sciences

Robert Thaler, Ph.D., Interim

#### Biology and Microbiology

Thomas M. Cheesbrough, Ph.D.

#### Dairy Science

Vikram V. Mistry, Ph.D.

#### Economics

Richard C. Shane, Ph.D.

#### Horticulture, Forestry, Landscape and Parks

Peter R. Schaefer, Ph.D.

#### Plant Science

Dale J. Gallenberg, Ph.D.

#### Rural Sociology

Donna J. Hess, Ph.D.

#### Veterinary Science

David H. Zeman, D.V.M.

#### Wildlife and Fisheries Sciences

Charles G. Scalet, Ph.D.

### Arts and Science

#### Aerospace Studies

Lt Col Craig Bond, M.S.

#### Chemistry and Biochemistry

James A. Rice, Ph.D.

#### Communication Studies and Theatre

Laurie Haleta, Ph.D.

#### English

Kathleen Donovan, Ph.D.

#### Geography

Roger K. Sandness, Ph.D.

#### Health, Physical Education and Recreation

Fred M. Oien, Ed.D.

#### History

April Brooks, Ph.D., Acting

#### Journalism and Mass Communication

Mary Peterson Arnold, Ph.D.

#### Military Science

LTC Michael Herman, M.S.

#### Modern Languages

Maria Ramos, Ph.D.

#### Music

Dave Reynolds, D.M.A.

#### Philosophy and Religion

Greg Peterson, Ph.D., Acting

#### Political Science

Greg Peterson, Ph.D.

#### Psychology

Virginia Norris, Ph.D.

#### Visual Arts

Norman Gambill, Ph.D.

### Education and Counseling

#### Counseling and Human Resource

#### Development

Jay Trenhaile, Ed.D.

#### Educational Leadership

Kenneth Rasmussen, Ph.D.

#### Teacher Education

Lonell L. Moeller, Ph.D., Acting

### Engineering

#### Civil and Environmental Engineering

Arden Sigl, Ph.D., Acting

#### Electrical Engineering and Computer Science

Dennis Helder, Ph.D.

#### Engineering Technology and Management

Teresa Hall, Ph.D.

### Mathematics and Statistics

Kurt Cogswell, Ph.D.

### Mechanical Engineering

Donell P. Froehlich, Ph.D.

### Physics

Oren Quist, Ph.D.

### Family and Consumer Sciences

#### Apparel Merchandising and Interior

#### Design

Jane E. Hegland, Ph.D.

#### Human Development, Consumer and

#### Family Sciences

Andrew Stremmel, Ph.D.

#### Nutrition, Food Science and Hospitality

Chunyang Wang, Ph.D.

### Nursing

#### Graduate Nursing

Sandra Bunkers, Ph.D.

#### Nursing Student Services

Gloria Craig, Ed.D.

#### Undergraduate Nursing

Janet Lord, Ph.D.

#### West River Nursing

Barbara Hobbs, Ph.D.

### Pharmacy

#### Clinical Pharmacy

Dennis Hedge, Pharm.D.

#### Pharmaceutical Sciences

Chandradhar Dwivedi, Ph.D.

# Affiliations and Accreditations

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The University holds institutional membership in a number of educational associations: the National Association of State Universities and Land-Grant Colleges (1307 New York Avenue, Suite 400, Washington, D.C. 20005-4701; Phone 202-478-4701) promotes the aims expressed in the Morrill Act of 1862, and in the subsequent acts of Congress relating to Land-Grant Colleges; and the American Association of State Colleges and Universities (1307 New York Avenue, NW, 5th Floor, Washington, D.C. 20005-4701; Phone 202-293-7070).

Accredited by The Higher Learning Commission and a member of the North Central Association of Colleges and Schools (30 North LaSalle Street, Suite 2400, Chicago, IL., 60602-2504; Phone 312-263-0456). Its purpose is to maintain high standards of instructional work and educational programs. The University is accredited through the doctoral level. Its next comprehensive evaluation is 2010.

The Athletic Training Program is accredited by the Commission on 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 Commission on Collegiate Nursing Education (One Dupont Circle, NW, Suite 530, Washington, D.C. 20036-1120; Phone: 202-887-6791).

The Chemistry Department is accredited by the American Chemical Society (1155 Sixteenth St., N.W., Washington, DC 20036; Phone 202-872-4589).

The Construction Management program is accredited by the American Council for Construction Education (1717 North Loop 1604 East, Suite 320, San Antonio, TX 78232-1570; Phone 201-495-6161).

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 teachers and other professional school personnel at both the undergraduate and graduate levels is accredited by the National Council for Accreditation of Teacher Education (2010 Massachusetts Ave., NW, Suite 500, Washington, D.C. 20036-1023; Phone 202-466-7496).

The programs of Agricultural and Biosystems, 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 Accreditation Council for Pharmacy Education (20 North Clark Street, Suite 2500, Chicago, IL 60602-5109; 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 Health Promotion major is endorsed and recognized by the American College of Sports Medicine for meeting the knowledge, skills, and abilities expected of an ACSM Health/Fitness Instructor.

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.

The University also holds membership in the American Council on Education, the American Council on Education's Internationalization Collaborative, the Council on International Educational Exchange (CIEE), the College Consortium for International Studies (CCIS), the Cooperative Center for Study Abroad (CCSA), the International Student Exchange Program (ISEP), the American Association of Colleges for Teacher Education, the American Association of University Women, the American Association of Colleges of Pharmacy, the American Society for Engineering Education, the Association of 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 United States, National Association for Foreign Student Affairs, American Association for Higher Education, CUIDES (Consejo Universitario Interamericano para el Desarrollo 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).



**UNIVERSITY STAFF .....385**

*General Administration* .....386

*Academic Deans* .....386

*Regental Distinguished Professors* .....386

*Distinguished Professors* .....386

*Faculty, Staff* .....387

*Emeriti Faculty, Staff* .....409

# UNIVERSITY STAFF

As of January 2006

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

**Miller, Peggy Gordon**, President, Professor of Education, Graduate Faculty, 1998; B.A., Transylvania University, 1959; M.S., Northwestern University, 1964; Ed.D., Indiana University, 1975, L.L.D., Transylvania University (Honorary Degree), 1993.

**Peterson, Carol J.**, Provost and Vice President for Academic Affairs, Professor of Nursing, Graduate Faculty, 1977, 2000; Diploma in Nursing, Methodist Kahler School of Nursing, 1960; B.S., University of Minnesota, 1963; M.Ed., 1964; Ph.D., 1969.

**Reger, Michael P.**, Executive Vice President for Administration, Assistant Professor of Education, Graduate Faculty, 1979, 2000; B.A., Western Illinois University, 1970; M.S., 1972; Ph.D., Ohio State University, 1983.

**Helling, Mary Kay**, Associate Vice President for Academic Affairs and Professor of Human Development, Consumer and Family Sciences, Graduate Faculty, 1978, 2003; B.S., SDSU, 1977; M.S., 1982; Ph.D., Purdue University, 1992.

**Tschetter, Wesley G.**, Assistant Vice President for Finance and Business, 1982, 2000; B.S., SDSU, 1969; M.B.A., University of South Dakota, 1971.

**Adelaine, Michael F.**, Associate Vice President for Academic Affairs and Chief Information Technology Officer/Director of Agricultural Information Technologies, Professor of Agricultural and Biosystems Engineering, 1990, 2003; B.S., Michigan State University, 1974; M.S., University of Nebraska, 1985; Ph.D., 1989.

**Aschenbrenner, Matthew S.**, Assistant Dean for Student Services and Registrar, 2003, 2005; B.S., SDSU, 1992; M.P.A., University of South Dakota, 1994; Ed.D., University of Kansas, 2001.

**Kephart, Kevin D.**, Vice President for Research and Dean of Graduate School, Graduate Faculty, 1986, 2005; B.S., Montana State University, 1979; M.S., University of Wyoming, 1982; Ph.D., Iowa State University, 1987.

**Kattelmann, Dean E.**, Director of Physical Plant, 2002; B.S., Missouri State University, 1976; M.S., University of Missouri, 1989.

**Marquardt, Steve R.**, Dean of Libraries, Professor of Library Science, Graduate Faculty, 1996; B.A., Macalester College, 1966; M.A., University of Minnesota, 1970; M.A., 1974; Ph.D., 1978.

**Rames, Marysz Palczewski**, Vice President for Student Affairs, 1987, 2004; B.S., University of Northern Colorado, 1982; M.A., 1986; Ed.D., University of South Dakota, 1997.

**Welsh, Tracy**, Director of High School Relations and Admissions, 1984, 1997; B.A., Fontbonne College, 1980.

**Yarrow, Gary**, Director of Environmental Health and Safety, Professor of Chemistry; General, Radiation, Biological and Chemical Safety Officer; Graduate Faculty, 1993, 1998; B.S., SDSU, 1977; M.S., Ohio State University, 1979; Ph.D., University of Minnesota, 1985.

## ACADEMIC DEANS

**Brown, Lewis F.**, Dean of the College of Engineering, Professor of Electrical Engineering, Graduate Faculty, 1992, 2000; B.S., SDSU, 1984; M.S., Iowa State University, 1986; Ph.D., 1988.

**Burns, Robert V.**, Dean of the Honors College, Distinguished Professor Political Science and Philosophy and Religion, Graduate Faculty, 1970, 2004; B.S., SDSU, 1964; M.A., University of Missouri, 1966; Ph.D., 1973.

**Jorgensen, Jerry D.**, Dean of the College of Arts and Science, Professor of Communication Studies and Theatre, Graduate Faculty, 1979, 2000; B.S., SDSU, 1978; M.S., 1984; Ph.D., University of Nebraska, 1990.

**Kaatz, Brian L.**, Dean of the College of Pharmacy, Professor of Clinical Pharmacy, Graduate Faculty, 1977, 2003; B.S., SDSU, 1974; Pharm.D., University of Minnesota, 1977.

**Lemme, Gary D.**, Dean of the College of Agriculture and Biological Sciences, Professor of Plant Science, 2005; B.S., SDSU, 1974; M.S., 1975; Ph.D., University of Nebraska, 1979.

**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 State 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., Saint Louis University, 1984.

**Rubin, Hank**, Joint Dean of Education, Professor of Education and Counseling; B.A., University of Chicago, 1974; M.A., 1975; Ph.D., Northwestern University, 1980.

**Tidemann, Gail Dobbs**, Dean of the College of General Studies and Outreach Programs, Professor of Human Development, Consumer and Family Sciences, Graduate Faculty, 1986, 1997; B.S., Jacksonville State 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.

**Wagner, Robert T.**, President Emeritus, Professor Emeritus of Rural Sociology, Distinguished Regental 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; D.D., 2000.

## DISTINGUISHED PROFESSORS

**Burns, Robert V.**, Distinguished Professor, Head of Political Science and Philosophy and Religion, Director of Honors College, Graduate Faculty, 1970, 1994; B.S., SDSU, 1964; M.A., University of Missouri, 1966; Ph.D., 1973.

**Costello, William J.**, Distinguished Professor Emeritus of Animal and Range Sciences, 1965, 1991; B.S., North Dakota State University, 1954; M.S., Oklahoma State University, 1960; Ph.D., 1963.

**Dwivedi, Chandradhar**, Distinguished Professor and Head of Pharmaceutical Sciences, Graduate Faculty, 1987, 2000; B.S., Gorakhpur University, 1964; M.S., 1966; Ph.D., Lucknow University, 1972.

## FACULTY, STAFF

- Evenson, Donald P.**, Distinguished Professor of Veterinary Science, Graduate Faculty, 1981, 1996; B.A., Augustana College, 1964; Ph.D., University of Colorado, 1968.
- Flake, Lester D.**, Distinguished Professor Emeritus of Wildlife and Fisheries Sciences, Graduate Faculty, 1972, 1999; B.S., Brigham Young University, 1965; M.S., 1966; Ph.D., Washington State University, 1971.
- Granholt, Nels H.**, Distinguished Professor of Biology and Microbiology, Graduate Faculty, 1968, 1978; B.A., University of Massachusetts, 1964; Ph.D., Iowa State University, 1968.
- Gritzner, Charles F.**, Distinguished Professor of Geography, Graduate Faculty, 1980, 1995; B.A., Arizona State University, 1958; M.A., Louisiana State University, 1960; Ph.D., 1969.
- Hegge, Margaret J.**, Distinguished Professor Emerita of Nursing, NACC Coordinator, Graduate Faculty, 1969, 1999; 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 and Head of Rural Sociology, Graduate Faculty, 1974, 1998; B.A., Marquette University, 1965; M.A., State University of New York, 1971; Ph.D., Michigan State University, 1974.
- Johnson, James L.**, Distinguished Professor Emeritus of Communication Studies and Theatre, Director of Theatre, Graduate Faculty, 1973, 2001; B.S., Kansas State University, 1960; M.A., University of South Dakota, 1961; Ph.D., University of Kansas, 1973.
- Malo, Douglas D.**, Distinguished Professor of Plant Science, Graduate Faculty, 1975, 1999; B.S., Iowa State University, 1971; M.S., North Dakota State University, 1974; Ph.D., 1975.
- Pritchard, Robbi H.**, Distinguished Professor of Animal and Range Sciences, Graduate Faculty, 1984, 1994; A.A.S., Black Hawk College, 1975; B.S., Southern Illinois University, 1977; M.S., 1978; Ph.D., Washington State University, 1983.
- Redhead, Ruth W.**, Distinguished Professor Emerita of Foreign Languages, 1962, 1989; B.Ed., University of Vermont, 1945; M.A., University of Minnesota, 1954; Ph.D., 1971.
- Ryder, Mary R.**, Distinguished Professor of English, Graduate Faculty, 1989, 1997; B.A., Monmouth College, 1972; M.A., Illinois State University, 1981; Ph.D., University of Illinois, 1987.
- Schingoethe, David J.**, Distinguished Professor of Dairy Science, Graduate Faculty, 1969, 2001; B.S., University of Illinois, 1964; M.S., 1965; Ph.D., Michigan State University, 1968.
- Wahlstrom, Richard C.**, Distinguished Professor Emeritus of Animal and Range Sciences, 1952, 1988; B.S., University of Nebraska, 1948; M.S., University of Illinois, 1950; Ph.D., 1952.
- Widvey, Lois L.**, Distinguished Professor Emerita of Education, Graduate Faculty, 1973, 1998; B.S., Northern State University, 1955; M.S.Ed., 1958; Ed.D., University of Nebraska, 1971.
- Willis, David W.**, Distinguished Professor of Wildlife and Fisheries Sciences, Graduate Faculty, 1987, 1995; B.S., University of North Dakota, 1977; M.S., 1978; Ph.D., Colorado State University, 1980.
- Woodard, Charles L.**, Distinguished Professor of English, Graduate Faculty, 1975, 1985; B.S., Dakota State University, 1964; M.A., University of Nebraska, 1966; Ph.D., University of Oklahoma, 1975.
- Wrage, Leon J.**, Distinguished Professor of Plant Science, Extension Specialist, 1961, 1994; B.S., SDSU, 1961; M.S., 1964.
- Aaron, David**, Assistant Professor of Physics, 1986; B.S., SDSU, 1975; M.S., University of Wisconsin, 1981.
- Abraham, Julie B.**, Instructor of English, 2002; B.A., Augustana College, 1990; M.A., SDSU, 2003.
- Abraham, Ross P.**, Associate Professor of Mathematics and Statistics, Graduate Faculty, 1997; B.S., Augustana College, 1990; M.A., University of Montana, 1993; Ph.D., University of Houston, 1997.
- Ackerwold-Smith, Julie K.**, Annual Giving Officer, Health, Physical Education and Recreation, 1998, 2000; B.S., Winona State University, 1981.
- Ackman, John D.**, Professor of Communication Studies and Theatre, Graduate Faculty, 1978, 2002; B.S., SDSU, 1978; M.F.A., University of Montana, 1984.
- Adamson, Dwight W.**, Associate Professor of Economics, Graduate Faculty, 1989, 1995; B.A., Washington State University, 1976; M.A., 1983; Ph.D., 1988.
- Aguiar, Gary G.**, Associate Professor of Political Science, Graduate Faculty, 1999, 2003; B.A., COE College, 1983; B.A., University of Hawaii, 1990; M.A., Indiana University, 1993; Ph.D., 1996.
- Ahrendsen, Wendy**, Instructor of Mathematics and Statistics, 1995; B.A., Wartburg College, 1995; M.S., SDSU, 1999.
- Alexander, David**, Reference and Electronic Resources Librarian/Associate Professor, 1999, 2003; B.S., Northeast Missouri State University, 1985; M.A., University of Iowa, 1995; M.L.S., 1998.
- Alfson, Troy M.**, Assistant Director of Student and Staff Development, 2003, 2005; B.S., Bemidji State University, 1994; M.S., University of Wisconsin, 1996.
- Andera, Tim**, Associate Professor of Education and Counseling, Graduate Faculty, 2000; A.A.S., University of South Dakota, 1974; B.S.T., 1976; B.S., 1977; B.S.E., 1977; M.S., Bemidji State University, 1986; Ed.D., Illinois State University, 1994.
- Andersen, Brenda F.**, Associate Director of Student Health Services, 1982, 1984; B.S., SDSU, 1979; M.S., 1986.
- Andersen, Shane M.**, Research/Extension Associate, 2000; B.S., SDSU, 2000; M.S., 2003.
- Anderson, Carla L.**, Academic Coordinator, 2004, 2005; B.S., SDSU, 2002.
- Anderson, Gary A.**, Professor of Agricultural and Biosystems Engineering, Graduate Faculty, 1987, 1999; B.S., SDSU, 1975; M.S., Iowa State University, 1985; Ph.D., 1987.
- Anderson, Randy**, Adjunct Professor, Plant Science, 2004; B.S., SDSU, 1974; M.S., 1976; Ph.D., University of Wyoming, 1980.
- Anderson, Rick L.**, Assistant Director of Ag Information Technology Unit, 1996, 2003; B.S., Saint Cloud State University, 1991.
- Andrawis, Alfred S.**, Professor of Electrical Engineering, Graduate Faculty, 1981, 2001; B.S., Alexandria University (Egypt), 1974; M.S., SDSU, 1982; Ph.D., Virginia Polytechnic Institute and State University, 1991.
- Andrawis, Madeleine Y.**, Professor of Electrical Engineering/Teaching Learning Center Coordinator, Graduate Faculty, 1980, 2001; B.S., Cairo University (Egypt), 1977; M.S., SDSU, 1983; Ph.D., Virginia Polytechnic Institute and State University, 1991.
- Archer, Misty D.**, Residence Hall Director, 2005; B.S., Central Michigan University, 2004.
- Arnold, Mary P.**, Professor and Head of Journalism and Mass Communication, Graduate Faculty, 2002, 2005; B.A., Dakota Wesleyan University, 1969; M.A., University of South Dakota, 1973; Ph.D. University of Iowa, 1994.
- Aro, Carlene D.**, Associate Professor/Serials Librarian, 1989, 1998; B.A., Oregon State University, 1981; M.L.S., University of Michigan, 1982; M.Ed., SDSU, 1993.

- Arwood, Donald**, Professor of Rural Sociology, Graduate Faculty, 1986, 1999; B.S., SDSU, 1980, M.S., 1982; Ph.D., 1989.
- Auger, Donald L.**, Assistant Professor of Biology and Microbiology, Graduate Faculty, 2003; B.A., Saint John's University, 1975; Ph.D., University of North Dakota, 1995.
- Austin, Jane E.**, Adjunct Assistant Professor of Wildlife and Fisheries, 1997; B.S., University of Maine, 1980; M.S., University of Missouri, 1983; Ph.D., 1988.
- Aware, Rozhyer Q.**, Program Advisor for Multicultural Affairs, 2003; B.S., SDSU, 2000.
- Baer, Rebecca**, Assistant Professor of Clinical Pharmacy, 2001; B.S., University of Georgia, 1982; B.S., SDSU, 1993; Pharm.D., 1995.
- Baer, Robert J.**, Professor of Dairy Science, Graduate Faculty, 1982, 1992; B.S., University of Georgia, 1977; M.S., 1979; Ph.D., 1983.
- Baggett, Marie-Pierre E.**, Associate Professor of Modern Languages, 1998, 2002; B.A., Université de Clermont (France), 1986; M.A., University of California, 1989; Ph.D., 1996.
- Bahr, Jr., Alvin M.**, Instructor of Mathematics and Statistics, 1998; B.A., SDSU, 1996; M.S., 2000.
- Bahr, Ann Marie B.**, Professor of Philosophy and Religion, Graduate Faculty, 1988, 1993; B.A., Lawrence University, 1972; M.A., Stanford University, 1975; Ph.D., Temple University, 1989.
- Bailey, Melanie A.**, Assistant Professor of History, 2003; B.A., University of Richmond, 1997; M.A., University of North Carolina, 1999; Ph.D., 2003.
- Bakker, Kristel K.**, Adjunct Assistant Professor of Wildlife and Fisheries Sciences, 2003; B.S., SDSU, 1990; M.S., 1996; Ph.D., 2000.
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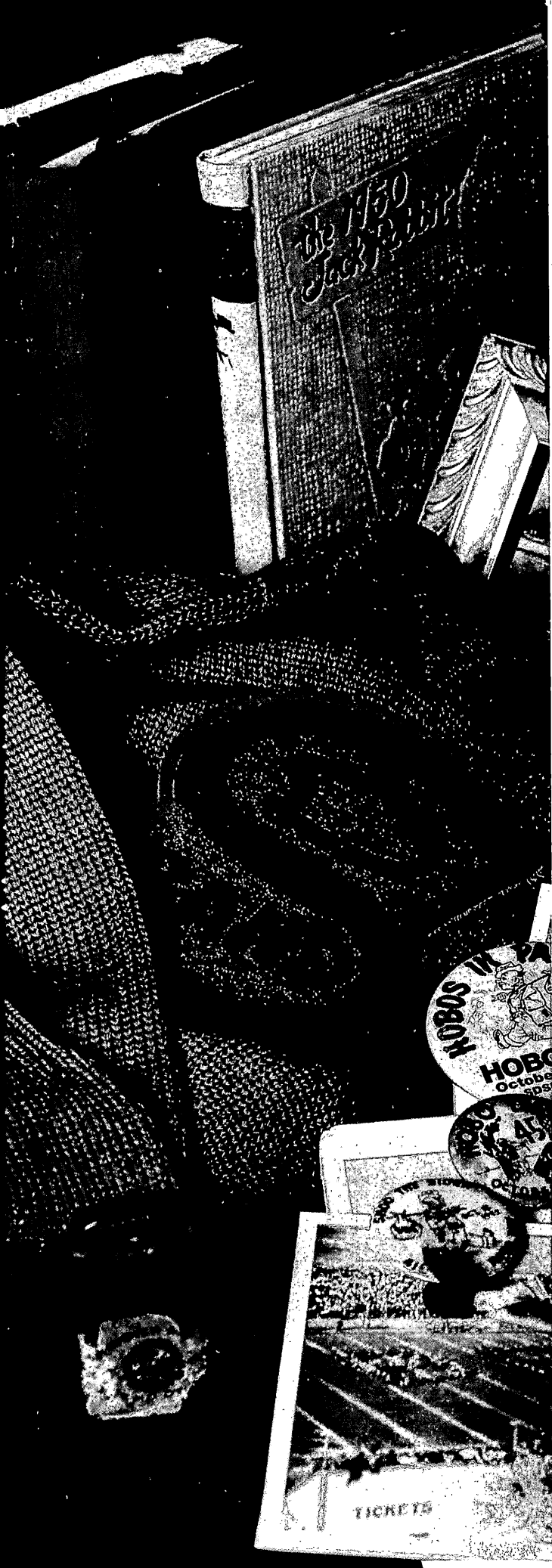


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INDEX.....415

INDEX

## A

- Abbreviations, 243  
Absence, 23  
Academic  
    advisement, 30  
    amnesty, 16  
    calendar, inside back cover  
    deans, 386  
    honesty, 22  
    performance, 22  
    probation, 22  
    recognition, 18  
    suspension, 22  
    warning, 22  
Accounting, 132  
Accreditation, affiliations and, 384  
ACT, 10  
Adding courses, 26  
Administration  
    business, 155  
    educational, 94-95, 177  
    of the university, 382-383  
Administrative and research computing (ARC), 364  
Admission  
    advanced standing, 14  
    application, 10  
    articulation agreements, 13  
    associate of arts program, 48-49  
    by high school students, 11  
    concurrent, 11  
    correspondence credit, 13  
    education courses, 67-69  
    fee, 10  
    former students, 11  
    graduate school, 75  
    home-schooled students, 11  
    international students, 14  
    nonresident, 14  
    policies and procedures, 10-14  
    readmission, 11  
    requirements, 10-14  
    resident, 10  
    Servicemembers Opportunity College (SOC), 13  
    special students, 11  
    teacher education, 67-69  
    transfer students, 11-13  
    undergraduate, 10-14  
Advanced  
    placement, 17-18  
    placement in speech, 91-92  
    standing, 14  
    writing requirement, 47, 245  
Advertising specialization, journalism, 107, 203-205  
Advisee role, rights, responsibilities, 30  
Advisor role, responsibilities, 30  
Aerospace studies, 82, 132  
Aesthetics awareness requirement, 44-45  
Aid, financial, 370-371  
Affiliation and accreditation, 384  
Affirmative Action, 31  
Agricultural  
    and biosystems engineering, 82-83, 99, 132-134  
    and resource economics, 94, 135  
    business, 94, 136  
    education, 123, 137  
    Experiment Station, 362  
    Extension Service (Cooperative), 365  
    information technology (AIT), 364  
    journalism, 107, 137-138  
    marketing, 138  
Agricultural systems technology, 83, 138-140  
    business specialization, 139  
    environmental systems specialization, 139  
    processing specialization, 139  
    production specialization, 139  
Agriculture  
    College of, and Biological Sciences, 62-64  
    core curriculum, 63  
    general, 100, 186  
    global agriculture minor, 189-190  
Agronomy, 119-120, 140-142  
    *see* plant science, 119-120  
    business specialization, 141  
    pest management specialization, 141  
    production specialization, 141  
    science specialization, 142  
Air Force ROTC, 82, 132  
AIT (Agricultural Information Technology), 364  
Alcohol and drug programs, 377  
Allied health specialization, 104, 195  
Alumni Association, 362  
American Indian studies, 84, 142  
Amnesty, academic, 16  
Animal Disease Research and Diagnostic Laboratory (ADRDL), 362  
Animal science, 84, 143-144  
    business and production specialization, 143  
    equine studies minor, 84, 144, 183  
    science specialization, 143  
Anthropology courses, 254-255  
Apparel merchandising and interior design, 84-85, 144  
Appeals, and petitions, 27  
Application procedures, 10  
Applied information technology minor, 85, 145  
Applied technical science (BATS), 85, 145-146  
    applied agriculture, 145  
    general supervision, 145  
    general technology, 146  
    industrial sales, 146  
    industrial supervision, 146  
ARC (Administrative and Research Computing), 364  
Army concurrent admissions (ConAp), 11  
Army ROTC, 112, 215  
Art, 124-125, 146-150  
    *see also* Graphic Design, 192  
    *see* Visual Arts, 124-125, 146-150  
    ceramics/sculpture, 124-125, 146-150  
    core requirements, 124-125  
    education, 124-125, 146-150  
    fine, 124-125, 146-150  
    general, 124-125, 146-150  
    graphic design, 124-125, 192  
    painting/printmaking, 124-125, 146-150  
Articulation agreements, 13  
Arts and humanities/diversity requirements, 41  
Arts and Science, College of, 65-66  
    degree requirements, 66  
Assessment program, 16  
Associate degree, 48, 49  
Athletic  
    coaching certification, 86  
    training, 86-87, 103-104, 150-151  
    trip regulations, 35  
Attendance, class, 23  
Auditing courses, 26  
Aviation education, 87, 151-152  
Available majors, minors and specializations (table), 53-59

## B

- Bachelor's degree, 52  
Billing, electronic, 368  
Biochemistry, 89-90  
Biological sciences, 62-64  
    biology major, 87, 152-154  
    College of Agriculture and, 62-64  
    core curriculum, 63-64  
    microbiology major, 111, 213-215  
    wildlife and fisheries sciences, 126, 238  
Biology, 87, 152-154  
    ecology specialization, 153-154  
    molecular/cellular specialization, 152  
    organismal biology specialization, 153  
    preprofessional specialization, 153  
    secondary education specialization, 154  
Biomedical engineering, 88  
    minor, 154  
    *see also* electrical engineering, 95, 177-178  
Biotechnology minor, 154  
Board and room, 368  
Board of Regents, 382  
Botany, 88, 155  
Broadcast journalism specialization, 107, 204-205  
Business  
    administration, 155  
    area studies, 88, 155  
    economics, 94, 175-177

- minor, 155, 175-177
- Business specializations
  - agricultural systems technology, 139
  - agronomy, 141
  - animal science, 143
  - dairy production, 169
  - economics, 175
  - horticulture, 197-198
- C**
- Calendar, University, inside back cover
- Campus map, 424
- Capital University Center, 129
- Career and Academic Planning Center, 364
- Career and technical education, 68, 88-89, 123, 156
- Catalog applicable to graduation, 50
- Certification
  - athletic coaching, 86
  - soil sciences, 142
  - teaching, 69, 236-237
- Chairs, endowed, 366
  - dairy science, 366
  - economics, 366
  - electrical engineering, 366
  - nutrition, 366
- Challenge exams, 17-18
- Chemistry, 89-90, 156-158
  - ACS certified, 157
  - biochemistry emphasis, 157
  - chemical physics emphasis, 157
  - clinical and laboratory sciences, 89-90, 159-160
  - environmental chemistry emphasis, 157
- Chief information technology office, 364
- Child
  - and family studies, 106, 201
  - early childhood education major, 106, 170-175
- Chiropractic, pre, 74, 90, 158
- Choral music emphasis, 217
- Civil and environmental engineering, 90-91, 158-159
- Class
  - attendance policy, 23
  - definition, 23
  - rank, 23
- Classroom Technology Services (CTS), 364
- Clinical
  - and laboratory sciences, 89-90, 159-160
  - experience, 244
  - laboratory, 244
  - pharmacy, 91
- Coaching certification, athletic, 86
- Code, student, 35
- College of
  - Agriculture and Biological Sciences, 62-64
  - Arts and Science, 65-66
  - Education and Counseling, 67-69
  - Engineering, 70-71
  - Family and Consumer Sciences, 72-73
  - General Studies and Outreach Programs, 74
  - Graduate School, 75
  - Honors, 76
  - Nursing, 77
  - Pharmacy, 78-79
- College Level Examination Program (CLEP), 17
- Common course descriptions (x9x), 246-247
- Common course numbering, 242, 245
- Communication studies and theatre, 91-92, 160-164
  - media production specialization, 160-161
  - speech communication specialization, 161-162
  - speech education specialization, 162-163
  - theatre specialization, 163-164
- Communications and advanced electronics engineering emphasis, 178
  - see* electrical engineering, 95, 177-178
- Competency-based courses, 244
- Complaints policy, student, 34
- Computer science, 92, 164-165
- Computer
  - applications certificate, 92
  - digital hardware emphasis, 178
  - information technology management emphasis, 165
  - networking emphasis, 164, 179
  - science teaching, 165
  - software engineering emphasis, 165
- ConAp, 11
- Concurrent student, 11
- Conferences and institutes, 129
- Construction management, 96, 165-166
- Consumer affairs, 106, 166-167
- Continuing education, nursing, 77, 114-115
- Cooperative education, 247
- Cooperative Extension Service (CES), 365
- Core curricula,
  - agriculture, 63-64
  - arts and science, 66
  - associate degree, 48-49
  - biological science, 63-64
  - education, 68-69
  - family and consumer sciences, 73
  - pharmacy, 78
  - two-year terminal (associate degree), 74
- Correspondence credit, 13
- Counseling and human resource development, 92, 167
- Counseling service, 377
- Course
  - adding, 26
  - auditing, 26
  - common, 246-47
  - crosslisted, 245
  - descriptions, 242, 246-247, 248-360
  - dropping, 26
  - dual numbered, 245
  - experimental, 242
  - exemption, 18
  - graduate, 242
  - honors, 18
  - multiple-numbered, 245
  - non-degree, 32
  - numbering system, 242
  - repeating, 26
  - undergraduate, 242
  - types, 244
- CTS (Classroom Technology Services), 364
- Credit
  - auditing, 26
  - correspondence, 13
  - definition, 17
  - entrance, 10
  - examinations for, 17-18
  - graduate for seniors, 75
  - modern language, 19
  - overloads, 23
  - semester, 17
  - undergraduate transfer, 10-14
- Crime reports, 365
- Criminal justice, 93, 167
- Crosslisted courses, 245
- Cultural and aesthetic awareness requirement, 44-45
- Curriculum
  - and instruction, 94-95, 167
  - entries, 242
- D**
- Dairy Science, 93
  - business specialization, 169
  - endowed chair, 366
  - manufacturing, 93, 167-168
  - production, 93, 167
  - science, 93
  - science specialization, 169
- Dance minor, 93, 169-170
- Deans, academic, 382
- Dean's list, 18
- Degree
  - associate, 52
  - definitions, 52
  - general requirements, 38
- Degrees offered, 53-54
- Dental, pre, 74, 93-94, 170
- Department heads (by college), 384
- Departments, programs of instruction, 81-126
  - accelerated option, *see* nursing, 114-115
  - aerospace studies, 82
  - agricultural and biosystems engineering, 82-83

agricultural and resource economics, *see* economics, 94  
 agricultural business, *see* economics, 94  
 agricultural education, 123  
 agricultural journalism, *see* journalism and mass communication, 107  
 agricultural systems technology, 83  
 agronomy, *see* plant science, 119-120  
 Air Force ROTC, *see* aerospace studies, 82  
 American Indian studies, 84  
 animal and range sciences, 84  
 apparel merchandising and interior design, 84-85  
 applied information technology, 85  
 applied technical science, 85  
 Army ROTC, *see* military science, 112  
 art, *see* visual arts, 124-125  
 athletic training, 86-87  
 aviation education, 87  
 biology, microbiology, 87  
 biomedical engineering, 88  
 botany, 88  
 business area studies, 88  
 career and technical education, 88-89  
 chemistry/biochemistry, 89-90  
 chiropractic, pre, 90  
 civil and environmental engineering, 90-91  
 clinical and laboratory sciences, *see* chemistry/biochemistry, 89-90  
 clinical pharmacy, 91  
 communication studies and theatre, 91-92  
 computer science, 92  
 construction management, *see* engineering technology and management, 96-97  
 consumer affairs, *see* human development, consumer and family sciences, 106  
 counseling and human resource development, 92  
 criminal justice, 93  
 dairy science, 93  
 dance, 93  
 dental, pre, 93-94  
 dietetics, *see* nutrition, food science and hospitality, 116  
 early childhood education, *see* human development, consumer and family sciences, 106  
 economics and business, 94  
 educational leadership, 94-95  
 electrical engineering, 95  
 electronics engineering technology, *see* engineering technology and management, 96-97  
 engineering mechanics  
*see* civil engineering, 90-91  
*see* mechanical engineering, 109-110  
 engineering technology and management, 96-97  
 English, 97-98  
 entomology, *see* plant science, 119-120  
 entrepreneurial studies, 98  
 environmental management, 98  
 equine studies, *see* animal science, 84  
 European studies, 98-99  
 family and consumer sciences education, *see* human development, consumer and family studies, 106  
 food and biological materials engineering, 99  
 food science, *see* nutrition, food science and hospitality, 116  
 food technology, *see* nutrition, food science and hospitality, 116  
 French, *see* modern languages, 113  
 general agriculture, 100  
 general engineering, *see* engineering technology and management, 96-97  
 general studies, 100  
 genetics, 100  
 geographic information sciences, 100-101  
 geographic information sciences center of excellence, 101  
 geography, 101  
 German, *see* modern languages, 113  
 gerontology, 101  
 global studies, 102  
 health, physical education, and recreation, 103-104  
 health promotion, 104  
 health science, 104  
 history, 105  
 horticulture, *see* horticulture, forestry, landscape and parks, 105  
 horticulture, forestry, landscape and parks, 105-106  
 hotel and foodservice management, *see* nutrition, food science and hospitality, 116  
 human development and family studies, 106  
 human development, child and family studies, 106, 201  
 human development, consumer and family sciences, 106  
 human nutrition, *see* nutrition, food science and hospitality, 116  
 industrial management, *see* engineering technology and management, 96-97  
 interior design, *see* apparel merchandising, 84-85  
 journalism and mass communication, 107  
 Lakota, *see* modern languages, 113  
 landscape architecture, *see* horticulture, forestry, landscape and parks, 105  
 Latin American studies, 107  
 law, pre, 108  
 leadership and management of nonprofit organizations, 108  
 liberal studies, 108  
 manufacturing engineering technology, *see* engineering technology and management, 96-97  
 mathematics, 109  
 mechanical engineering, 109-110  
 medical technology, *see* chemistry/biochemistry, 89-90  
 medicine, pre, 111  
 microbiology, 111  
 military science, 112  
 ministerial, pre, 112  
 modern languages, 113  
 modern languages/business-economics specialization, 112  
 mortuary, pre, 113  
 music, 113-114  
 music education, *see* music, 113-114  
 music merchandising, *see* music, 113-114  
 natural resource studies, 114  
 nursing, 114-115  
 nutrition, food science and hospitality, 116  
 occupational therapy, pre, 117  
 optometry, pre, 117  
 park and recreation management, *see* horticulture, forestry, landscape and parks, 105-106  
 pest management, *see* plant science, 119-120  
 pharmaceutical sciences, 117  
 philosophy and religion, 117-118  
 physical therapy, pre, 118  
 physician assistant, pre, 118  
 physics, 118-119  
 planning, 119  
 plant science, 119-120  
 plant pathology, *see* plant science, 119-120  
 political science, 120  
 psychology, 121  
 public recreation specialization, *see* health, physical education, and recreation, 103-104  
 range science, *see* animal and range sciences, 84  
 reading minor (system), 121  
 religion, *see* philosophy and religion, 117-118  
 restaurant and institution management, *see* nutrition, food science and hospitality, 116  
 RN Upward Mobility, *see* nursing, 114-115  
 ROTC, *see* aerospace studies, 82  
*see* military science, 112  
 rural sociology, 121-122  
 safety management, *see* engineering technology and management, 96-97  
 sociology, *see* rural sociology, 121-122  
 software engineering, 122  
 soils, *see* plant science, 119-120  
 Spanish, *see* modern languages, 113  
 speech, *see* communication studies and theatre, 91-92  
 standard option, *see* nursing, 114-115  
 statistics, *see* mathematics and statistics, 109  
 teacher education, 123-124

- veterinary science, pre, 124
- visual arts, 124-125
- water management, *see* plant science, 119-120
- weed science, *see* plant science, 119-120
- wildlife and fisheries sciences, 126
- women's studies, 126
- zoology, 126
- Descriptions, course, 241-360
- Design/research courses, 244
- Dietetics, 116
- Directors, 383
- Disability policy, 31
- Disability services, 377
- Discussion/recitation courses, 244
- Distance education, 129
- Distinguished professors, 386
- Diversity enhancement, 365
- Diversity requirement, 41
- Doctor of pharmacy, 78-79
- Doctor of philosophy, 52
- Dropping courses, 26
- Drug and alcohol programs, 377
- Dual numbered courses, 245
  
- E**
- E-mail policy, 31, 369
- Early childhood education, 106, 170-175
- Early childhood education kindergarten education endorsement, 175
- Economics, 94, 175-177
  - accelerated master's degree, 94, 175-177
  - agricultural and resource, 94, 135
  - business, 94, 175-177
  - endowed chair, 366
  - international studies, *see* global agriculture, 189-190
- EdEx, 45
- Education
  - and Counseling, College of, 67-69
  - agricultural, 123
  - art, *see* also visual arts, 124-125, 146-147
  - aviation, 87, 151-152
  - biological science, 237
  - biology, 87, 154
  - career and technical, 66, 88-89, 123, 156
  - computer science, 92, 165
  - early childhood, 106, 170-174
  - elementary, 170-175
  - English, 97-98, 181-182
  - family and consumer sciences, 106, 184-185
  - general science, 237
  - health, 103, 193
  - health, physical education and recreation, 104, 193-194
  - history, 105, 196
  - language arts, 237
  - mathematics, 109, 209-211
  - music, 113-114, 216-217
  - physical science, 237
  - psychology, 121, 229-230
  - social science, 237
  - speech, 91-92, 162-163
  - teacher education, 236-237
  - teaching minors, 123-124, 237
- Educational
  - administration, 94-95
  - experiences alternative (EdEx), 45
  - leadership, 94-95
  - objectives of the University, 7
  - electives, 23
  - satisfactory-unsatisfactory, 20
- Electrical engineering, 95, 177-178
  - endowed chair, 366
- Electronic devices and materials, *see* electrical engineering, 95, 177-178
- Electronics engineering technology, 96-97, 178-179
- Elementary education, 123-124
- Email policy, 31, 369
- Employment/placement services, 363
- Endowed chairs, 366
- Engineering
  - agricultural and biosystems, 82-83, 132-134
  - civil and environmental, 90-91, 158-159
  - College of, 70-71
  - construction management, 96, 165-166
  - electrical, 95, 177-178
  - biomedical, 88, 154
  - biomedical engineering emphasis, 178
  - communications and advanced electronics emphasis, 178
  - computers-digital hardware emphasis, 178
  - electronic devices and materials emphasis, 178
  - image processing emphasis, 178
  - power systems emphasis, 178
  - general engineering, 96-97, 203
  - manufacturing engineering technology, 96-97, 208
  - mechanical, 109-110, 211-212
  - physics, 118-119, 179-180, 225-227
- Engineering Extension, 367
- Engineering Resource Center (ERC), 367
- English, 97-98, 181-182
- English skills requirements, 14
- Ensemble courses, 244
- Entomology, *see* plant science, 119-120
- Entrance requirements, 10-14
- Entrepreneurial studies, 98, 182
- Environmental management, 98, 182-183
  - Environmental science and engineering specialization, 91, 133
- Equal employment opportunity policy, 31
- Equine studies minor, 84, 183
- Establishment of the University, 6
  
- European studies, 98-99, 183-184
- Examinations
  - advanced placement (AP), 17
  - auditor, 26
  - college level examination program (CLEP), 17
  - for university credit, 17
  - local challenge, 17-18
  - placement, modern languages, 19
  - proficiency (CAPP), 17
- Experiential education, 102
- Experimental courses, 242
- Experiment Station, Agricultural, 362
- Extended programs, 127-129
- Extension, Engineering, 367
- Extension Service, Cooperative, 365
  
- F**
- Faculty, 385-414
- Family and Consumer Sciences, 106, 184-185
  - College of, 72-73
- Family Educational Rights and Privacy Act (FERPA), 31
- Family student housing, 376
- Fashion Institute of Technology, 85
- Fees, 368
- FERPA, 31
- Financial aid, 370
- Flight training, *see* aerospace studies, 82, 132; *see* also aviation, 87, 151-152
- Food and biological materials engineering, 99, 132-134
- Food science, 116, 218-220
  - specialization, 116, 185
- Food science, nutrition, 116, 218-220
- Food service, 376
- Foodservice management specialization, 199
- Former students, 11
- Foundation, SDSU, 371
- Fraction of credits (transfer students), 50
- Freedom, student code of, 35
- French, 113, 185
- Freshman entrance credits, 10
  
- G**
- Gardens, McCrory, 374
- General
  - administration, 386
  - agriculture, 100, 186
  - degree requirements, 38
  - education requirements, 38-47
  - engineering, 96-97
  - studies, 100, 186
  - supervision, 145
  - technology, 146

- General Studies and Outreach Programs, College of, 74
  - Genetics, 100
  - Geographic information sciences, 100-101, 187
  - Geographic information sciences center of excellence, 101
  - Geography, 101, 187-188
    - environmental planning and management emphasis, 188
    - technical geography, science emphasis, 188
  - German, 113, 188-189
  - Gerontology, 101, 189
  - Global agriculture, 189-190
  - Global studies, 102, 190-191
  - Globalization requirement, 46, 245
  - Goals
    - information technology literacy, 17
    - institutional graduation requirements (IGRs), 43-45
    - system general education (SGRs), 40-42
  - Grade
    - appeals, 27
    - dropped courses, 26
    - graduate, 19-20
    - points, average (GPA), 19-20
    - undergraduate, 19-20
  - Grading system, 19-20
  - Graduate
    - admission, 75
    - course numbers, 75, 242
    - credit for seniors, 75
    - School, 75
    - study in agriculture and biological sciences, 62-64
    - in arts and science, 65-66
    - in education, 67-69
    - in engineering, 70-71
    - in family and consumer sciences, 72-73
    - in nursing, 77
    - in pharmacy, 78
    - thesis, 244
  - Graduation
    - honors, 18
    - requirements, 37-50
    - policies and procedures, 32
  - Graphic design, 124-125, 192
- H**
- Harassment policy, sexual, 33
  - Health
    - allied specialization, 104, 195
    - education, 103-104, 193
    - physical education and recreation, 103-104, 193-194
    - physical education and recreation teaching specialization, 194
    - promotion, 104, 194-195
    - science, 104, 195-196
  - services, student, 377
  - High school
    - teaching preparation, 67-69, 123-124, 236-237
  - History and mission of the University, 6
  - History, 105, 196
  - Home-schooled students, 11
  - Honesty, academic, 22
  - Honors
    - College, 76, 196-197
    - designation, 18
  - Horticulture, 105-106, 197-199
    - business specialization, 197-198
    - production specialization, 197
    - science specialization, 198-199
  - Horticulture, forestry, landscape and parks, 105-106
  - Hotel and foodservice management, 116, 199-200
  - Hotel and hospitality management specialization, 116, 199-200
  - Hours, credit, 17
  - Housing, 376
  - Human development and family studies, 106, 200-201
  - Human development, child and family studies, 201
  - Human development, consumer and family sciences, 106
  - Humanities and arts/diversity requirements, 41
- I**
- IDS (Instructional Design Services), 364
  - IGRs, 39, 43-45
  - IP (in progress grade), 19-20
  - Image processing emphasis, *see* electrical engineering, 178
  - Incompletes ("I" Grade), 19-20
  - Indebtedness, 368
  - Independent study, 244, 247
  - Industrial management, 96-97, 201-202
  - Industrial sales, 146
  - Industrial supervision, 146
  - Information literacy, 39, 42
  - Information technology literacy requirement, 17
  - Information Technology Services (ITS), 364
  - Instructional Design Services (IDS), 364
  - Intercollegiate athletics, 371
  - Interior design, 84-85, 202-203
  - International agriculture specialization, *see* global agriculture, 189-190
  - International
    - affairs, 372
    - student affairs, 377
    - students, admission, 14
    - undergraduate transfer credit, 11-13
  - Internship/practicum, 244, 247
- J**
- Institutional graduation requirement (IGR), 39, 43-45
  - Instructional method types, 244
  - Instrumental music emphasis, 217
  - Intramurals, recreational sports, and sports clubs, 372
  - ITS (Information Technology Services), 364
- J**
- Journalism and mass communication, 107, 203-205
    - advertising, 107, 203-204
    - agricultural, 107, 137-138
    - broadcast, 107, 204-205
    - news-editorial, 107, 205
  - Juniors, class rank, 23
- K**
- K-12 teacher education, 67-69, 123-124, 236-237
  - Kindergarten endorsement, 175
- L**
- Laboratory courses, 244
  - Lakota, 113
  - Land and natural resources requirements, 43
  - Land-grant heritage, 6
  - Landscape architecture, 105-106, 206
  - Language credit policy, modern, 19
  - Latin American studies, 107, 207
  - Law, pre, 74, 108
    - criminal justice, 93, 167
  - Leadership and management of nonprofit organizations, 108, 207
  - Lecture courses, 244
  - Liberal studies, 108, 207-208
  - Library, H.M. Briggs, 372
  - Loans, student, 370
  - Logos, university, 373-374
- M**
- Majors
    - change of, 27
    - definition, 52
    - field requirements, 50
    - minors, specializations (listing), 55-59
  - Management
    - park, 105-106, 221-223
    - pest, 119-120, 223
    - hotel and foodservice, 116, 199-200
  - Manufacturing and industrial automation emphasis, 179

- Manufacturing engineering technology, 96-97, 208
- Map, campus, 424
- Married student housing, *see* family student housing, 376
- Mass communication and journalism, 107, 203-205
- Master's degree, 52
- Mathematics, 109, 208-211  
 actuarial emphasis, 209  
 applied mathematics emphasis, 209  
 mathematical biology emphasis, 209  
 pure mathematics emphasis, 209  
 statistics emphasis, 209  
 teaching specialization, 109, 209-211  
 university requirements, 42
- McCrary Gardens, 374
- Mechanical engineering, 109-110, 211-212
- Media production specialization, 160-161
- Medical technology, *see* clinical and laboratory sciences, 89-90, 159-160
- Medicine, pre, 74, 111, 212
- Microbiology, 111, 213-215  
 applied and environmental specialization, 111, 214  
 infectious disease specialization, 111, 214  
 microbiology specialization, 111, 214  
 minor, 215  
 molecular biology specialization, 111, 213-214
- Military science, 112, 215
- Ministerial, pre, 74, 112, 215
- Minors, specialization, majors (listing), 55-59  
 definition, 52
- Mission of the University, 6, 8
- Modern languages, 113  
 business economics specialization, 112, 215  
 credit, 19
- Modified physical education activity course, 244
- Mortuary, pre, 74, 113, 215
- Multiple-numbered courses, *see* dual numbered courses, 245
- Museums/collections, 375
- Music, 113-114, 216  
 choral emphasis, 217  
 education, 113-114, 216-217  
 ensembles, 244  
 instrumental emphasis, 217  
 merchandising, 113-114, 217-218
- N**
- Native American student advising, 377
- Natural resource studies, 114
- Natural resources and land requirements, 43
- News-editorial, journalism, 107, 205
- No-preference (undecided students), 74
- Non-discrimination policy, 2
- Non-degree courses, 32
- Non-major programs, 74
- Non-native speakers of English, 14
- Non-resident students, 14  
 transfer, 11-13
- Non-traditional students, 11
- Number system, course, 242
- Nursing, 114-115, 218  
 accelerated option, 114-115, 218  
 College of, 77  
 RN upward mobility, 114-115, 129, 218  
 standard option, 114-115, 218
- Nutrition and food science, 218-220
- Nutrition, food science and hospitality, 116, 218-220  
 dietetics specialization, 116, 218-219  
 food science specialization, 116, 219  
 foodservice management specialization, 116, 199  
 hotel and foodservice management, 116, 199-200  
 hotel and hospitality specialization, 116, 199-200  
 nutritional sciences specialization, 116, 220
- Nutrition endowed chair, 366
- Nutrition minor, 220
- O**
- Objectives, educational, 7
- Occupational therapy, pre, 117
- Optometry, pre, 74, 117, 220-221
- Oral communication requirements, 40
- Organization of the University, 60, 381-383
- Outreach programs, 129
- Overloads (rate of progress), 23
- P**
- Park management, 105-106, 221-223
- Payment, electronic, 368
- Physical education activity course, 244
- Performance requirements, academic, 22
- Personal wellness requirements, 43
- Pest management, 119-120, 223
- Petitions and appeals, 27
- Pharmacy, 78-79, 117, 223-224  
 College of, 78-79  
 doctor of (Pharm.D.), 78-79, 223-224
- Pharmaceutical sciences, 117, 223-224
- Philosophy, 117-118, 224
- Physical education  
 activity course, 244  
 health and recreation, 103-104, 193-194  
 minor, 224-225
- Physical therapy, pre, 118
- Physician assistant, pre, 118
- Physics, 118-119, 179-180, 225-227  
 engineering, 179-180  
 flexible emphasis, 225-226  
 professional emphasis, 225  
 science teaching specialization, 226
- Placement, advanced, 17-18
- Placement service (for teachers), 69, 364
- Planning, 119, 227
- Plant pathology, *see* plant science, 119-120
- Plant science, 119-120; *see also* agronomy, 140-142
- Political science, 120, 227  
 criminal justice emphasis, 93, 120, 167  
 general emphasis, 120  
 pre-law emphasis, 108  
 public administration emphasis, 120  
 research/graduate school emphasis, 120  
 teaching emphasis, 120
- Portfolio, challenge by, 18
- Power and machinery emphasis, *see* agricultural and biosystems engineering, 132-134
- Power systems emphasis, *see* electrical engineering, 95, 177-178
- Practicum, Internship, 244, 247
- Preparation for teaching, 67-69
- Preprofessional curricula, 74  
 areas of study (listing), 59  
 chiropractic, 74, 90, 158  
 dental, 74, 93-94, 170  
 law, 74, 108  
 medicine, 74, 111, 212  
 ministerial, 74, 112, 215  
 mortuary, 74, 113, 215  
 occupational therapy, 74, 117  
 optometry, 74, 117, 220-221  
 physical therapy, 74, 118  
 physician assistant, 74, 118  
 veterinary, 74, 124, 237-238
- Print Lab, 375
- Private instruction courses, 244
- Probation, scholastic, 22
- Processing specializations  
 agriculture, *see* agricultural systems technology, 139
- Production specializations  
 agricultural systems technology, 139  
 agronomy, 141  
 animal science, 143  
 horticulture, 197  
 range livestock, 231
- Professional semester I, II, III, 67-69
- Proficiency examinations, 17
- Programs of study, 55-59
- Progress, rate of, 23
- Psychology, 121, 227-230  
 graduate school preparation specialization, 121, 228-229  
 psychological services specialization, 121, 228



teaching specialization, 121, 229-230  
Public administration emphasis, *see* political science, 120  
Public recreation, 103-104, 222-223  
Purposes of the University, 7

## R

Range science, 230-232; *see also* animal and range sciences, 84  
    rangeland resource conservation specialization, 230-231  
    range livestock production specialization, 231  
    rangeland ecology and habitat management specialization, 231-232  
Rank, class (class definition), 23  
Rate of progress, 23  
Reading minor, 121, 232  
Readmission (former students), 11  
Reciprocity, 368  
Recitation, discussion courses, 244  
Recognition, academic, 18  
Records and registration office, 378  
Recreation, public, 103-104, 222-223  
Recreational sports, 372  
Refunds, 369  
Regents, Board of, 382  
Religion, philosophy and, 117-118, 232  
Remote Sensing office, 367  
Repeating a course, 20, 26  
Requirements  
    academic performance, 22  
    admissions, 10-14  
    advanced writing, 39, 47  
    computer technology, 39  
    cultural and aesthetic awareness/social responsibility, 44  
    diversity, 41, 44-45  
    entrance, 10  
    general education, 38-50  
    general degree, 38  
    globalization, 39, 46  
    graduation, 37-50  
    humanities and arts/diversity, 41  
    information literacy, 39, 42  
    institutional graduation (IGR), 39, 43-45  
    land and natural resources, 43  
    mathematics, 42  
    natural resources and land, 43  
    natural sciences, 42  
    oral communication, 40  
    residency, 14  
    social responsibility/cultural and aesthetic awareness, 44-45  
    social sciences/diversity, 40  
    system general (SGR), 39, 40-42  
    wellness, 43  
    written communication, 40

Research  
    program, 8  
    sustaining courses, 244  
Reserve Officer Training Corps (ROTC), 82, 112, 132, 214  
Residence halls, 376  
Residency requirements, 14  
Residential life, 376  
Responsibility, student code, 35  
Ritz Art Gallery, 66, 125  
RN Upward Mobility program, 114-115, 129, 218  
Role statements, academic advising, 30  
Room and board, 368  
ROTC, 82, 112, 132, 214  
Rural sociology, *see also* sociology, 121-122, 232-235  
    criminal justice, 122  
    general, 122  
    human resources, 122  
    human services specialization, 122  
    minor, 122  
    teaching specialization, 122  
    social work specialization, 122

## S

Safety management, 96-97, 232-233  
Satisfactory-unsatisfactory system, 20  
Scholarships, 370-371  
Scholastic  
    honors, 18  
    probation, 22  
Science specializations  
    agronomy, 142  
    animal science, 143  
    dairy production, 169  
    horticulture, 198-199  
Secondary education, 67-69  
Self-paced study course, 244  
Semester  
    calendar, inside back cover  
    credit hours, 17  
Seminar, 244, 247  
Seniors, class rank (class definition), 23  
Servicemembers Opportunity College (SOC), 13  
Sexual harassment policy, 33  
Sioux Falls programs, 128  
Small ensemble courses, 244  
Small group instruction courses, 244  
SOC (Servicemembers Opportunity College), 13  
Social responsibility requirements, 44-45  
Social sciences/diversity requirements, 40  
Sociology, *see also* rural sociology, 121-122, 233-235  
    criminal justice minor, 122  
    general, 122, 233-234  
    human resources specialization, 122, 234-235

human services specialization, 122, 234  
    minor, 122, 235  
    social work specialization, 122, 234  
    teaching specialization, 122  
Software engineering, 122, 235-236  
Soils science, *see* plant science, 119-120  
    *see* agronomy, 140-142  
    certification, 142  
Sophomore class rank (class definition), 23  
South Dakota  
    Local Transportation Assistance Program (LTAP), 367  
    Space Grant Consortium, 367  
Spanish, 113, 236  
Special  
    students, 11  
    topic courses, 244, 247  
Specialization, definition, 52  
Specializations, 55-59  
Speech  
    advanced placement, 91-92  
    communication, 91-92, 161-162  
    education, 91-92, 162-163  
    media production, 91-92, 160-161  
    theatre, 91-92, 163-164  
Sports clubs, 372  
Staff, university, listing, 385-414  
Standardized tests, 17-18  
Student  
    career planning and placement services, 363  
    code, 35  
    concurrent, 11  
    former, 11  
    high school, 10-11  
    international, 14  
    nontraditional, 11  
    special, 11  
    transfer, 11-13  
    trip regulations, 35  
Student Affairs Division, 377-378  
    admissions, 377  
    counseling service, 377  
    disability services, 377  
    drug and alcohol programs, 377  
    financial aid, 377  
    health education & prevention services, 377  
    health service, 377  
    international student affairs, 377  
    multicultural affairs, 377  
    Native American student advising, 377  
    records, 378  
    TRiO student support services, 378  
    TRiO Upward Bound, 378  
    veterans affairs, 378  
Studio course, 244  
Study  
    competency-based/self-paced course, 244  
    independent, 244

Structures and environment emphasis, *see*  
agricultural and biosystems engineering,  
133  
Summer term, 128  
Suspensions, academic, 22  
Sustaining, thesis, 244, 247  
System general education requirements (SGRs),  
38-42  
System reading minor, 121, 232

## T

Teacher certification, 69, 123-124, 236-237  
Teacher education, 67-69, 123-124, 236-237  
Teaching  
    minors, 123-124, 237  
    placement service, 69, 363  
Teaching  
    art, 124-125, 146-147  
    biology, 87, 154  
    communication studies and theatre, 91-92,  
    160-164  
    English, 97-98, 181-182  
    French, 113, 185  
    German, 113, 188-189  
    health education, 193  
    health, physical education and recreation,  
    104, 193-194  
    history, 105, 196  
    mathematics, 109, 209-211  
    physics, 119, 226  
    psychology, 121, 229-230  
    Spanish, 113, 236  
Technical-vocational institute courses,  
    programs, 11-13  
Technology, literacy (ITL), 17  
Tests  
    local challenge, 17-18  
    standardized, 17  
Thesis sustaining courses, 244, 247  
    graduate courses, 244, 247  
    research sustaining courses, 244, 247  
    undergraduate courses, 244, 247  
TOEFL test, 14  
Tracking courses, 244

Transcript  
    college, 10  
    high school, 10  
Transfer  
    between Regental institutions, 11-13  
    credits, 11-13  
    fraction of credit, 50  
    international undergraduate credit, 11-14  
    students, 11, 50  
TRiO student support services, 378  
TRiO Upward Bound, 378  
Trip regulations (also athletic), 35  
Tuition, 368  
Two-year terminal programs (associate degree),  
    48-49, 52

## U

Undeclared majors, 74  
Undergraduate  
    admission, 10-14  
    course numbers, 242  
    course special, topics, 244  
    credit transfer, 11-13  
    international, 14  
    thesis, 244, 247  
Union, 378  
University  
    accreditation and affiliations, 384  
    administration, 382  
    apartments, 376  
    assessment program, 16  
    calendar, inside back cover  
    chart, 60  
    credit, examinations for, 17-18  
    Networking Systems and Services (UNSS),  
    364  
    organization, 60, 381-384  
    purposes, 7  
    Relations, 379  
    sponsored trip regulations, 35  
University staff, 385-414  
UNSS (University Networking Systems and  
    Services), 364  
Upward Bound, 378

USDSU (Sioux Falls programs), 128

## V

Veterans Affairs, 378  
Veterinary science, 124, 237-238  
Visual arts, 124-125, 146-150, 192

## W

Water management, *see* plant science, 119-120  
Water and natural resources engineering  
    emphasis,  
    *see* agricultural and biosystems engineering,  
    133  
Water and Environmental Engineering Research  
    Center (WEERC), 379  
Water Resources Institute (WRI), 380  
Weed science, *see* plant science, 119-120  
    *see* agronomy, 140-142  
Wellness  
    Center, 380  
    requirement, 43  
West River Graduate Center, 129  
Wildlife and fisheries sciences, 126, 238-239  
Withdrawals  
    indebtedness, 368  
    university, 27  
Women's studies program, 126, 239  
Workshop courses, 244, 247  
Writing, advanced, requirement, 47, 245  
Written communication requirement, 40

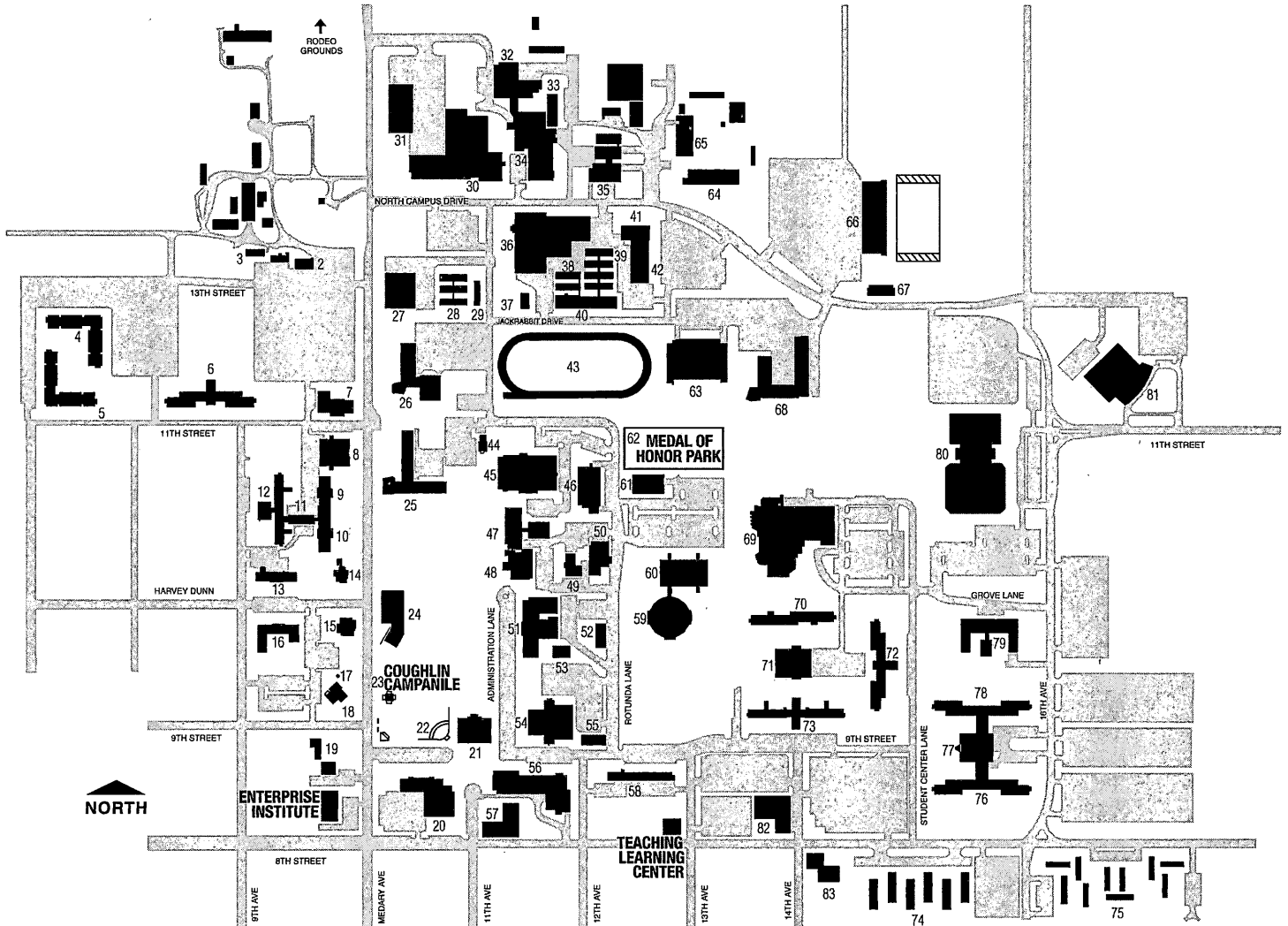
## X

x9x common courses, 246-247

## Z

Zoology, 126, 239

# SOUTH DAKOTA STATE UNIVERSITY CAMPUS



Administration Building (Doner Auditorium) (SAD).....	51	Hansen Hall (SHN).....	6	Sorenson Center (formerly FRMC) (SSOR).....	15
Ag Vehicle Storage (Surplus Property Storage).....	3	Harding Hall (SHH).....	58	South Dakota Art Museum (SMU).....	24
Agricultural Communications Center (Ag Comm) (SAC).....	53	Heat / Power Laboratory (SHPL).....	49	South Dakota State University Foundation (FND).....	19
Agricultural Engineering (SAE).....	68	Hilton M. Briggs Library (SBL).....	63	Stanley J. Marshall HPER Center (Frost Arena) (SPE).....	80
Agricultural Hall (SAG).....	25	Horticulture & Forestry (SHF).....	41	State Court.....	74
Agricultural Heritage Museum (SMU).....	7	Horticulture Greenhouse (SHG).....	42	State Village.....	75
Animal Disease Research & Diagnostic Lab (SAR).....	34	Industrial Arts Building (SIA).....	55	Student Health (West Hall) (SWH).....	13
Animal Resource Wing (SAW).....	32	Intramural Building (SIM).....	45	Sylvan Theatre (SSY).....	22
Animal Science Arena (SAA).....	31	Larson Commons (Food Service) (SLC).....	77	Teaching Learning Center (STLC).....	22
Animal Science Complex (SAS).....	30	Library (Hilton M. Briggs Library) (SBL).....	63	Tompkins Alumni Center (STA).....	18
Bailey Hall (SBY).....	4	Lincoln Music Center (Peterson Recital Hall) (SLM).....	21	(SDSU Alumni Association)	
Berg Hall (SBG).....	5	Mathews Hall (SMH).....	70	Tompkins Alumni Center Clock Tower (STA).....	17
Binnewies Hall (SBN).....	76	Medary Commons (CAP Center, Food Service)(SMC).....	8	United Campus Ministries (SUM).....	57
Briggs Library (SBL).....	63	Medal of Honor Memorial Park.....	62	United Lutheran Center.....	83
Brown Hall (SBH).....	73	Motor Pool Complex (SMPC).....	2	University Police Department (SOR).....	15
Caldwell Hall (SCH).....	79	Northern Plains Biostress Laboratory (SNP).....	36	University Relations (SCM).....	52
Catholic Campus Parish.....	82	Nursing, Family & Consumer Sciences, &.....	60	University Stores & Services (SSTO).....	65
Central Heating Plant (SCP).....	50	Arts & Science Building (formerly NFA) (SNF).....		University Student Union (SSU).....	69
Communications Center (University Relations) (SCM).....	52	Performing Arts Center (SPAC).....	81	(Volstorff Ballroom, Food Service, Dept. of Student Activities, Bookstore)	
Coolidge Sylvan Theatre (SSY).....	22	Peterson Recital Hall (Lincoln Music Center) (SLM).....	21	Veterinary Isolation Building (SVI).....	33
Coughlin-Alumni Stadium (SCS).....	66	Physical Plant Shops (SPP).....	64	Waneta Hall (SWN).....	12
Coughlin-Alumni Stadium Locker Room.....	67	Physiology Laboratory (SPL).....	37	Wecota Annex (SWX).....	11
Coughlin Campanile.....	23	Pierson Hall (SPR).....	72	Wecota Hall (SWC).....	10
Crothers Engineering Hall (SCEH).....	56	Plant Science Building (SPSB).....	40	Wenona Hall (SWE).....	9
Dairy Microbiology (SDM).....	26	Plant Science Seedhouse (SSD).....	27	West Hall (Student Health) (SWH).....	13
DePuy Military Hall (SDP).....	61	Plant Science West Greenhouses.....	38	West Headhouse & West Greenhouses (SWHH).....	28
East Headhouse (SEHH).....	39	Print Lab (SPE).....	46	Wheat Commission Greenhouse (WCG).....	29
Enterprise Center.....		Pugsley Continuing Education Center (SPC).....	20	Woodbine Cottage (President's Residence) (SWBC).....	14
Ethel Austin Martin Building (Biology Annex) (SEM).....	44	(RDTN Studios/Classrooms, Christie Ballroom)		Yeager Hall (SYE).....	46
Foundation (SDSU) (FND).....	19	Rotunda for Arts & Science (SRO).....	59	(US Post Office, Central Mail, Print Lab)	
Foundation Seed Conditioning Plant (SFSS).....	35	Scobey Hall (SSB).....	16	Young Hall (SYH).....	78
Frost Arena (Stanley J. Marshall HPER Center) (SPE).....	80	Sexauer Field (SSF).....	43		
Grove Hall (SGH).....	71	Shepard Hall (SSH).....	47		
Guilford C. Gross Pharmacy Building (SPH).....	48	Solberg Hall (SSO).....	54		

# UNIVERSITY CALENDAR

## 2006 FALL TERM

August 28-30, Monday – Wednesday .....Tuition and Fee Payment Days  
 August 28\*, Monday .....Orientation/Start Date  
 August 29, Tuesday .....Instruction begins  
 September 4, Monday .....Labor Day Holiday  
 September 7, Thursday.....Last day to drop or add and adjust final fees  
 September 8, Friday .....“W” grade begins  
 September 15, Friday.....Last day to submit a graduation application for Fall 2005  
 October 9, Monday .....Native American Day Holiday  
 October 20, Friday .....First half Fall Term ends  
 October 28, Saturday .....Hobo Day  
 October 30, Monday .....Deficiency reports due in Registrar’s Office, SAD 310, by 5:00 p.m.  
 November 10, Friday .....Veterans’ Day Holiday  
 November 13, Monday .....Last day to drop a course  
 November 23, 24, Thursday-Friday .....Thanksgiving Recess  
 December 8, Friday .....Last day of classes, Fall 2006  
 December 9, Saturday.....Graduation Ceremony, 10:00 a.m.  
 December 11-15, Monday-Friday .....Final exams  
 December 18-19\*\*, Monday-Tuesday .....Contingent Days for makeup of classes or finals as needed  
 December 20, Wednesday .....Grades due in Registrar’s Office not later than 5:00 p.m.

\* August 28 – Monday-only classes, with begin times of 4:00 p.m. or later, held today  
 \*\* December 19 – official graduation date noted on transcript

## 2007 SPRING TERM

January 16-18, Tuesday-Thursday .....Tuition and Fee Payment Days  
 January 16\*, Tuesday .....Orientation/Start Date  
 January 17, Wednesday .....Instruction begins  
 January 25, Thursday.....Last day to drop or add and adjust final fees  
 January 26, Friday .....“W” grade begins  
 February 9, Friday .....Last day to submit a graduation application for Spring 2006  
 February 19, Monday .....Presidents’ Day Holiday  
 March 5-9, Monday-Friday .....Spring Break  
 March 16, Friday .....First half Spring Term ends  
 March 23, Friday .....Deficiency reports due in Registrar’s Office, SAD 310, by 5:00 p.m.  
 April 10, Tuesday.....Last day to drop a course  
 April 6-9, Friday-Monday .....Easter Recess  
 May 4, Friday .....Last day of classes, Spring 2007  
 May 5, Saturday .....121st Annual Commencement Ceremony, 10:00 a.m.  
 May 7-11\*\*, Monday-Friday .....Final exams  
 May 16, Wednesday .....Grades due in Registrar’s Office not later than 5:00 p.m.

\* January 16 – Tuesday-only classes, with begin times of 4:00 p.m. or later, held today  
 \*\* May 11 – official graduation date noted on transcript

## 2007 SUMMER TERM

May 14 (Monday) – June 1 (Friday) .....May Interim  
 May 28, Monday .....Memorial Day Holiday  
 June 4 (Monday) – August 10 (Friday)10-week Academic Summer Session  
 July 4, Wednesday .....Independence Day Holiday  
 August 13 (Monday) – August 24 (Friday) .....August Interim  
 May 14 (Monday) – August 31 (Thursday) ..Summer Administrative Term





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