GEOGRAPHY

Description
Geography is especially appealing to those having interests in travel, learning about other peoples and cultures, and understanding the environment from a systems perspective. Students may specialize in one of many areas, including climate and weather, cultural/human geography, geographic information systems, historical geography of the Great Plains, natural resources, physical geography, pre-community and regional planning, regional studies, or remote sensing.

An education in geography prepares students for careers in government agencies as well as those involved with foreign service, land management, tourism, health care delivery systems, environmental assessment, transportation development, land use planning, air traffic control, GIS and cartographic analysis, and in a wide variety of businesses, particularly those concerned with environmental mapping, geographic information systems, and planning. A geography major also prepares students for graduate-level degrees in geography, law (especially environmental law), international business, urban and regional planning, and teaching at all levels.

Program Assessment. In order to assist the department in evaluating the effectiveness of its programs, majors will be required to complete written and oral examinations in the Senior Seminar, GEGO 402, over knowledge in all components of the major, as well as over more detailed knowledge in the student’s area of focus. Students will be informed of the scheduling and format of assessment exams in the Senior Seminar. Students will also be given exit interviews prior to graduation to gather their views on the effectiveness of the major. Results of participation in this assessment activity will in no way affect a student’s GPA or graduation.

College Requirements

College Admission

College Admission
The entrance requirements for the College of Arts and Sciences are the same as the UNL General Admission Requirements. Students who are admitted through the Admission by Review process may have certain conditions attached to their enrollment at UNL. These conditions are explained under “Removal of Deficiencies.”

In addition to these requirements, the College of Arts and Sciences strongly recommends a third and fourth year of languages. Four years of high school language will exempt students from the College of Arts and Sciences’ language requirement. It will also allow students to continue language study at a more advanced level, and give more opportunity to study abroad.

Transfer Students
To be considered for admission as a transfer student, Nebraska resident or nonresident, students must have an accumulated average of C (2.0 on a 4.0 scale) and a minimum C average in the last semester of attendance at another college. Transfer students who graduated from high school January 1997 and after must also meet the UNL General Admissions Requirements. Those transfer students who graduated before January 1997 must have completed in high school 3 years of English, 2 years of the same foreign language, 2 years of algebra, and 1 year of geometry. Transfer students who have completed less than 12 credit hours of college study must submit either the ACT or SAT scores.

Ordinarily, hours earned at an accredited college are accepted by the University. The College, however, will evaluate all hours submitted on an application for transfer and reserves the right to accept or reject any of them. Sixty is the maximum number of hours the University will accept on transfer from a two-year college or international institution. Transfer credit in the major or minor must be approved by the departmental advisor on a Request for Substitution Form to meet specific course requirements, group requirements, or course level requirements in the major or minor. At least half of the hours in the major field must be completed at the University regardless of the number of hours transferred.

The College of Arts and Sciences will accept no more than 15 semester hours of C- and D grades from other schools. The C- and D grades cannot be applied toward requirements for a major or minor. This policy does not apply to the transfer of grades from UNO or UNK to UNL. All D grades may be transferred from UNO or UNK, but they are not applicable to a major or minor.

Readmitted Students
Students readmitted to the College of Arts and Sciences will follow the requirements stated in the bulletin for the academic year of readmission and reenrollment as a degree-seeking student in Arts and Sciences. In consultation with advisors, a student may choose to follow a bulletin for any academic year in which they are admitted to and enrolled as a degree-seeking student at UNL in the College of Arts and Sciences. Students must complete all degree requirements from a single bulletin year. Beginning in 1990-1991, the bulletin which a student follows for degree requirements may not be more than 10 years old at the time of graduation.

Admission Deficiencies/Removal of Deficiencies
Students must remove entrance deficiencies in geometry and foreign language before graduating from the College of Arts and Sciences and should consult a college advisor in the Academic and Career Advising Center in 107 Oldfather Hall for questions about admission deficiencies.

Removing Foreign Language Deficiencies
Students must complete the second semester of the first language sequence to clear the deficiency and the second semester of the second language sequence to complete the college graduation requirement in language.

Removing Geometry Deficiencies
A deficiency of one year of geometry can be removed by taking two high school geometry courses by Independent Study or by completing a geometry course from an accredited community college or a four-year institution. Neither of these options count for college credit.

College Degree Requirements

College General Education Requirements
The College of Arts and Sciences distribution requirements are designed to further the purposes of liberal education by encouraging study in several different areas. Courses satisfying these requirements may impart specialized knowledge or broadly connect the subject matter to other areas of knowledge.

All requirements are in addition to University ACE requirements. A student may not use a single course to satisfy more than one of the following five distribution requirements. A student cannot use a single course to satisfy both an ACE outcome and a College distribution requirement. A student cannot use a course from their major to satisfy the Breadth Requirement (F), but may apply an ancillary requirement
of the primary major or a course from their second major toward this requirement. Independent study or reading courses and internships cannot be used to satisfy distribution requirements. To see a complete list of excluded courses, run a degree audit through MyRED.

Courses from interdisciplinary programs will count in the same area as courses from the home/cross-listed department(s).

Bachelor of Arts or Bachelor of Science (16 credits + Language)

A. Written Communication: 3 hours
To be selected from courses approved for ACE outcome 1.

B. Natural, Physical and Mathematical Sciences: 4 hours
Select from biochemistry, biological sciences, chemistry, computer science, geology, meteorology, mathematics, physics and statistics. Must include one lab in the natural or physical sciences. Lab courses may be selected from biochemistry, biological sciences, chemistry, geology, meteorology and physics. Select courses from geography1 and anthropology* may also be used to satisfy the lab requirement.

C. Humanities: 3 hours
Select from: classics2, English, history, modern languages and literatures2, philosophy, and religious studies2.

D. Social Sciences: 3 hours
Select from: anthropology3, communication studies, geography3, political science, psychology3, or sociology.

E. Languages Classical and Modern: 0-6 hours
Fulfilled by the completion of the 6-credit-hour second-year sequence in a single foreign language in one of the following departments: Classics and religious studies, modern languages and literatures, or anthropology. Instruction is currently available in Arabic, Chinese, Czech, French, German, Greek, Japanese, Latin, Omaha, Russian, and Spanish. A student who has completed the fourth-year level of one foreign language in high school is exempt from the languages requirement.

F. Additional Breadth Requirement (may not be used toward the primary major; may apply toward ancillary requirements and second majors): 3 hours
Select from: natural, physical and mathematical sciences (Area B), humanities (Area C), or social sciences (Area D).

1 See your degree audit or a College of Arts and Sciences advisor for approved geography and anthropology courses that apply as natural science.

2 Language courses numbered 210 or below apply only for the foreign language requirement.

3 See degree audit or College of Arts and Sciences advisor for list of natural/physical science courses in anthropology, geography, and psychology that do not apply as social science.

Scientific Base
The bachelor of science degree requires students to complete 60 hours in mathematical, physical and natural sciences. Approved courses for scientific base credit come from the following College of Arts and Sciences disciplines: actuarial science, anthropology (selected courses), astronomy, biochemistry (excluding BIOC 101 Career Opportunities in Biochemistry), biological sciences (excluding CASC 160 Introduction to Dentistry and Dental Hygiene, BIOS 160 Introduction to Clinical Laboratory Science, BIOS 203 Bioethics), chemistry (excluding CHEM 101 Career Opportunities in Chemistry), computer science (excluding CSCE 10 Introduction to CSE), geography (selected courses), geology, life sciences, mathematics (excluding courses below MATH 104 Applied Calculus), meteorology, physics and statistics. See your degree audit or a College of Arts and Sciences advisor for a complete list including individual classes that fall outside of the disciplines listed above. Up to 12 hours of scientific and technical courses offered by other colleges may be accepted toward this requirement with approval of a college advisor.

Foreign Languages/Language Requirement
Languages Exemption Policy
UNL and the College of Arts and Sciences will exempt or waive students from the UNL entrance requirement of two years of the same foreign language or from the College’s language distribution requirement based on documentation only. The following are the options and procedures for documentation:

High School Transcripts
1. For the University entrance requirements, students must show an official high school transcript with two or more years of the same foreign language in high school.
2. For the College of Arts and Sciences College Distribution Requirement E-Language, students must show an official high school transcript with four or more years of the same foreign language in high school, or show evidence of graduation from a non-English-speaking foreign high school.
3. For the College of Arts and Sciences College Distribution Requirement E-Language, students whose native language is not English must show English as a Second Language study on an official high school transcript. Four years of ESL at the high school level (9th, 10th, 11th and 12th grades) will be the basis for a waiver of the CDR E Language requirement.

Proficiency Examination at UNL
1. For the University entrance requirement, students who do not have transcript documentation can request to take a proficiency exam in the language. (This is not the same test as the Modern Languages Placement Exam.) However, UNL will provide testing only in the languages it teaches. Currently, these languages are:

- Arabic
- French
- German
- Spanish
- Russian
- Czech
- Japanese
- Chinese

The Department of Modern Languages will oversee the test and provide written documentation to the Arts and Sciences Advising Center that the student has passed the proficiency test at the 102 level.

2. For the College of Arts and Sciences College Distribution Requirement E-Language, the Department of Modern Languages will oversee the test at the 202 level. If the student passes the test, the department will sign the College Request for Waiver form and indicate the level of proficiency. The form is then forwarded to the Arts and Sciences Advising Center for approval.

Distance Education
1. For the University entrance requirement, students without transcript documentation who claim proficiency in a language not taught at UNL and the College of Arts and Sciences will exempt or waive students from the UNL entrance requirement of two years of the same foreign language or from the College’s language distribution requirement based on documentation only. The following are the options and procedures for documentation:
UNL entrance requirement. The student must have the course work approved before he/she takes/completes the course as equivalent to 102 by a College advisor. The student then completes the course and has the distance education program send the transcript to the Admissions Office.

2. For the College of Arts and Sciences College Distribution Requirement E-Language, the student can seek out a distance education program and complete the equivalent of the 202-level course. The student must submit the request on the College Request for Substitution form and have the course work approved by a College advisor. The student then completes the course and has the distance education program send the transcript to the Admissions Office.

Third Language Option

If a student demonstrates knowledge of two foreign languages at the 102 level, the College of Arts and Sciences may consider waiving two semesters of the four semester College Distribution Requirements E-Languages requirement. If this waiver were granted, the student would then be required to complete 101 and 102 in another (3rd language) at UNL.

Minimum Hours Required for Graduation

A minimum of 120 semester hours of credit is required for graduation from the College of Arts and Sciences. A total grade point average of at least 2.0 is required.

Grade Rules

Restrictions on C- and D Grades

The College will accept no more than 15 semester hours of C- and D grades from other schools except for UNO and UNK. No transfer C- and D grades can be applied toward requirements in a major or a minor. No UNL C- and D grades can be applied toward requirements in a major or a minor.

Pass/No Pass Privilege

University regulations for the Pass/No Pass (P/N) privilege state:

- The Pass/No Pass option is designed for your use by seeking to expand your intellectual horizons by taking courses in areas where you may have had minimal preparation.

For students in Arts and Sciences, the University regulations for Pass/No Pass apply as follows:

- Neither the P nor the N grade contribute to your GPA.
- P is interpreted to mean C or above.
- A change to or from a Pass/No Pass may be made until mid-term (1/2 of the course).
- The Pass/No Pass or grade registration cannot conflict with the policy of the professor, department, college, or University governing the grading option.
- Changing to or from Pass/No Pass requires using the MyRED system to change the grading option or filing a Drop/Add form with the Office of the University Registrar, 107 Canfield Administration Building. After mid-term of the course, a student registered for Pass/No Pass cannot change to a grade registration unless the Pass/No Pass registration is in conflict with the policy of the professor, department, college, or University governing Pass/No Pass.
- The Pass/No Pass grading option cannot be used for the removal of C- or D or F grades.

Pass/No Pass privileges in the College of Arts and Sciences are extended to students according to the following additional regulations:

- Pass/No Pass hours can count toward fulfillment of University ACE requirements and college distribution requirements up to the 24-hour maximum.
- Many Arts and Sciences departments and programs do not allow courses in the major or minor to be taken Pass/No Pass; students should refer to the department’s or program’s section of the bulletin for clarification. By college rule, departments can allow up to 6 hours of Pass/No Pass in the major or minor.
- Departments may specify that certain courses of theirs can be taken only on a P/N basis.
- The college will permit no more than a total of 24 semester hours of P/N grades to be applied toward degree requirements. This total includes all Pass grades earned at UNL and other U.S. schools. NOTE: This 24-hour limit is more restrictive than the University regulation.

Students who wish to apply P/N hours to their major and minor(s) must obtain approval on a form that is available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

Grading Appeals

A student who feels that he/she has been unfairly graded must ordinarily take the following sequential steps in a timely manner, usually by initiating the appeal in the semester following the awarding of the grade:

1. Talk with the instructor concerned. Most problems are resolved at this point.
2. Talk to the instructor’s department chairperson.
3. Take the case to the Grading Appeal Committee of the department concerned. The Committee should be contacted through the department chairperson.
4. Take the case to the College Grading Appeals Committee by contacting the Dean’s Office, 1223 Oldfather Hall.

Course Level Requirements

Courses Numbered above 299

Thirty of the 120 semester hours of credit must be in courses numbered above 299. Of the 30 hours above 299, 15 hours (1/2) must be completed in residence at UNL. NOTE: ALEC 397E and ALEC 397K do not count toward these 30 hours.

Graduate Courses

Seniors in the University who have obtained in advance the approval of the dean for Graduate Studies may receive up to 12 hours credit for graduate courses taken in addition to the courses necessary to complete their undergraduate work, provided that such credits are earned within the calendar year prior to receipt of the baccalaureate. For procedures, inquire at the Office of Graduate Studies.

Course work taken prior to receipt of the baccalaureate may not always be accepted for transfer to other institutions as graduate work.

Residency

Residency Requirement and Open Enrollment and Summer Independent Study Courses

Students must complete at least 30 of the 120 total hours for their degree at UNL. Students must complete at least 1/2 of their major course work including 6 hours above 299 in their major, and 15 of the 30 hours required above 299 in residence. Credit earned during education abroad may be used toward the residency requirement if students register through UNL and participate in prior-approved education abroad programs. UNL open enrollment and summer independent study courses count toward residence.
ACE Requirements
Consistent with the mission and values of the University, ACE is based on a shared set of four institutional objectives and 10 student learning outcomes. The ACE program was approved by faculty in all eight undergraduate colleges and endorsed by the Faculty Senate, the student government, and the Academic Planning Committee in January 2008 for implementation in the fall 2009. ACE aligns with current national initiatives in general education.

Key characteristics of ACE demonstrate the benefits of the program to students:

• Students receive a broad education with exposure to multiple disciplines, critical life skills and important reasoning, inquiry, and civic capacities.
• ACE is simple and transparent for students, faculty and advisors. Students complete the equivalent of 3 credit hours for each of the ten student learning outcomes.
• Students connect and integrate their ACE experiences with their selected major.
• Students can transfer all ACE certified courses across colleges within the institution to meet the ACE requirement and any course from outside the institution that is directly equivalent to a UNL ACE-certified course. Courses from outside institutions without direct equivalents may be considered with appropriate documentation for ACE credit (see academic advisor).

ACE allows faculty to assess and improve their effectiveness and facilitate students’ learning.

ACE Institutional Objectives and Student Learning Outcomes
To meet the ACE Program requirement, a student will complete a minimum of 3 credit hours for each of the ten ACE Student Learning Outcomes (a total of 30 ACE credit hours). See the ACE website at: http://ace.unl.edu for the most current information and the most recently certified courses.

Bulletin Rule
Students must fulfill the requirements stated in the bulletin for the academic year in which they are first admitted to and enrolled as a degree-seeking student at UNL. In consultation with advisors, a student may choose to follow a subsequent bulletin for any academic year in which they are admitted to and enrolled as a degree-seeking student at UNL in the College of Arts and Sciences. Students must complete all degree requirements from a single bulletin year. Beginning in 1990-1991 the bulletin in which a student follows for degree requirements may not be more than 10 years old at the time of graduation.

Learning Outcomes
Majors in geography will be able to:

1. Understand spatial variations in physical geography—climate, vegetation, and soils—on the surface of the earth.
2. Understand and appreciate the spatial, ecological, and regional dimensions of human life on the surface of the earth.
3. Understand how to use geospatial techniques, such as cartographic representation, GIS, and remote sensing in order to analyze and interpret geographic dimensions of life in the world.
4. Appreciate how the global and local are connected.
5. Have an appreciation of the history and philosophy of geography, both past and present.

Major Requirements
Thirty (30) hours of geography, of which 14 hours must be numbered 300 or above. Of the 6 hours of techniques courses, 3 hours must be at the 400 level.

Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 140</td>
<td>Introductory Human Geography</td>
<td>3</td>
</tr>
<tr>
<td>or GEOG 120</td>
<td>Introductory Economic Geography</td>
<td></td>
</tr>
<tr>
<td>GEOG 155</td>
<td>Elements of Physical Geography</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 181</td>
<td>Quality of the Environment</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 272</td>
<td>Geography of World Regions</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 402</td>
<td>Undergraduate Seminar (Senior Seminar)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credit Hours</strong></td>
<td><strong>16</strong></td>
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</tbody>
</table>

Specific Major Requirements

Geography Techniques Courses
Select two courses from the following, with at least 3 hrs at the 400 level.  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ANTH 389</td>
<td>GIS in Archaeology</td>
</tr>
<tr>
<td>CRPL 432</td>
<td>Advanced Spatial Analysis with GIS</td>
</tr>
<tr>
<td>CRPL 495</td>
<td>Selected Topics in Community and Regional Planning</td>
</tr>
<tr>
<td>GEOG 217</td>
<td>Mapping Science in the 21st Century</td>
</tr>
<tr>
<td>GEOG 312</td>
<td>Introduction to Geospatial Information Sciences</td>
</tr>
<tr>
<td>GEOG 317</td>
<td>Cartography I: Introduction to Cartography</td>
</tr>
<tr>
<td>GEOG 412</td>
<td>Introduction to Geographic Information Systems</td>
</tr>
<tr>
<td>GEOG 414</td>
<td>Quantitative Methods in Geography</td>
</tr>
<tr>
<td>GEOG 415</td>
<td>Introduction to Computer Mapping</td>
</tr>
<tr>
<td>GEOG 417</td>
<td>Cartography II: Electronic Atlas Design and Production</td>
</tr>
<tr>
<td>GEOG 418</td>
<td>Introduction to Remote Sensing</td>
</tr>
<tr>
<td>GEOG 419</td>
<td>Applications of Remote Sensing in Agriculture and Natural Resources</td>
</tr>
<tr>
<td>GEOG 420</td>
<td>Digital Image Analysis of Remote Sensing Data</td>
</tr>
<tr>
<td>GEOG 421</td>
<td>Field Techniques in Remote Sensing</td>
</tr>
<tr>
<td>GEOG 422</td>
<td>Advanced Techniques in Geographic Information Systems</td>
</tr>
<tr>
<td>GEOG 425</td>
<td>Scientific Visualization in Cartography</td>
</tr>
<tr>
<td>GEOG 427</td>
<td>Introduction to the Global Positioning System (GPS)</td>
</tr>
<tr>
<td>GEOG 432</td>
<td>GIS Programming for Advanced Spatial Analysis and Modeling</td>
</tr>
<tr>
<td>GEOG 444</td>
<td>Geo-demographic and Geographic Information Systems (GIS)</td>
</tr>
<tr>
<td>GEOG 461</td>
<td>Geospatial Approaches in Digital Humanities and Social Sciences</td>
</tr>
<tr>
<td>GEOG 483</td>
<td>Cognitive Processes in Map Comprehension and Use</td>
</tr>
<tr>
<td>GEOG 498</td>
<td>Advanced Special Problems</td>
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<td></td>
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</table>

Credit Hours Subtotal: 6

Additional Geography Courses

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<tr>
<td>GEOG 400</td>
<td>Field Techniques in Remote Sensing</td>
</tr>
<tr>
<td>GEOG 401</td>
<td>Digital Image Analysis of Remote Sensing Data</td>
</tr>
<tr>
<td>GEOG 402</td>
<td>Undergraduate Seminar (Senior Seminar)</td>
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</table>
Typically, 6-8 hours of additional geography courses remain after the core and techniques courses are completed to meet the 30 hour major requirement.

Credit Hours Subtotal: 8
Total Credit Hours 14

\footnote{Students may choose to specialize in one of many areas, including climate and weather, cultural/human geography, geographic information systems, historical geography of the Great Plains, natural resources, physical geography, pre-community and regional planning, regional studies, or remote sensing. The faculty advisor can help identify those courses.}

**ADDITIONAL MAJOR REQUIREMENTS**

**Grade Rules**

**C- and D Grades**
A grade of C or above is required for all courses in the major and minor.

**Pass/No Pass**
No more than 6 hours of courses taken Pass/No Pass will be counted toward the major or minor.

**Course Level Requirement**
Of the total 30 hours, 14 hours must be numbered 300 or above. Of the 6 hours of techniques courses, 3 hours must be numbered 400 or above.

**Requirements for Minor Offered by Department**

Eighteen (18) hours of geography courses, including 10 hours in courses numbered 300 or above.

**Grade Rules**

**C- and D Grades**
A grade of C or above is required for all courses in the major and minor.

**Pass/No Pass**
No more than 6 hours of courses taken Pass/No Pass will be counted toward the major or minor.

**GEOG 101 Discover Geography**

**Description:** An orientation to the field of Geography, discussion of career opportunities, an overview of requirements for the major, and an introduction to resources available at UNL and in the Lincoln community. Learn about unique contributions that geographers are making to address issues in management of natural resources, public health, water and food security, international trade, immigration and other areas. Recommended for any student considering a career and a major or minor in Geography. The course is required for declared Geography majors.

Letter grade only.

Credit Hours: 1
Max credits per semester: 1
Max credits per degree: 1
Format: LEC

**GEOG 109 Water in Society**

**Crosslisted with:** SCIL 109, AECN 109, NRES 109, ENVR 109

**Description:** Introduction to the scientific, social, and economic dimensions of historical and contemporary water systems. Students will develop an understanding of hydrologic systems and analyze and engage in decision-making about complex challenges associated with water resource use.

Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Offered: FALL
ACE: ACE 4 Science ACE 8 Civic/Ethics/Stewardship

**GEOG 120 Introductory Economic Geography**

**Crosslisted with:** GEOG 120H

**Description:** Basic factors influencing the location of economic activity. Influence of space and location on the evolution and development of economic systems. World and regional patterns of economic activities.

Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

**GEOG 120H Introductory Economic Geography**

Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

**GEOG 140 Introductory Human Geography**

**Crosslisted with:** GEOG 140H

**Description:** Human populations, cultures, and landscapes, with particular attention to human-environment relations and global interconnections. Students who have previously taken GEOG 100 may not receive credit for GEOG 140.

Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity
Groups: Human-Economic Geography

**GEOG 140H Introductory Human Geography**

Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity
Groups: Human-Economic Geography
GEOG 155 Elements of Physical Geography
Crosslisted with: GEOG 155H
Description: Investigation of the basic elements of the physical environment of the earth and its atmosphere. Includes atmospheric processes, temperature distributions, weather systems, severe weather, climates, water balance, vegetation and soil distributions, landforms and their processes, and natural hazards. Modifying influences that humans have on the physical environment and atmosphere examined. Students who earn credit toward the degree in GEOG 155 may not earn credit toward the degree in GEOG 150 or in the combination of GEOG 150 and 152.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
ACE: ACE 4 Science
Groups: Physical Geography

GEOG 155H Elements of Physical Geography
Crosslisted with: GEOG 155
Description: Investigation of the basic elements of the physical environment of the earth and its atmosphere. Includes atmospheric processes, temperature distributions, weather systems, severe weather, climates, water balance, vegetation and soil distributions, landforms and their processes, and natural hazards. Modifying influences that humans have on the physical environment and atmosphere examined. Students who earn credit toward the degree in GEOG 155 may not earn credit toward the degree in GEOG 150 or in the combination of GEOG 150 and 152.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
ACE: ACE 4 Science
Groups: Physical Geography

GEOG 170 Introduction to Great Plains Studies
Crosslisted with: ANTH 170, ANTH 170H, GEOG 170H, GPSP 170, GPSP 170H, NRES 170, NRES 170H, SOCI 170
Description: Interdisciplinary study of the natural environment, social environment, human heritage, arts and humanities of the Great Plains.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Regional Geography

GEOG 170H Introduction to Great Plains Studies
Crosslisted with: ANTH 170, ANTH 170H, GEOG 170, GPSP 170, GPSP 170H, NRES 170, NRES 170H, SOCI 170
Description: Interdisciplinary study of the natural environment, social environment, human heritage, arts and humanities of the Great Plains.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Regional Geography

GEOG 181 Quality of the Environment
Crosslisted with: GEOG 181H
Description: Analysis of human's role in altering the quality of the environment through their impact on eco-health, transformation of the landscape, and spatial organization and behavior.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity ACE 6 Social Science
Groups: Human-Economic Geography

GEOG 181H Quality of the Environment
Crosslisted with: GEOG 181
Description: Analysis of human's role in altering the quality of the environment through their impact on eco-health, transformation of the landscape, and spatial organization and behavior.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity ACE 6 Social Science
Groups: Human-Economic Geography

GEOG 198 Special Topics in Geography
Crosslisted with: GEOG 198H
Description: Offered from time to time by faculty members who wish to examine current problems in geography. May take a variety of forms including the freshman seminar and the minicourse.
Credit Hours: 1-3
Min credits per semester: 1
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

GEOG 198H Special Topics in Geography
Crosslisted with: GEOG 198
Description: Offered from time to time by faculty members who wish to examine current problems in geography. May take a variety of forms including the freshman seminar and the minicourse.
Credit Hours: 1-3
Min credits per semester: 1
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

GEOG 200 Landscape and Environmental Appreciation
Crosslisted with: HORT 200, LARC 200
Description: Values and processes in human landscapes and natural environments. Concepts and tools to understand the context of local and global environments and significant historical landscapes. Landscape as an indicator of aesthetic quality, design principles and processes as integrators of humans and nature, and the garden as a model for creating sustainable landscapes.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Prerequisite for: HORT 267
ACE: ACE 7 Arts ACE 9 Global/Diversity
Groups: Human-Economic Geography
GEOG 217 Mapping Science in the 21st Century
Description: Introduction to modern mapping sciences. Interpret and use both traditional and digital maps. Fundamentals of thematic mapping, topographic map analysis, interpretation of aerial and satellite imagery, principles of geographic information systems (GIS), fundamentals of the global positioning (GPS), and mapping on the Internet.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Techniques

GEOG 271 Geography of the United States
Crosslisted with: GEOG 271H
Description: Introduction to the regional geography of the United States. Attention to the significance of location, advantages and limitations of the natural environment, population distribution, and economic development considered regionally.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 4 Science
Groups: Regional Geography

GEOG 271H Geography of the United States
Crosslisted with: GEOG 271
Description: Introduction to the regional geography of the United States. Attention to the significance of location, advantages and limitations of the natural environment, population distribution, and economic development considered regionally.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 4 Science
Groups: Regional Geography

GEOG 272 Geography of World Regions
Crosslisted with: GEOG 272H
Description: Appraisal of the interaction between the physical environment, the human resources, and economic activities for the major regions of the world. Application of fundamental geographical concepts to regional analysis.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity
Groups: Regional Geography

GEOG 272H Geography of World Regions
Crosslisted with: GEOG 272
Description: Appraisal of the interaction between the physical environment, the human resources, and economic activities for the major regions of the world. Application of fundamental geographical concepts to regional analysis.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity
Groups: Regional Geography

GEOG 281 Introduction to Water Science
Crosslisted with: GEOG 281H, NRES 281, NRES 281H, WATS 281, WATS 281H
Description: Survey of the water science from the perspective of both natural and social sciences. Water budget, precipitation, evapotranspiration, runoff and stream flow, groundwater, water quality parameters, economics of water, water policy, water law and water politics.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Prerequisite for: AGRO 361, GEOL 361, NRES 361, SOIL 361, WATS 361, NRES 361H, AGRO 361H, GEOL 361H, SOIL 361H, WATS 361H; NRES 319
Groups: Physical Geography

GEOG 283 Space, the Environment and You
Crosslisted with: GEOG 283H
Description: Experiments to help individuals develop awareness of the extent to which their feelings and behavior are influenced by the spatial and environmental dimensions of their surroundings.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

GEOG 283H Space, the Environment and You
Crosslisted with: GEOG 283
Description: Experiments to help individuals develop awareness of the extent to which their feelings and behavior are influenced by the spatial and environmental dimensions of their surroundings.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography
GEOG 289 People and the Land: Human Environmental Interactions on the Great Plains  
Crosslisted with: NRES 289  
Description: Explore human environmental interaction on the Great Plains. Samples a variety of Great Plains cultures and time periods to explore past use of the Great Plains environment. Evaluation of attributes and related data critical to the operation of past social-ecological systems with reference to changing climatic/ecological dynamics, human environmental impacts, and the sustainability of various indigenous and western modes of land use on the Great Plains. Investigate knowledge of these processes and how they can be of relevance to contemporary issues of Great Plains land management and resource utilization.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
ACE: ACE 6 Social Science ACE 5 Humanities

GEOG 308 Biogeography  
Crosslisted with: GEOG 308H, GEOL 308, GEOL 308H, NRES 308, NRES 308H  
Description: Introduction to the basic concepts of biogeography, the study of distributions of plants and animals, both past and present. Biogeography is a highly interdisciplinary science, relying heavily on ecology, geological science, and climatology. It is global in scope and offers the latest knowledge in understanding organism distributions, and the factors that determine those distributions.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
Groups: Physical Geography

GEOG 308H Biogeography  
Crosslisted with: GEOG 308, GEOL 308, GEOL 308H, NRES 308, NRES 308H  
Description: Introduction to the basic concepts of biogeography, the study of distributions of plants and animals, both past and present. Biogeography is a highly interdisciplinary science, relying heavily on ecology, geological science, and climatology. It is global in scope and offers the latest knowledge in understanding organism distributions, and the factors that determine those distributions.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
Groups: Physical Geography

GEOG 312 Introduction to Geospatial Information Sciences  
Crosslisted with: GEOG 312H, NRES 312, NRES 312H  
Description: Introduction to the theory and applications of geospatial information technology. Remote sensing, GPS data collection, GIS data types, editing GIS data, and spatial data analysis with emphasis on applications to natural resources using a problem-based learning format.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
Groups: Techniques Techniques

GEOG 312H Introduction to Geospatial Information Sciences  
Crosslisted with: GEOG 312, NRES 312, NRES 312H  
Description: Introduction to the theory and applications of geospatial information technology. Remote sensing, GPS data collection, GIS data types, editing GIS data, and spatial data analysis with emphasis on applications to natural resources using a problem-based learning format.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
Groups: Techniques Techniques

GEOG 334 Historical Geography of the Great Plains  
Crosslisted with: GEOG 334H  
Description: Traces the sequence of the human occupancy of the Great Plains from prehistoric times to the present. Focus on the changing perception and utilization of the Great Plains environment, leading to the emergence of a distinctive contemporary region.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
ACE: ACE 5 Humanities  
Groups: Human-Economic Geography

GEOG 334H Historical Geography of the Great Plains  
Crosslisted with: GEOG 334  
Description: Traces the sequence of the human occupancy of the Great Plains from prehistoric times to the present. Focus on the changing perception and utilization of the Great Plains environment, leading to the emergence of a distinctive contemporary region.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
ACE: ACE 5 Humanities  
Groups: Human-Economic Geography

GEOG 361 Urban Geography  
Crosslisted with: GEOG 361H  
Description: Geography of cities and metropolitan areas of the past, present, and future. Spatial structures of urban settlements in North America and elsewhere examined both theoretically and descriptively.  
Credit Hours: 3  
Max credits per semester: 3  
Max credits per degree: 3  
Format: LEC  
ACE: ACE 6 Social Science  
Groups: Human-Economic Geography
GEOG 361H Urban Geography
Crosslisted with: GEOG 361
Description: Geography of cities and metropolitan areas of the past, present, and future. Spatial structures of urban settlements in North America and elsewhere examined both theoretically and descriptively.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 6 Social Science
Groups: Human-Economic Geography

GEOG 370H Geography of Nebraska
Crosslisted with: GEOG 370
Description: Survey of the physical and cultural features of the geography of Nebraska as related to the changing patterns in the human occupancy of the geographic regions of the state.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Regional Geography

GEOG 372 European Landscapes and Cultures
Description: The physical and human geographies of Europe. Population migrations, landscape change, and diversity of culture in Europe and selected sub-regions of Europe.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Regional Geography

GEOG 375H Geography of Asia
Crosslisted with: GEOG 375H
Description: Patterns of physical features, population, and economic activities and other cultural aspects. Attention to India, China, and Japan.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Regional Geography

GEOG 377 Women of the Great Plains
Crosslisted with: GPSP 377, WMNS 377
Description: The intersection of gender, identity, power, and representation throughout time and space in the Great Plains of the United States and Canada.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity ACE 5 Humanities
Groups: Regional Geography

GEOG 378H Geography of Latin America
Crosslisted with: GEOG 378
Description: Introduction to the geography of Mexico, Central America, West Indies, and South America. Advantage and limitations of the natural environment, population distribution, and economic development are considered regionally.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity
Groups: Regional Geography

GEOG 380 Geography of Africa
Crosslisted with: ETHN 380, NRES 380
Description: Overview of the major physical and human landscapes in Africa. Prominent past and current events will be placed into a spatial context in an attempt to develop insight into the interrelationships that exist among people, cultures, countries, economies, and the environment, not only within Africa, but between Africa and the rest of the world.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 9 Global/Diversity
Groups: Regional Geography

GEOG 398 Special Topics in Geography
Description: Selected topic possessing areal implications.
Credit Hours: 1-24
Min credits per semester: 1
Max credits per semester: 24
Max credits per degree: 24
Format: LEC

GEOG 399 Independent Study in Geography
Credit Hours: 1-24
Min credits per semester: 1
Max credits per semester: 24
Max credits per degree: 24
Format: IND
GEOG 399H Honors Course
Credit Hours: 1-4
Min credits per semester: 1
Max credits per semester: 4
Max credits per degree: 4
Format: LEC

GEOG 402 Undergraduate Seminar
Prerequisites: Junior standing
Description: The history and philosophy of geography. Contemporary issues in geography. GEOG 402 serves as the capstone course for the Geography major.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
ACE: ACE 10 Integrated Product

GEOG 406 Spatial and Environmental Influences in Social Systems
Crosslisted with: GEOG 806
Description: How space, spatial structure, and spatially oriented behavior operate in social systems, emphasizing their influence on interpersonal communication and/or social exchange.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

GEOG 408 Microclimate: The Biological Environment
Crosslisted with: AGRO 408, HORT 408, METR 408, NRES 408, WATS 408
Prerequisites: Junior standing, MATH 106 or equivalent, 5 hrs physics, major in any of the physical or biological sciences or engineering; or permission.
Description: Physical factors that create the biological environment. Radiation and energy balances of earth's surfaces, terrestrial and marine. Temperature, humidity, and wind regimes near the surface. Control of the physical environment through irrigation, windbreaks, frost protection, manipulation of light, and radiation. Applications to air pollution research. Instruments for measuring environmental conditions and remote sensing of the environment.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Physical Geography

GEOG 409 Human Dimensions of Natural Resources
Crosslisted with: NRES 409
Prerequisites: Junior standing; 12 credit hours in natural resources, environmental studies, or closely related fields, or permission of instructor.
Description: Overview of the human dimensions of natural resources issues. Exploration of the socioeconomic, cultural, and political aspects of human behavior and how these interact with, might influence, or are influenced by the environment.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC

GEOG 412 Introduction to Geographic Information Systems
Crosslisted with: GEOG 812, NRES 412, NRES 812
Description: Introduction to conceptual foundations and applications of computer-based geographic information systems (GIS). GIS database development, spatial data analysis, spatial modeling, GIS implementation and administration.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Prerequisite for: GEOG 922, NRES 922
Groups: Techniques Techniques

GEOG 414 Quantitative Methods in Geography
Crosslisted with: GEOG 814
Description: Introduction to quantitative techniques utilized in geographic research. Fundamental statistical and mathematical techniques used in analyzing spatial relationships examined.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Techniques Techniques

GEOG 415 Introduction to Computer Mapping
Crosslisted with: GEOG 815
Description: Introduction to the tools, techniques, and analytical uses of computer mapping. Programming necessary for producing own computer mapping programs.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Techniques Techniques

GEOG 417 Cartography II: Electronic Atlas Design and Production
Crosslisted with: GEOG 817
Description: Computer-map design and production for the purpose of assembling an environmental electronic atlas, using advanced computer hardware and software. Extensive discussions and demonstrations on content, design, and methods used in computer mapping.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Techniques Techniques

GEOG 418 Introduction to Remote Sensing
Crosslisted with: GEOG 818, NRES 418, NRES 818
Description: Introduction to remote sensing of the earth from aerial and satellite platforms. Aerial photography, multispectral scanning, thermal imaging and microwave remote sensing techniques. Physical foundations of remote sensing using electromagnetic energy, energy-matter interactions, techniques employed in data acquisition and methods of image analysis. Weekly laboratory provides practical experience in visual and digital interpretation of aerial photography, satellite imagery, thermal and radar imagery. Applications in geographic, agricultural, environmental and natural resources analyses.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Prerequisite for: GEOG 421, GEOG 821, NRES 421, NRES 821
Groups: Techniques Techniques
GEOG 419 Applications of Remote Sensing in Agriculture and Natural Resources
Crosslisted with: AGRO 419, GEOI 419, NRES 420
Prerequisites: GEOG/NRES 418.
Description: Introduction to the practical uses of remote electromagnetic sensing in dealing with agricultural and water-resources issues.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Groups: Techniques Techniques

GEOG 420 Digital Image Analysis of Remote Sensing Data
Crosslisted with: GEOG 820
Description: Principles and methods of digital image processing and analysis of remotely sensed data. The biophysical basis of remote sensing and the various sensor systems typically used for monitoring terrestrial and aquatic environments. Algorithms for the preprocessing, enhancement, classification and mapping of remote sensing data for agriculture, urban, geological, environmental and natural resources management problems.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Groups: Techniques Techniques

GEOG 421 Field Techniques in Remote Sensing
Crosslisted with: GEOG 821, NRES 421, NRES 821
Prerequisites: GEOG 418/818
Description: Field techniques as they relate to remote-sensing campaigns. Research methods, systematic approaches to data collection, field spectroscopy, collecting ancillary information linked with spectroscopic data sets as well as aircraft or satellite missions and subsequent analyses of acquired data.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Techniques Techniques

GEOG 422 Advanced Techniques in Geographic Information Systems
Crosslisted with: GEOG 822
Description: Vector and quadtree data structures, use of relational database management systems, topologically structured databases, query languages, digital terrain modeling, advanced data analysis methods and research issues in GIS. Extensive practical experience with the current GIS software.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Prerequisite for: GEOG 922, NRES 922
Groups: Techniques Techniques

GEOG 425 Scientific Visualization in Cartography
Crosslisted with: GEOG 825
Description: Explores cartographic applications of computer animation and multimedia for the dual purposes of assisting visual thinking in map-oriented research and data exploration, and in communicating geographic ideas to others.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Groups: Techniques Techniques

GEOG 427 Introduction to the Global Positioning System (GPS)
Crosslisted with: GEOG 827, NRES 427, NRES 827
Prerequisites: Junior standing and a basic familiarity with mapping and GIS, or permission
Description: Integrated lectures, lab exercises and field experience provide an understanding of GPS technology and applications. Students will learn to collect, correct and use GPS data in a geographic information system (GIS) environment.
Credit Hours: 2
Max credits per semester: 2
Max credits per degree: 2
Format: LEC

GEOG 431 Cultural Geography
Crosslisted with: GEOG 431H, GEOG 831
Description: The history of cultural geography from von Humboldt through Carl Sauer to the ‘new’ cultural geographies of Don Mitchell, Gillian Rose and Noel Castree. The current theoretical debates of feminism, post-structuralism, post-colonialism and environmentalism, and the influences of literary and cultural studies in the development of cultural geography and the various methodologies involved.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

GEOG 431H Cultural Geography
Crosslisted with: GEOG 431, GEOG 831
Description: The history of cultural geography from von Humboldt through Carl Sauer to the ‘new’ cultural geographies of Don Mitchell, Gillian Rose and Noel Castree. The current theoretical debates of feminism, post-structuralism, post-colonialism and environmentalism, and the influences of literary and cultural studies in the development of cultural geography and the various methodologies involved.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

GEOG 432 GIS Programming for Advanced Spatial Analysis and Modeling
Crosslisted with: GEOG 832
Prerequisites: GEOG/NRES 412/812 or 18 hours of GIS practice
Description: Techniques for Geoprocessing script programming to customize geographic information systems (GIS), utilize GIS tools, and implement application-specific spatial analysis, modeling algorithms and procedures.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
GEOS 435 Cultural Survival: Indigenous People's Rights
Crosslisted with: GEOG 835
Description: Threats against indigenous peoples' lands, resources and cultural patrimony, languages and knowledge systems more than 500 years after Columbus instigated European colonialism, creating the first global world order. The responses of Indigenous peoples to the imposition of Western dominated economic and political systems. Land rights, economic development, and women's rights from the perspective of different Indigenous communities around the world.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

GEOS 444 Geo-demographic and Geographic Information Systems (GIS)
Crosslisted with: GEOG 844
Description: Geo-demographic and geographic information system (GIS) analysis, interpretation and mapping of geographical patterns of population size, population composition, and composition change. Theoretical and applied investigation of geo-demographic issues involving marketing research, public facilities planning, public health provision, and small-area population change forecasting. GIS use of TIGER and small-area census data.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

GEOS 447 Political Geography
Crosslisted with: GEOG 847
Description: Importance of factors of a physical, economic, and human character in political development at local to global scales; international geopolitical aspects of environment, territoriality, core areas, capitals, and boundaries; national geographical patterns of voting, representation, public administration and public policy.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Human-Economic Geography

GEOS 448 Pro-seminar in International Relations I
Crosslisted with: ANTH 479, HIST 479, POLS 466, SOCI 466
Prerequisites: Senior standing and permission.
Description: Topic varies
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Variable group based on topic

GEOS 450 Climate and Society
Crosslisted with: AGRO 450, METR 450, NRES 452
Prerequisites: METR 100 or NRES 370 or equivalent.
Description: Impact of climate and extreme climatic events on society and societal responses to those events. Global in scope and interdisciplinary.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Physical Geography

GEOS 461 Geospatial Approaches in Digital Humanities and Social Sciences
Crosslisted with: ANTH 461, ANTH 861, CLAS 461, CLAS 861, GEOG 861, HIST 461, HIST 861
Description: Study of geographic concepts and critical analysis of applications of Geographic Information Systems (GIS) in humanities and social sciences and application of geospatial tools for humanities and social science research; learn how to collect, manage, analyze, and visualize spatial data for real-world projects.
Credit Hours: 3
Max credits per semester: 3
Max credits per degree: 3
Format: LEC
Groups: Techniques

GEOS 467 Great Plains Field Pedology
Crosslisted with: AGRO 477, AGRO 477H, GEOG 467H, NRES 477, NRES 477H, SOIL 477, SOIL 477H
Prerequisites: AGRO/SOIL 153.
Description: Spatial relationship of soil properties on various parts of landscape typical of the Plains, causal factors, and predictions of such relationships on other landscapes. Grouping these properties into classes, naming the classes, and the taxonomy that results from this grouping. Application of a taxonomy to a real situation through making a field soil survey in a region representative of the Plains border, predicting land use response of various mapped units as it affects the ecosystem, and evaluating the effectiveness of the taxonomic system used in the region surveyed.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Groups: Physical Geography

GEOS 467H Great Plains Field Pedology
Crosslisted with: AGRO 477, AGRO 477H, GEOG 467, NRES 477, NRES 477H, SOIL 477, SOIL 477H
Prerequisites: AGRO/SOIL 153.
Description: Spatial relationship of soil properties on various parts of landscape typical of the Plains, causal factors, and predictions of such relationships on other landscapes. Grouping these properties into classes, naming the classes, and the taxonomy that results from this grouping. Application of a taxonomy to a real situation through making a field soil survey in a region representative of the Plains border, predicting land use response of various mapped units as it affects the ecosystem, and evaluating the effectiveness of the taxonomic system used in the region surveyed.
Credit Hours: 4
Max credits per semester: 4
Max credits per degree: 4
Format: LEC
Groups: Physical Geography
GEOG 469 Bio-Atmospheric Instrumentation  
**Crosslisted with:** AGRO 469, HORT 407, METR 469, MSYM 469, NRES 469  
**Prerequisites:** Junior standing; MATH 106; 4 hrs physics; physical or biological science major.  
**Description:** Discussion and practical application of principles and practices of measuring meteorological and related variables near the earth's surface including temperature, humidity, precipitation, pressure, radiation and wind. Performance characteristics of sensors and modern data collection methods are discussed and evaluated.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC  
**Groups:** Physical Geography

GEOG 478 Pro-seminar in Latin American Studies  
**Crosslisted with:** ANTH 478, HIST 478, LAMS 478, POLS 478, SOCI 478, MODL 478, EDPS 478, ANTH 878, GEOG 878, HIST 878, POLS 878, SOCI 878, MODL 878, EDPS 878  
**Prerequisites:** Junior standing and permission.  
**Description:** An interdisciplinary analysis of topical issues in Latin American Studies.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 6  
**Format:** LEC  
**Groups:** Regional Geography

GEOG 483 Cognitive Processes in Map Comprehension and Use  
**Crosslisted with:** GEOG 883  
**Description:** How cognitive processes help individuals to comprehend the spatial circumstances or arenas they confront when carrying out their daily activities. Awareness of space, spatial knowing, formation of cognitive maps, importance of spatial images in negotiation of surroundings, and the relationship of cognitive maps to orientation and wayfinding.  
**Credit Hours:** 3  
**Max credits per semester:** 3  
**Max credits per degree:** 3  
**Format:** LEC  
**Groups:** Techniques Techniques

GEOG 484 Water Resources Seminar  
**Crosslisted with:** AGRO 484, GEOL 484, NRES 484, WATS 484, NRES 884, AGRO 884, GEOG 884, GEOL 884, WATS 884  
**Prerequisites:** Junior or above standing, or permission  
**Description:** Seminar on current water resources research and issues in Nebraska and the region.  
**Credit Hours:** 1  
**Max credits per semester:** 1  
**Max credits per degree:** 1  
**Format:** LEC  
**Groups:** Techniques Techniques

GEOG 491 Geography Field Tour  
**Crosslisted with:** GEOG 891, NRES 491  
**Description:** Group educational tours to specific sites that illustrate aspects of physical and cultural geography. Off-campus travel required.  
**Credit Hours:** 2-3  
**Min credits per semester:** 2  
**Max credits per semester:** 3  
**Max credits per degree:** 6  
**Format:** FLD  
**Groups:** Physical Geography

GEOG 497 Internship in Geography  
**Description:** Applying geographic training with on-the-job learning.  
**Credit Hours:** 1-6  
**Min credits per semester:** 1  
**Max credits per semester:** 6  
**Max credits per degree:** 6  
**Format:** FLD  
**GEOG 498 Advanced Special Problems**  
**Crosslisted with:** GEOG 898  
**Description:** Reading course or special projects.  
**Credit Hours:** 1-24  
**Min credits per semester:** 1  
**Max credits per semester:** 24  
**Max credits per degree:** 24  
**Format:** LEC

**PLEASE NOTE**  
This document represents a sample 4-year plan for degree completion with this major. Actual course selection and sequence may vary and should be discussed individually with your college or department academic advisor. Advisors also can help you plan other experiences to enrich your undergraduate education such as internships, education abroad, undergraduate research, learning communities, and service learning and community-based learning.

**Career Information**  
The following represents a sample of the internships, jobs and graduate school programs that current students and recent graduates have reported.

**Transferable Skills**  
- Understand human interactions and behaviors in multiple environments  
- Use various qualitative and quantitative research methodologies  
- Listen actively and facilitate individual and group communication  
- Present information and research to large and small groups  
- Examine and address social problems, and implement creative solutions  
- More...  
  - Advocate for marginalized or underrepresented groups  
  - Offer empathetic, sensitive, and patient interactions with others  
  - Motivate others to achieve common goals  
  - Coordinate people, activities, and event details  
  - Develop strong sense of self-awareness

**Jobs of Recent Graduates**  
- Geographer, United States CE, Engineer Research Development - Alexandria VA  
- GIS Technician, GIS Workshop - Lincoln NE  
- Archeological Technician, Midwest Archeological Center National Park Service - Lincoln NE  
- Space and Missile Officer, United States Air Force - Vandenberg AFB CA  
- Project Scientist, Albred Benesch Company - Lincoln NE  
- More...  
  - Intelligence Analyst, BAE Systems - McLean VA  
  - Police Officer, Omaha Police Dept - Omaha NE
• Geospatial Technician, Terra2 Geospatial Consultants - Omaha NE
• Peace Corps Volunteer, Peace Corps -
• Agricultural Statistician, USDA NASS - Lincoln NE

Internships
• Integrated Management Technical Assistant, Nebraska Dept of Natural Resources - Lincoln NE
• Integrated Water Management Technician Asst., Nebraska Dept of Natural Resources - Lincoln NE
• GIS Intern, HDR - Lincoln NE
• NHD GIS Intern, Nebraska Dept of Natural Resources - Lincoln NE

Grad Schools
• Masters in Geography, University of Nebraska-Lincoln - Lincoln NE
• MS Earth Sciences, Montana State University - Bozeman MT
• MA Biological Sciences, University of Nebraska-Lincoln - Lincoln NE
• Community and Regional Planning, M.A., University of Nebraska-Lincoln - Lincoln NE
• Masters of Divinity, Duke Divinity School - Durham NC
• More...
  • Human and Historical Geography, University of Nebraska-Lincoln -
  • Geographic Information Systems, Penn State University - PA
  • Geography Masters Program, University of Nebraska at Omaha - Omaha NE
• Masters in Community and Regional Planning, University of Oregon - Eugene OR
• Geography, University of Missouri-Columbia - Columbia MO