Geography

Geography is the study of phenomena and events on the earth's surface, including the activities of human beings. Technical skills in remote sensing, mapping, computer applications, GIS, survey research, and writing are the geographer's tools.

All terrestrial activities are subject to geographic analysis. Students in the program learn specific geographic techniques and their application on regional, national, and global levels. Studies in the field, and in effective communication and higher level problem-solving, further prepare students for immediate employment in entry level jobs and for graduate study.

Language study and a strong minor (such as computer science, applied public policy, international studies, space science, biology) enhance employment options for students with bachelor's degrees. Graduate study broadens employment opportunities.

Programs

- Geography, B.A. *major*
- Geography, B.S. (Geographic Information System Emphasis) *major*
- Geography, B.S. (Planning Emphasis) *major*
- Geography, B.S. (Physical Geography Emphasis) *major*
- Social Studies, B.A. (Geography Emphasis) *major*
- Wilderness Management and Outdoor Recreation Planning, B.A.S. *major*
- Geographic Information Systems *minor*
- Geography *minor*

Career Directions

Aerial Photo Interpreter
Cartographer
Digital Mapper
Geographic Consultant
Geographic Information Systems (GIS) Practitioner
Land Use/Recreation Planner
Market Analyst
Park Ranger/Planner
Park/Recreation Planner
Teacher
Urban/Regional Planner
Also: Graduate Study

Preparation

Recommended High School Courses

Algebra
Computer Science
English
Geography
Social Studies
Speech Communication

Geography, B.A. *major*

Required Credits: 57
Required GPA: 2.25

I REQUIRED CORE

COMPLETE THE FOLLOWING COURSES:

- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 3400 Economic Geography (3 credits)
- GEOG 3531 Political Geography (3 credits)
- GEOG 3532 Political Ecology (3 credits)
- GEOG 4120 Urban Geography (3 credits)
- GEOG 4210 The History and Development of Geographic Thought (3 credits)

II REGIONAL GEOGRAPHY ELECTIVES

SELECT 4 OF THE FOLLOWING COURSES:

- GEOG 3410 Geography of North America (3 credits)
- GEOG 3800 Regional Geography (1-3 credits)
- GEOG 3810 Geography of Europe (3 credits)
- GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
- GEOG 3840 Geography of Africa (3 credits)
- GEOG 3850 Geography of the Middle East (3 credits)
- GEOG 3860 Geography of Latin America and the Caribbean (3 credits)

III SPATIAL METHODS ELECTIVES

SELECT 2 OF THE FOLLOWING COURSES:

- GEOG 3226 Cartography (3 credits)
- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)
- GEOG 4275 Advanced Geographic Information Systems (3 credits)

IV PHYSICAL GEOGRAPHY ELECTIVES

SELECT 2 OF THE FOLLOWING COURSES:

- GEOG 3125 Weather and Climate (3 credits)
- GEOG 3630 Conservation Biology (3 credits)
  or BIOL 3630 Conservation Biology (3 credits)
- GEOG 4130 Biogeography (3 credits)
- GEOG 4140 Landscape Ecology (3 credits)

V GEOGRAPHY ELECTIVES

SELECT 6 SEMESTER CREDITS IN GEOGRAPHY COURSES AT THE 3000-4000 LEVEL

VI THESIS REQUIREMENT

COMPLETE THE FOLLOWING COURSE:

- GEOG 4990 Thesis (3 credits)

SUGGESTED SEMESTER SCHEDULE FOR GEOGRAPHY MAJOR, B.A.

The following is a list of Geography Major courses arranged by year. This suggested schedule is intended to help students plan their courses in an orderly fashion. Some courses or course sequences may appear more than once. Geography majors and minors are strongly encouraged to meet with advisors in the Geography program prior to selecting courses as all courses are not offered each year.

Freshman

- GEOG 1400 World Regional Geography (3 credits)(recommended)
- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 3400 Economic Geography (3 credits)
- Liberal Education requirements

Sophomore

- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- Regional Courses (select 4)
  - GEOG 3410 Geography of North America (3 credits)
  - GEOG 3800 Regional Geography (1-3 credits)
  - GEOG 3810 Geography of Europe (3 credits)
  - GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
  - GEOG 3840 Geography of Africa (3 credits)
  - GEOG 3850 Geography of the Middle East (3 credits)
  - GEOG 3860 Geography of Latin America and the Caribbean (3 credits)
- ENGL 3150 Writing In The Disciplines (3 credits)
- Complete Liberal Education requirements

Junior

- GEOG 3125 Weather and Climate (3 credits)
- GEOG 3226 Cartography (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- GEOG 3531 Political Geography (3 credits)
- GEOG 3532 Political Ecology (3 credits)
- GEOG 3630 Conservation Biology (3 credits)
- GEOG 3XXX Any Remaining Regional Geography Course
- GEOG 4265 Spatial Analysis (3 credits)

Senior

- GEOG 3XXX Any Remaining Regional Geography Course
- GEOG 4120 Urban Geography (3 credits)
- GEOG 4130 Biogeography (3 credits)
- GEOG 4140 Landscape Ecology (3 credits)
- GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
- GEOG 4210 The History and Development of Geographic Thought (3 credits)
- GEOG 4275 Advanced Geographic Information Systems (3 credits)
- Capstone Project

Geography, B.S. *major*
Geographic Information System Emphasis

Required Credits: 54
Required GPA: 2.25

I REQUIRED CORE COURSES

COMPLETE THE FOLLOWING COURSES:

- BUAD 2231 Business Statistics I (3 credits)
  or PSY 3401 Basic Statistics for Research (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
- ENGL 2150 Technical Writing (3 credits)
  or ENGL 3150 Writing In The Disciplines (3 credits)
- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 2400 Introduction to Planning (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)

II GEOGRAPHIC INFORMATION SYSTEM EMPHASIS

REQUIRED GIS COURSES
COMPLETE THE FOLLOWING COURSES:

- GEOG 3226 Cartography (3 credits)
- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- GEOG 4275 Advanced Geographic Information Systems (3 credits)

PHYSICAL GEOGRAPHY ELECTIVE
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3125 Weather and Climate (3 credits)
- GEOG 3630 Conservation Biology (3 credits)
  or BIOL 3630 Conservation Biology (3 credits)
- GEOG 4130 Biogeography (3 credits)
- GEOG 4140 Landscape Ecology (3 credits)

HUMAN GEOGRAPHY ELECTIVE
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3400 Economic Geography (3 credits)
- GEOG 3531 Political Geography (3 credits)
- GEOG 4120 Urban Geography (3 credits)
- GEOG 4210 The History and Development of Geographic Thought (3 credits)

REGIONAL GEOGRAPHY ELECTIVES
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3410 Geography of North America (3 credits)
- GEOG 3800 Regional Geography (1-3 credits)
- GEOG 3810 Geography of Europe (3 credits)
- GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
- GEOG 3840 Geography of Africa (3 credits)
- GEOG 3850 Geography of the Middle East (3 credits)
- GEOG 3860 Geography of Latin America and the Caribbean (3 credits)

COGNATE FIELD ELECTIVES
SELECT 2 OF THE FOLLOWING COURSES:

- BUAD 4385 Data Modeling and Design (3 credits)
- CS 1309 Problem Solving and Computation (3 credits)
- CS 2270 Introduction to Web Programming (3 credits)
- CS 2321 Computer Science I (4 credits)
- CS 2322 Computer Science II (4 credits)
- CS 3270 Advanced Web Programming (3 credits)
- CS 3507 Introduction to Databases (3 credits)
- TADT 1460 2D Graphics And Laser Etching (3 credits)

III CAPSTONE PROJECT

SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 4910 Directed Independent Study (4 credits)
- GEOG 4970 Internship (4 credits)
- GEOG 4990 Thesis (3 credits)

Geography, B.S. *major*
Planning Emphasis

Required Credits: 57
Required GPA: 2.25

I REQUIRED CORE COURSES

COMPLETE THE FOLLOWING COURSES:

- BUAD 2231 Business Statistics I (3 credits)
  or PSY 3401 Basic Statistics for Research (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
- ENGL 2150 Technical Writing (3 credits)
  or ENGL 3150 Writing In The Disciplines (3 credits)
- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 2400 Introduction to Planning (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)

II PLANNING EMPHASIS

REQUIRED PLANNING COURSES
COMPLETE THE FOLLOWING COURSES:

- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3550 Site and Resource Analysis in Planning (3 credits)
- GEOG 3580 Regional Development Planning (3 credits)

PLANNING COURSE SEQUENCE
SELECT 1 OF THE FOLLOWING COURSE SEQUENCES:
a. Natural Resource Planning

- GEOG 3400 Economic Geography (3 credits)
- GEOG 3532 Political Ecology (3 credits)
- GEOG 3570 Public Lands Planning (3 credits)

b. Urban Resources Planning

- GEOG 3531 Political Geography (3 credits)
- GEOG 3560 Metropolitan Land Use Planning (3 credits)
- GEOG 4120 Urban Geography (3 credits)

REGIONAL GEOGRAPHY ELECTIVES
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3410 Geography of North America (3 credits)
- GEOG 3800 Regional Geography (1-3 credits)
- GEOG 3810 Geography of Europe (3 credits)
- GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
- GEOG 3840 Geography of Africa (3 credits)
- GEOG 3850 Geography of the Middle East (3 credits)
- GEOG 3860 Geography of Latin America and the Caribbean (3 credits)

SPATIAL METHODS ELECTIVES

SELECT 2 OF THE FOLLOWING COURSES:

- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3226 Cartography (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- GEOG 4275 Advanced Geographic Information Systems (3 credits)

PHYSICAL GEOGRAPHY ELECTIVE
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3125 Weather and Climate (3 credits)
- GEOG 3630 Conservation Biology (3 credits)
  or BIOL 3630 Conservation Biology (3 credits)
- GEOG 4130 Biogeography (3 credits)
- GEOG 4140 Landscape Ecology (3 credits)

III CAPSTONE PROJECT

SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 4910 Directed Independent Study (4 credits)
- GEOG 4970 Internship (4 credits)
- GEOG 4990 Thesis (3 credits)

Geography, B.S. *major*
Physical Geography Emphasis

Required Credits: 55
Required GPA: 2.25

I REQUIRED CORE COURSES

COMPLETE THE FOLLOWING COURSES:

- BUAD 2231 Business Statistics I (3 credits)
  or PSY 3401 Basic Statistics for Research (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
- ENGL 2150 Technical Writing (3 credits)
  or ENGL 3150 Writing In The Disciplines (3 credits)
- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 2400 Introduction to Planning (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)

II PHYSICAL GEOGRAPHY EMPHASIS

REQUIRED PHYSICAL GEOGRAPHY COURSES
COMPLETE THE FOLLOWING COURSES:

- GEOG 3125 Weather and Climate (3 credits)
- GEOG 4130 Biogeography (3 credits)
- GEOG 4140 Landscape Ecology (3 credits)
- GEOL 1110 Physical Geology (4 credits)

NATURAL/EARTH SCIENCE ELECTIVES
SELECT 2 OF THE FOLLOWING COURSES:

- BIOL 2610 General Ecology (3 credits)
- BIOL 3120 Soils (4 credits)
  or GEOL 3120 Soils (4 credits)
- GEOG 3630 Conservation Biology (3 credits)
  or BIOL 3630 Conservation Biology (3 credits)

- GEOL 2110 Mineralogy and Petrology (4 credits)
- GEOL 3211 Environmental Hydrology (3 credits)
- GEOL 3400 Glacial and Pleistocene Geology (3 credits)
- GEOL 3500 Topics in Paleontology (3 credits)
- GEOL 3600 Stratigraphy and Sedimentation (3 credits)

SPATIAL METHODS ELECTIVES
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3226 Cartography (3 credits)
- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- GEOG 4275 Advanced Geographic Information Systems (3 credits)

REGIONAL GEOGRAPHY ELECTIVES
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3410 Geography of North America (3 credits)
- GEOG 3800 Regional Geography (1-3 credits)
- GEOG 3810 Geography of Europe (3 credits)
- GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
- GEOG 3840 Geography of Africa (3 credits)
- GEOG 3850 Geography of the Middle East (3 credits)
- GEOG 3860 Geography of Latin America and the Caribbean (3 credits)

HUMAN GEOGRAPHY ELECTIVE
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3400 Economic Geography (3 credits)
- GEOG 3531 Political Geography (3 credits)
- GEOG 4120 Urban Geography (3 credits)
- GEOG 4210 The History and Development of Geographic Thought (3 credits)

III CAPSTONE PROJECT

SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 4910 Directed Independent Study (4 credits)
- GEOG 4970 Internship (4 credits)
- GEOG 4990 Thesis (3 credits)

SUGGESTED SEMESTER SCHEDULE FOR GEOGRAPHY MAJORS, B.S. (PHYSICAL GEOGRAPHY EMPHASIS)

The following is a list of Geography Major courses arranged by year. This suggested schedule is intended to help students plan their courses in an orderly fashion. Some courses or course sequences may appear more than once. Geography majors and minors are strongly encouraged to meet with advisors in the Geography program prior to selecting courses as all courses are not offered each year. Given that the study of Geography is inherently interdisciplinary, all Geography students in this major are required to take courses outside of the Geography Curriculum. The 6-8 credits of Natural/Earth Science electives include courses in Geology and Biology and may be selected in any year, provided all prerequisites for those specific courses are met.

Freshman
- ENGL 2150 Technical Writing (3 credits)
  or ENGL 3150 Writing In The Disciplines (3 credits)
- GEOG 1400 World Regional Geography (3 credits) (recommended)
- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOL 1110 Physical Geology (4 credits)
- Liberal Education requirements

Sophomore
- BUAD 2231 Business Statistics I (3 credits)
  or PSY 3401 Basic Statistics for Research (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
- GEOG 2400 Introduction to Planning (3 credits)
- GEOG 3125 Weather and Climate (3 credits)
- Spatial Methods Electives (more than one is recommended, though not required)
- Complete Liberal Education requirements

Junior
- Natural/Earth Science Electives
- Regional Geography Electives
- Human Geography Electives
- GEOG 4130 Biogeography (3 credits)
- GEOG 4140 Landscape Ecology (3 credits)

Senior
- Capstone Project
- GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)

Social Studies, B.A. *major*
Geography Emphasis

Note: A minimum of 22 semester credits used to meet course requirements in I and II must be completed at Bemidji State University. No course grade below a C may be used to meet these requirements and a minimum GPA of 2.50 in this major is required for graduation. Students who desire a second field of emphasis are to consider completion a minor or a second major in that field. Such action may complement and increase the marketability of this major.

Required Credits: 48
Required GPA: 2.50

I REQUIRED CORE CURRICULUM

CAPSTONE COURSE
COMPLETE THE FOLLOWING COURSE:

- POL 4500 Thesis and Career Preparation (3 credits)

ECONOMICS COURSES
SELECT 1 OF THE FOLLOWING COURSES:

- ECON 2000 Markets and Resource Allocation (3 credits)
- ECON 2100 Macroeconomics and the Business Cycle (3 credits)

GEOGRAPHY COURSES
SELECT 1 OF THE FOLLOWING COURSES

- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)

GEOGRAPHY COURSES
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3410 Geography of North America (3 credits)
- GEOG 3800 Regional Geography (1-3 credits)
- GEOG 3810 Geography of Europe (3 credits)
- GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
- GEOG 3840 Geography of Africa (3 credits)

WORLD HISTORY

SELECT 1 OF THE FOLLOWING COURSES

- HST 2218 Medieval Europe (3 credits)
- HST 2219 Medieval European Culture (3 credits)
- HST 2228 Renaissance and Reformation Europe (3 credits)
- HST 2580 Russia (3 credits)
- HST 2600 Topics in History (3 credits)
- HST 2660 Women and History (3 credits)
- HST 2700 The History of World Religions (3 credits)
- HST 2800 Reacting to the Past (3 credits)
- HST 3159 The World at War, 1931-1945 (3 credits)
- HST 3208 Greece and Rome, 1500 BCE-500 CE (3 credits)
- HST 3258 The Roman Civil Law Tradition (3 credits)
- HST 3268 The Roman Revolution, 200 BCE-CE 14 (3 credits)
- HST 3277 Readings and Research in European History (3 credits)
- HST 3409 Colonialism and Modernization in the Non-Western World (3 credits)
- HST 3419 East Asia (3 credits)
- HST 3429 South and Southeast Asia (3 credits)
- HST 3449 Middle East (3 credits)
- HST 3459 Latin America (3 credits)

U.S. HISTORY
SELECT 1 OF THE FOLLOWING COURSES

- HST 2600 Topics in History (3 credits)
- HST 2610 Minnesota History (3 credits)
- HST 2640 United States Diplomatic History (3 credits)
- HST 2667 Men and Women: Gender in America (3 credits)
- HST 2800 Reacting to the Past (3 credits)
- HST 3117 American Revolutionary Era, 1763-1800 (3 credits)
- HST 3128 Testing Democracy: Reform in Nineteenth-Century America (3 credits)
- HST 3137 Civil War and Reconstruction, 1844-1877 (3 credits)
- HST 3159 The World at War, 1931-1945 (3 credits)
- HST 3187 American West (3 credits)

POLITICAL SCIENCE COURSES
SELECT 1 OF THE FOLLOWING COURSES

- POL 1200 Introduction to American Politics (3 credits)
- POL 1300 Introduction to International Relations (3 credits)
- POL 1400 Introduction to Comparative Politics (3 credits)

POLITICAL SCIENCE COURSES
SELECT 1 OF THE FOLLOWING COURSES

- POL 3100 American Foreign Policy (3 credits)
- POL 3130 Asian Political Development (3 credits)
- POL 3150 Topics in Political Science (1-3 credits)
- POL 3160 Comparative European Politics (3 credits)
- POL 3170 International Relations (3 credits)
- POL 3180 International Law and Organization (3 credits)
- POL 3190 International Political Economy (3 credits)
- POL 3200 Minnesota Politics (3 credits)
- POL 3210 Public Administration (3 credits)
- POL 3230 Environmental Politics (3 credits)
- POL 3410 Legislative and Executive Relations (3 credits)
- POL 3420 Campaigns and Elections (3 credits)
- POL 4200 Constitutional Law (3 credits)

SOCIOLOGY COURSES
COMPLETE THE FOLLOWING COURSES:

- SOC 2200 Social Movements and Change (3 credits)
- SOC 3010 Social Theory (3 credits)

II REQUIRED FIELD OF EMPHASIS

SELECT 18 SEMESTER CREDITS OF ELECTIVES FROM GEOGRAPHY

SUGGESTED SEMESTER SCHEDULE FOR SOCIAL STUDIES MAJOR, B.A.

The following is suggested for logical and effective scheduling but can be interpreted as flexible for meeting requirements and a student's particular needs. Students should meet with the Social Studies coordinator and advisor as early as possible in their planning.

Freshman - Sophomore

- Geography and History constitute the "matrix" of Social Studies and students should complete required core courses in these subjects first.
- Complete Liberal Education requirements

Junior-Senior

- Complete remaining core course requirements and courses for area of emphasis.
- Complete Professional Education courses
- Students pursuing the B.S. Teacher Licensure in Social Studies should complete GEOG 3460 no sooner than their junior year, preferably just prior to their student teaching.

Wilderness Management and Outdoor Recreation Planning, B.A.S. *major*

For students transferring to Bemidji State University with a Wilderness Management A.S. from Vermilion Community College.

Required Credits: 57
Required GPA: 2.25

I REQUIRED CORE COURSES

COMPLETE THE FOLLOWING COURSES:

- BUAD 2231 Business Statistics I (3 credits)
  or PSY 3401 Basic Statistics for Research (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
- ENGL 2150 Technical Writing (3 credits)
  or ENGL 3150 Writing In The Disciplines (3 credits)
- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 2400 Introduction to Planning (3 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)

II WILDERNESS MANAGEMENT AND OUTDOOR RECREATION

REQUIRED WILDERNESS MANAGEMENT COURSES
COMPLETE THE FOLLOWING COURSES:

- ANTH 1110 Cultural Anthropology (3 credits)
- BIOL 2610 General Ecology (3 credits)
- BUAD 3351 Management (3 credits)
- ECON 3040 Environmental Economics (3 credits)
- GEOG 3532 Political Ecology (3 credits)
- GEOG 3570 Public Lands Planning (3 credits)

- GEOG 4130 Biogeography (3 credits)

REGIONAL GEOGRAPHY ELECTIVES
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3410 Geography of North America (3 credits)
- GEOG 3800 Regional Geography (1-3 credits)
- GEOG 3810 Geography of Europe (3 credits)
- GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
- GEOG 3840 Geography of Africa (3 credits)
- GEOG 3850 Geography of the Middle East (3 credits)
- GEOG 3860 Geography of Latin America and the Caribbean (3 credits)

SPATIAL METHODS ELECTIVE
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3226 Cartography (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- GEOG 4275 Advanced Geographic Information Systems (3 credits)

PHYSICAL GEOGRAPHY ELECTIVE
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 3125 Weather and Climate (3 credits)
- GEOG 3630 Conservation Biology (3 credits)
  or BIOL 3630 Conservation Biology (3 credits)
- GEOG 4140 Landscape Ecology (3 credits)

III CAPSTONE PROJECT

SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 4910 Directed Independent Study (4 credits)
- GEOG 4970 Internship (4 credits)
- GEOG 4990 Thesis (3 credits)

Geographic Information Systems *minor*

Required Credits: 24
Required GPA: 2.00

I REQUIRED COURSES

CORE GEOGRAPHY COURSE
SELECT 1 OF THE FOLLOWING COURSES:

- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)

II REQUIRED GIS COURSES
COMPLETE THE FOLLOWING COURSES:

- BUAD 2231 Business Statistics I (3 credits)
  or PSY 3401 Basic Statistics for Research (4 credits)
  or STAT 2610 Applied Statistics (4 credits)
- GEOG 3231 Introduction to Geographic Information Systems (3 credits)
- GEOG 3232 Intermediate Geographic Information Systems (3 credits)
- GEOG 3226 Cartography (3 credits)
- GEOG 3255 Introduction to Remote Sensing (3 credits)
- GEOG 4265 Spatial Analysis (3 credits)
- GEOG 4275 Advanced Geographic Information Systems (3 credits)

Geography *minor*

Multiple Credentials
Any additional major, minor or certificate in a degree must have at least 6 credits of course work not used to meet the requirements of another major, minor or certificate in the degree.

Required Credits: 18
Required GPA: 2.00

I REQUIRED COURSES

COMPLETE THE FOLLOWING COURSES:

- GEOG 2100 Introduction to Physical Geography (3 credits)
- GEOG 2200 Introduction to Human Geography (3 credits)
- GEOG 2400 Introduction to Planning (3 credits)

II GEOGRAPHY ELECTIVES

SELECT 3 ADDITIONAL GEOGRAPHY COURSES, AT LEAST ONE OF WHICH MUST BE AT THE 3,000 OR 4,000 LEVEL (9 CREDITS)

Geography Courses

GEOG 1224 Introduction to Map Use (3 credits)
This course is designed for the liberal education program and provides an introduction to common characteristics and use of map media. Topographic maps will be used for physical analysis as well as to discern cultural and economic features of landscapes. Thematic maps, their use and applications will be presented. Includes some study out-of-doors with map and compass. Liberal Education Goal Areas 5 & 11.

GEOG 1400 World Regional Geography (3 credits)
A survey of physical, cultural, and economic aspects of world regions. An introduction to how constituent parts of the world differ from one another in their associated resources, cultures and economics. Attention is given to the interrelationships, interdependencies, and associations that bind together the diverse communities of the world. Liberal Education Goal Areas 7 & 8.

GEOG 2100 Introduction to Physical Geography (3 credits)
This course is designed for the liberal education program and provides an introduction to spatial patterns derived from earth system processes. The course provides a systematic survey of land forms, weather and climate, soils and vegetation. This course utilizes a combination of in class discussion and laboratory-like exercises to investigate these topics. Liberal Education Goal Area 3.

GEOG 2200 Introduction to Human Geography (3 credits)
Emphasizes the study of geographical relationships and interactions of cultural, social, economic, ethnic, and political phenomena. Topical approach to population subgroups, religions, languages, urban and rural settlements, and other attributes of the cultural landscape. Liberal Education Goal Areas 7 & 8.

GEOG 2400 Introduction to Planning (3 credits)
This course is designed for the liberal education program and provides information on the background and fundamentals of the community planning process. Includes discussion of contemporary issues in physical, environmental and social planning. Emphasis is on the local and subregional levels. Liberal Education Goal Areas 5 & 9.

GEOG 2925 People of the Environment: Geography Perspective (3 credits)
An integrative study of the natural, social, value-based, and citizen-action contexts for environmental awareness. The disciplinary component surveys geographic approaches to and institutional settings for environmental problems and decision making, including our spatial behaviors as either sources or recipients of environmental impacts. Interdisciplinary perspectives are evaluated in light of different geographic concepts of spatial distributions, physical geography, and regional planning. Liberal Education Goal Area 10.

GEOG 3125 Weather and Climate (3 credits)
Weather is the study of the atmosphere over short time scales, while climate is the study of long-term weather trends. The study of weather is commonly termed meteorology, which is actually a branch of physics associated with fluid dynamics. Climate is associated with statistical procedures and analyses. This course examines the geographic patterns and processes of global climate and weather, as well as topics such as global climate change, global climate models, and extreme weather events. Students learn about the Earths atmosphere; energy budgets and astronomical controls on weather processes; oceanic and atmospheric circulation; the basic atmospheric parameters; atmospheric hazards such as tornadoes, hurricanes, hail, and lightning; and global climate change issues. Prerequisite: GEOG 2100 or consent of instructor.

GEOG 3226 Cartography (3 credits)
This course provides a more integrated, practical link between cartographic theory and practice for users of GIS. This course blends theoretical discussion of GIS as a science and GIS as a software application and addresses through lecture and laboratory work map productions for a variety of audiences. A particular focus of this course is on quality communication through maps. Experience with GIS software is essential. Prerequisite: GEOG 3231.

GEOG 3231 Introduction to Geographic Information Systems (3 credits)
This course develops a proficiency in basic GIS skills for those new to GIS. The premise of the course revolves around analytical problem solving using spatial data and techniques. The course also focuses on graphic communication of quantitative data including cartographic mapping concepts and data classification. This course concentrates on learning to navigate the current version of ArcGIS software at a beginner's level and developing and creating maps as communication tools. Liberal Education Goal Area 4.

GEOG 3232 Intermediate Geographic Information Systems (3 credits)
An intermediate course on the theories and application of GIS for spatial data management and analysis, thematic mapping, environmental modeling. This course expands on the concepts and methods presented in Introduction to GIS and guides students through a more comprehensive overview of principles and techniques used in GIS. Course objectives include (1) enhance and build knowledge of GIS as a system and science, (2) improve skills at GIS analysis, and (3) develop and improve problem solving skills. Prerequisite: GEOG 3231 or consent of instructor.

GEOG 3255 Introduction to Remote Sensing (3 credits)
Analysis of a special class of pictures that provide an overhead perspective. These images have unique properties that provide a distinct advantage to assessing spatial changes and patterns of change on the Earths surface. Students develop an understanding and the skills necessary for interpreting air photos, satellite, and remotely sensed images. Prerequisite: GEOG 3231 or consent of instructor.

GEOG 3400 Economic Geography (3 credits)
This course helps students understand the world's increasingly complex economic interdependence by examining issues confronting the Global Economy today. This course looks at countries' economic and social well-being, their relationships to other countries and internal and global economic patterns of productivity, wealth and development. Liberal Education Goal Area 5.

GEOG 3410 Geography of North America (3 credits)
A regional analysis of the physical, demographic, economic and cultural characteristics of the nations in North America. Liberal Education Goal Areas 5 & 7.

GEOG 3460 Teaching of Middle and Secondary School Social Studies (4 credits)
Objectives, activities, methods, and materials in teaching social studies in grades 5-12. Additional laboratory time is required. Prerequisite: ED 3110.

GEOG 3531 Political Geography (3 credits)
This course utilizes "World Systems Theory" to investigate 1) theories of State formation and organization; 2) historical processes of imperialism, colonialism, and decolonization; 3) major issues of the emerging political economy; 4) historical and contemporary geopolitics; and 5) the political geography of everyday life.

GEOG 3532 Political Ecology (3 credits)
Political ecology utilizes a necessary geographical perspective to understand and analyze the biophysical processes that shape issues otherwise inadequately conceptualized as political, economic or social. This spatial understanding developed by political geographers reveals relationships of the ecological and the political that are simultaneously mutually reinforcing and, often, mutually antagonistic. Prerequisite: GEOG 3531 or consent of instructor.

GEOG 3550 Site and Resource Analysis in Planning (3 credits)
This course emphasizes techniques and methods in the location, analysis, evaluation, and design of sites, focusing on identifying use potentials and impact limitations for planning and management. Prerequisite: GEOG 2400 or consent of instructor.

GEOG 3560 Metropolitan Land Use Planning (3 credits)
An examination of the identification and inventory methods of land use analysis including the designing of land use models which are compatible with environmental, social, and economic goals. Prerequisites: GEOG 2100, GEOG 2400, or consent of instructor. Prior completion of or concurrent enrollment in either GEOG 3550 or GEOG 3570 is recommended.

GEOG 3570 Public Lands Planning (3 credits)
Comparison and evaluation of natural resource management policies and analytical techniques of the U.S. Forest Service, Bureau of Land Management, National Park Service and U.S. Fish and Wildlife Service. Attention is paid to the historical and contemporary land management approaches used to protect, exploit, manage, and/or use public lands in the United States. Especially relevant are jurisdictional issues over public land, federal agencies involved in land management, state and local issues and land management, and contemporary issues associated with land management in the 21st Century. Prerequisites: GEOG 2400 and GEOG 3550, or consent of instructor.

GEOG 3580 Regional Development Planning (3 credits)
An examination of methods and processes emphasizing contemporary relationships between planners and governments, the private sector, and nongovernmental organizations regarding relationships between regions nationally and internationally, with special attention to environmental sustainability. Prerequisite(s): GEOG 2400, GEOG 3570 and GEOG 3560. Students are strongly recommended to have previously completed GEOG 4265 or to be enrolled in GEOG 4265 concurrently with GEOG 3580.

GEOG 3630 Conservation Biology (3 credits)
Principles and theories of conservation biology. Topics include biodiversity, threats to biodiversity, extinctions, management of threatened and endangered species, managing habitats for conservation, and methods to mitigate biodiversity loss. Prerequisites: BIOL 1211 and BIOL 1212, or consent of instructor. Also BIOL 3630.

GEOG 3800 Regional Geography (1-3 credits)
A regional and topical analysis of the cultural and physical features of a continent or major region of the earth. May be repeated provided different regions are involved. Note: Recommended for students in international studies, foreign languages, and for prospective teachers in the humanities or social studies.

GEOG 3810 Geography of Europe (3 credits)
A regional analysis of the cultural, economic, physical and landscape patterns of the European cultural region. NOTE: Recommended for students in Euro-Spring, International Studies, foreign languages, and prospective teachers. Liberal Education Goal Areas 5 & 8.

GEOG 3820 Geography of East, South, and Southeast Asia (3 credits)
This course is designed to provide a more in depth look at Asian sub regions of South, East and Southeast Asia. Geographically, we will examine and analyze activities in this part of the world through cultural, demographic, political, economic, urban and geopolitical lenses. Liberal Education Goal Area 8. Might not be offered every year. Prerequisite: GEOG 1400 or GEOG 2200.

GEOG 3840 Geography of Africa (3 credits)
Despite persistent bias about it, Africa's cultural complexity, social dynamism, and political/economic struggle have tremendous relevance for the study of global trends at the start of the twenty-first century. The central purpose of this course is to demonstrate that relevance by investigating the cultural, historical, economic, and political dimensions of change in Africa.

GEOG 3850 Geography of the Middle East (3 credits)
This course is designed to provide a more in depth look at the region we routinely describe as the Middle East. Geographically, we will examine activities in SW Asia and the nations of North Africa. We may extend our discussion to the countries of Afghanistan, the Sudan, South Sudan and Turkey to provide a more comprehensive analysis of a particular topic or subtopic. This is a highly complex region and may be looked at from numerous perspectives. Our objective thus is to examine the region through economic, cultural, environmental, urban and geopolitical lenses. Prerequisite: GEOG 1400 or GEOG 2200.

GEOG 3860 Geography of Latin America and the Caribbean (3 credits)
This course is designed to provide a more in depth look at the region of Latin America and the Caribbean. We recognize at the outset that this is a broad subject and may be looked at from numerous perspectives. Our objective thus is to examine this geographic region through economic, cultural, environmental, urban and political lenses. The text book provides the basis for our study which is further complemented by each students (1) research into an issue or event that had a far reaching impact on this region or within its sub-regions, (2) reading of works of fiction set in Latin America and (3) viewing feature films with Latin American themes. Prerequisite: GEOG 1400 or GEOG 2200.

GEOG 3870 Regional Geography - World Cities (3 credits)
Using a World Regional Geography approach, this course examines the dynamics of urban development across the globe. Distinctive cities, urban models, and political, cultural, environmental and economic influences on the modern city are examined. Liberal Education Goal Area 5.

GEOG 4120 Urban Geography (3 credits)
Functions and distribution of cities. Urban sizes, hierarchies, and external relations with the countryside. The central place and other theories of the spacing of cities. Internal structures and functions of cities, the growth of cities, urban slums, urban sprawl, and city planning. Systematic. Prerequisite: GEOG 2200 or consent of instructor.

GEOG 4130 Biogeography (3 credits)
This course examines the distribution and diversity of flora and fauna across multiple scales. It will focus on the factors that shape and influence these patterns and investigate the role of disturbance in this process. It will also incorporate both field and lab experiences to further examine the key concepts of biogeography. Prerequisites: GEOG 2100 and GEOG 3231.

GEOG 4140 Landscape Ecology (3 credits)
This course examines the connection of pattern and process at the scale of the landscape. Students will utilize several analytical methods to examine and explain how humans, disturbance and natural process work in concert to create landscape-level dynamics and change. The course will also cover how landscape ecology is applied to assist in conservation efforts. Prerequisites: GEOG 2100 and GEOG 3231.

GEOG 4190 Qualitative Methods in Geographic Research (3 credits)
As a geographic perspective becomes increasingly important in analysis of critical issues at multiple scales from the local to the global, this course demonstrates how research grounded in qualitative methodologies encourages innovative approaches and yields significant insights. Prerequisite: GEOG 2200. While not required, it is highly recommended that GEOG 4210 and GEOG 4265 be taken previously or concurrently.

GEOG 4210 The History and Development of Geographic Thought (3 credits)
Development of the discipline of Geography with emphasis on both the historical and recent developments in the field. Includes a critical analysis of writing of representative geographers.

GEOG 4265 Spatial Analysis (3 credits)
An examination in the concepts and application of advance spatial statistical methodologies. These include, kriging, spatial autocorrelation, spatial regression models, and cluster analysis. Prerequisites: STAT 2610 or PSY 3401 or BUAD 2231 and GEOG 3231.

GEOG 4275 Advanced Geographic Information Systems (3 credits)
This course will give students hands on experience working with advanced geodatabases, the basic automation and scripting of geospatial processes, web mapping, and server side application in GIS. Prerequisites: GEOG 3231 and GEOG 3232.

GEOG 4910 Directed Independent Study (4 credits)
Arranged individual study.

GEOG 4970 Internship (4 credits)
Graded Satisfactory/Unsatisfactory only. Student internships may be either full-time or part-time in a public or private agency appropriate to the degree objective. Internships consist of closely supervised periods of service that are arranged in advance of the course registration. Students should consult their advisor concerning prerequisites.

GEOG 4990 Thesis (3 credits)
Working individually with a thesis advisor, the student produces a Geography thesis. The thesis must be a scholarly piece of work, based on empirical or archival research of a geographical issue (physical, demographic, economic, cultural, and/or political) of present or future relevance. The end product is a documented essay of at least minimally required length and format that must be approved by the advisor and at least one other member of the Geography Department after a brief oral defense.

All-University Courses

The course numbers listed below, not always included in the semester class schedule, may be registered for by consent of the advisor, instructor, or department chair, or may be assigned by the department when warranted. Individual registration requires previous arrangement by the student and the completion of any required form or planning outline as well as any prerequisites.

1910, 2910, 3910, 4910 DIRECTED INDEPENDENT STUDY
1920, 2920, 3920, 4920 DIRECTED GROUP STUDY
1930, 2930, 3930, 4930 EXPERIMENTAL COURSE
1940, 2940, 3940, 4940 IN-SERVICE COURSE
1950, 2950, 3950, 4950 WORKSHOP, INSTITUTE, TOUR
1960, 2960, 3960, 4960 SPECIAL PURPOSE INSTRUCTION
1970, 2970, 3970, 4970 INTERNSHIP
1980, 2980, 3980, 4980 RESEARCH
1990, 2990, 3990, 4990 THESIS