

# GEOGRAPHY (GEOG)

## **GEOG 100 World Regional Geography 3.00**

Develops basic factual knowledge and awareness of the physical and cultural features of the world environment. Explores regional and world scale patterns of resources, climate, applied technology and trade, political alignments, and other aspects of the current world. All world political units are analyzed from a regional perspective. Students gain significant knowledge of world spatial relationships.

### **University Studies Requirements:**

- Diversity
- Global Awareness
- Social Science

## **GEOG 102 Cultural Geography 3.00**

Explores the influence of culture on perceptions, decisions, and interpersonal relations on both planetary and local scales of life. A broad range of cultural topics are considered, including the origins of culture, human development, political and social organization, religions and languages, and evolving human landscapes. Prepares students to be well-informed citizens of our increasingly interconnected global community.

### **University Studies Requirements:**

- Diversity
- Global Awareness
- Social Science

## **GEOG 189 Geography Elective 1.00-9.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

## **GEOG 241 Fundamentals of GIS I 4.00**

Broad introduction to cartography and Geographic Information Systems with emphases on theory and practice. Fundamental principles of numerical data entry, digitizing, data manipulation and analysis, and interpretation of spatially referenced data will be explored. Additional topics include cartographic basics such as mapping, coordinate systems, projections and remote sensing. Students are introduced to the skills necessary to run a vector-based GIS. The GIS lab offers students an opportunity to use GPS systems and ArcGIS to improve their conceptual and technical GIS skills while working one-on-one with the instructor. Lab will cover map design, geodatabase creation, spatial data download, examining metadata, geoprocessing, digitizing, geocoding, spatial analysis, and 3D-analysis. In the lab each student will carry a real-world project using ArcGIS software. (Lecture three hours, laboratory two hours.) ITS 108 or basic computer skills recommended.

## **GEOG 281 Special Topics 1.00-6.00**

In-depth study of specialized topics in geography selected by the faculty on the basis of student interests/needs. May include workshops, seminars, special issues, etc. This course may be repeated when topics are different. Offered on demand.

## **GEOG 289 Geography Elective 1.00-9.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

## **GEOG 289DV Geography Elective Diversity 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

**GEOG 289ES Geography Elective Environmental Science 1.00-12.00**  
Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

## **GEOG 289GA Geography Elective Global Awareness 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

### **University Studies Requirements:**

- Global Awareness

## **GEOG 289LS Geography Elective with lab 1.00-9.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

## **GEOG 289SS Geography Elective Social Sciences 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

## **GEOG 298 Independent Study 1.00-4.00**

Advanced study for students who have shown themselves capable of independent work, carried out under the direction of a faculty member chosen by the student. Offered on demand. Instructor consent required.

## **GEOG 302 Economic Geography 3.00**

Study of how spatial organization of economic activities affects such issues as economic growth, employment, investment patterns, mobility, and the prices paid for goods. Industrial economic activities are examined by addressing issues such as why some areas are more suitable than others for economic activities and how markets function in the real world. Transportation networks that connect areas and issues of global interdependence are central themes in this course. This course has been approved as Writing Certificate Eligible (WCE)—see section of catalog for WCE Description/details. (lecture two hours, laboratory two hours)

### **Prerequisites:**

Prerequisite for taking this course for TRSP majors is completion of ECON 250 and ECON 251. Non-TRSP majors are required to take a GEOG course or consent of instructor.

## **GEOG 343 Fundamentals of GIS II 4.00**

Introduction to GIS-specific content, including database, advance editing using topology, geocoding, and some advanced analysis operations. It covers geo-statistical analysis, site suitability and modeling, raster analysis, and ArcScan tool. Introduces students to some advance functionalities of ArcGIS Desktop, ArcGIS Pro, and introduction to ArcGIS online. Laboratory activities include mapping density, mapping change, finding what's inside, finding what's nearby, measuring geographic distribution, analyzing pattern, and identifying clusters, best suitable sites, and modeling. Students examine a wide range of GIS functions using the diverse analysis and data management tools. Each student is required to complete a real world project using GIS software

### **Prerequisites:**

Prerequisite for taking this course is completion of GEOG 241.

**GEOG 350 Geography of Wisconsin 3.00**

A spatial examination of the state of Wisconsin utilizing both physical and human considerations. It synthesizes and emphasizes the 20th and 21st century environmental issues that are related to physical characteristics such as geologic history, hydrologic, and climatic forces as well as how these physical factors have impacted the human development of the state. Examples of human issues include indigenous and immigrant settlement, economic, and political patterns.

**GEOG 357 Advanced Topics in Human/Environment Interaction 3.00**

Advanced Topics in Human/Environment Interaction is a study of the effects of the physical and biological factors affecting human population growth, evolution, development, and settlement as well as how our behavior impacts the physical world. The influence of environment on human development, and the schools of thought that develop, crosses many disciplinary areas of study. The basic theories integral to biology and geography, often studied separately as part of discipline-specific courses, will be integrated into the study of humans and their physical environment. The emphasis of the course is to offer topics from a variety of diverse perspectives, with both a reading/lecture and lab component.

**Prerequisites:**

USP BIOL 170 or CHM 100 or ENSC 100 OR GEOL 120 or Instructor Consent

**GEOG 389 Geography Elective 1.00-9.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

**GEOG 402 Urban Planning and Transportation Systems 3.00**

Comparative examinations of planning theories and practices that shaped the geography of 19th and 20th century urban and suburban areas. Introduction to the interurban and interurban influences of transportation systems on land use and planning will be explored. Stresses the ways in which planners and planning ideologies have responded to different social, economic, political and technological (transportation and communication) innovations and pressures. The class includes an examination of 21st Century problems, pressures and solutions to urban and transportation needs. Qualifies as an Academic-Service Learning course (see Academic Service-Learning for more details). A significant semester-long group AS-L project, which connects the student with the Twin Ports community, is a substantial learning goal in the face-to-face section of this course. Cross-listed as GEOG/TRSP 402. S18, S20.

**Prerequisites:**

For non-SBE majors, completion of GEOG 302 or consent of Instructor. For SBE majors, completion of GEOG 302 and admission to the SBE program.

**GEOG 442 Advanced Principles of GIS 4.00**

Students learn how to develop and implement various GIS application projects. The course covers spatial data conversion, spatial database management and advanced spatial analysis. Introduces image analysis and spatial analysis utilizing the extensions of ArcGIS Desktop and ArcGIS Pro (geostatistical analyst, spatial analyst, network analyst, 3-D analyst) and remote sensing raster analysis). Each student designs a project based on their specialty (biology, environmental science, land use, transportation, hydrogeology, demographics, economic analysis, etc.). Course builds on the principles introduced in GEOG 343 and gives a more in-depth understanding of the technical aspects involved in spatial data handling, analysis, and modeling. Very advanced principles of ArcGIS will be used as theoretical and applied aspects are examined through a series of practical exercises and assignments culminating in the development of a prototype GIS.

**Prerequisites:**

Prerequisite for taking this course is completion of GEOG 343

**GEOG 450 Capstone in Geography 3.00**

This course integrates and extends classroom learning through guided research on student-selected interdisciplinary geography and geography-related topics. After an introduction to geographic research methods and theory, students will conduct an investigation of a spatial question. Students work individually, in consultation with faculty and interaction with peers in class, to produce a final product that is pertinent to the major/minor. Examples of final product are: a formal written research paper, classroom-ready teaching unit, workshop materials for presentation.

**GEOG 452 GIS Special Project 2.00**

This course is an undergraduate level course planned at developing more advanced GIS skills. The course is a project-based course (2 credits) targeted students who have taken the first 2 courses in the GIS minor (GEOG241 and GEOG 343). The class is not introductory and students will begin using more advanced analysis tools in ESRI GIS software (ArcGIS Desktop, ArcGIS Pro, and ArcGIS Online). In this course students will propose, design, and implement a real-world project. Students will identify a concept, a problem or a concern they wish to address or solve, and execute the project to final data products. Student completed the project will demonstrate their proficiency of the subject matter of the GIS applications.

**Prerequisites:**

Prerequisite for taking this course is completion of GEOG 241 and GEOG 343

**GEOG 489 Geography Elective 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-Superior course.

**GEOG 489DV Geography Elective Diversity 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

**GEOG 489GA Geography Elective Global Awareness 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

**University Studies Requirements:**

- Global Awareness

**GEOG 489SS Geography Elective Social Sciences 1.00-12.00**

Transfer credits ONLY from another accredited institution not equivalent to a UW-S course.

**GEOG 491 Undergraduate Research 1.00-4.00**

A course developed in cooperation with faculty or area geography specialists to provide practical experience in experimental geography. Candidates for this course must outline a research problem or focus of study. Registration for credit can only be made after all supervisory and support requirements have been assured and the formal research plan is approved. May be repeated for a total of four credits.

**Prerequisites:**

Prerequisite for taking this course is completion of two GEOG courses and consent of instructor.

**GEOG 492 Geography Seminar 1.00**

Study of a topic through literature research. Each student studies a topic and effectively summarizes the available information in written and oral form. Prerequisite: Two prior geography courses and consent of instructor.

**GEOG 496 Internship 1.00-4.00**

On-the-job experience with local agencies such as the Department of Transportation, urban and/or regional planning agencies, historical societies, or other approved geography-related organization designed to provide students with realistic opportunities to apply their skills to practical problems. Registration for credit can only be made after all supervisory and support requirements have been assured. Prerequisite: Two prior geography courses and consent of instructor. Offered on demand.

**GEOG 498 Independent Study 1.00-4.00**

Advanced study for students who have shown themselves capable of independent work, carried out under the direction of a faculty member chosen by the student. Offered on demand. Instructor consent required.