EARTH AND ENVIRONMENTAL GEOSCIENCES

Courses

GIS 450. Applied Geographic Information Systems. 4 Hours
Introduction of concepts and implementation of analysis in geographic information systems (GIS).

GIS 451. Geographic Information Systems (GIS) for Human Rights. 4 Hours
This course introduces the concepts and implementation of analysis in geographic information systems (GIS), and applies the GIS tool to different human rights situations or investigations. This course is cross-listed with HRS 451 and GIS 551.

GIS 452. Geographic Information Systems Applications in Water Resources Planning & Management. 4 Hours
An introduction to GIS applications in water resource management. Following an introduction to GIS basics, this course focuses on GIS techniques in surface water modeling and floodplain delineation and management.

GIS 455. Environmental Remote Sensing. 4 Hours
Introduction to principles and concepts of remote sensing, a sophisticated technology of earth observation that provides fundamental data for global environmental investigation.

GIS 460. Advanced Geographic Information Systems. 4 Hours
Building upon GEO 450 / GEO 550, this course aims to broaden students' understanding of GIS theories and emphasize advanced spatial analysis, modeling and visualization methodologies. Based on an applied approach, this course will use a variety of projects to illustrate these techniques. This course is to be co-listed with GIS 560. Prerequisites: (GIS 450 or GIS 550) or (GIS 451 or GIS 551) or (GIS 452 or GIS 552) or (GEO 450 or GEO 550) or (GEO 451 or GEO 551) or (GEO 452 or GEO 552).

GIS 550. Applied Geographic Information Systems. 4 Hours
Introduction of concepts and implementation of analysis in geographic information systems (GIS).

GIS 551. Geographic Information Systems (GIS) for Human Rights. 4 Hours
This course introduces the concepts and implementation of analysis in geographic information systems (GIS), and applies the GIS tool to different human rights situations or investigations.

GIS 552. Geographic Information Systems Applications in Water Resources Planning & Management. 4 Hours
An introduction to GIS applications in water resource management. Following an introduction to GIS basics, this course focuses on GIS techniques in surface water modeling and floodplain delineation and management.

GIS 555. Environmental Remote Sensing. 4 Hours
Introduction to principles and concepts of remote sensing, a sophisticated technology of earth observation that provides fundamental data for global environmental investigation.

GIS 560. Advanced Applications of Geographical Information Systems. 4 Hours
Building upon GEO 450 / GEO 550, this course aims to broaden students' understanding of GIS theories and emphasize advanced spatial analysis, modeling and visualization methodologies. Based on an applied approach, this course will use a variety of projects to illustrate these techniques. Prerequisites: (GEO 450 or GIS 450 or GEO 550 or GIS 550) or (GEO 451 or GIS 451 or GEO 551 or GIS 551) or (GEO 485 or GIS 452 or GEO 585 or GIS 552).

GIS 598. GIS Capstone. 3 Hours
A semester-long research project that relates the academic experience of students in GIS to professional challenges in their specific discipline/career. This is a capstone course intended to integrate GIS concepts and capabilities and their application in a realistic setting. The course seeks to enhance students' GIS skills in problem solving, with additional emphasis on project development, organization and management. Prerequisites: GEO 450 or GEO 550.