Graduate Certificate, Geographic Information Systems

Five courses are required to earn the certificate:

**GISC 6381 Geographic Information Systems Fundamentals**
PC-based hands-on introduction to GIS concepts, technologies and their applications.

**GISC 6382 Applied GIS**
Further develops and applies hands-on GIS skills for application in a variety of areas including urban infrastructure management, marketing and location analysis, environmental management, geologic and geophysical analysis and the social sciences.
Prerequisite: GISC 6381.

**GISC 6387 GIS Workshop**
Allows students to work on independent projects tailored to their professional needs or interests.
Prerequisite: GISC 6381 & GISC 6382

Two Topics (elective courses) chosen from the following, or as approved by the GIS certificate director:

- **School of Economic, Political and Policy Sciences**
  - GISC 5313 Geospatial Data Analysis Fundamentals
  - GISC 5316 Regression Analysis with Spatial Applications
  - GISC 5317 Computer Programming for GIS
  - GISC 6325 Introduction to Remote Sensing
  - GISC 6332 GIS Applications in Criminology
  - GISC 6383 GIS Management and Implementation
  - GISC 6384 Spatial Analysis and Modeling
  - GISC 6386 Urban and Environmental Applications of GIS/Remote Sensing
  - GISC 6385 GIS Theories, Models and Issues
  - GISC 6388 GIS Application Software Development
  - GISC 6386 GIS Application Development
  - GISV 7360 GIS Pattern Analysis
  - GISC 7361 Spatial Statistics
  - GISC 7362 GIS Network Modeling
  - GISC 7363 Internet Mapping and Information Management
  - GISC 7366 Applied Remote Sensing
  - GISC 7365 Remote Sensing Digital Image Processing
  - GISC 7384 Advanced Raster Modeling
  - GISC 7387 Research Design in GIS

- **School of Natural Science (Geoscience)**
  - GEOS 5322 GPS Satellite Surveying Techniques
  - GEOS 5324 3D Data Capture and Ground Lidar
  - GEOS 5325 Intro to Remote Sensing
  - GEOS 5329 Applied Remote Sensing
  - GEOS 5328 Radar Remote Sensing
  - GEOS 5326 Remote Sensing Digital Image Processing

- **School of Management (MIS)**
  - MIS 6326 Database Management Systems
  - MIS 6308 Systems Analysis & Project Management
  - MIS 6324 Business Intelligence Software and Techniques
  - MIS 6360 Software Project Management

Individuals experienced with GIS may have the introductory course waived, but must take an additional course from the topics courses listed above. No more than two courses may be transferred from another institution. Courses for the Certificate must be completed within a 3-year period with a minimum GPA of 3.0.