

# GEOGRAPHIC INFORMATION SYSTEMS (GIS)

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## **GIS 505 GIS Research Methods**

In this course, students will apply spatial thinking and Geographic Information Systems (GIS) technology to research design, data collection, analysis, and decision-making. Students will utilize multiple research methods to collect and analyze spatial data within an interdisciplinary environment. Using a spatial analysis lens, students will formulate policies and solutions. Online only. 3 credits.

## **GIS 633 GIS for Emergency Preparedness and Planning**

In this course, students will examine how geospatial information and GIS tools can be used to support advance planning for major emergencies related to natural disasters (such as earthquakes, wildland fires, hurricanes) or human- caused events (such as terrorism or large-scale civil unrest). Students will participate in activities based upon real-world scenarios and data. Examples of issues students will address include: projecting which communities and infrastructure are at greatest risk, and how to plan and prepare for community resilience before a disaster occurs. Online only. 3 credits.

## **GIS 634 GIS for Emergency Response and Recovery**

Students will examine how geospatial information and GIS tools can be used to support emergency response and post-event recovery operations. Students will develop the necessary data analysis skills and situational awareness to effectively respond to large scale threats to life and property and to contribute to post-event recovery efforts. Online only. 3 credits.

## **GIS 637 Economic Development**

This course focuses on concepts of economic development and the use of data in the decision making process. Additionally, students will explore strategies to provide safe, flexible, and stable economic growth. Students will employ methods of organizing, planning, and managing economic change to a specific region. They will apply Geographical Information System (GIS) and data analytics to data-driven decision making. Online only. 3 credits.

## **GIS 638 GIS and Community Economic Development**

In this course, students will explore the relationship between data analysis and Geographical Information System (GIS) and building strong communities and economies. This course covers topics related to community development, including small business development, affordable housing, and empowerment of local economies through effective geospatial allocation of social and financial resources. Students will consider strategies to apply multiple research methods and analysis to guide policy development, plans and practice. Online only. 3 credits.

## **GIS 655 GIS Project Planning and Leadership**

This course focuses on the essential leadership and technical skills necessary for effective Geospatial Information Systems (GIS) project management planning and implementation. Students will address key principles and analytical methods related to GIS, project management, leadership, and technology necessary for successful project outcomes. Students will create a real-world project integrating knowledge and skills acquired in this course. Online only. 3 credits.