

# Geographic Information Systems

## Geographic Information Systems Courses

### GIST/CRIM170 : Concepts in Terrorism & Homeland Security

Introduces students to terrorism and terrorist organizations, as well as the practices, policies and issues relevant to the security of the United States that terrorism presents. Examines federal, state and local governmental agencies that form the apparatus which provides for homeland security in the United States and their responsibilities regarding natural disasters, terrorism and other man-made catastrophes. Provides a broad-based overview of technologies, including Geographic Information Systems (GIS), used in the analysis and decision-making processes employed by our homeland security apparatus.

**Credits** 3

**Lecture Hours** 3

**Lab/Clinical/Field Study Hours** 0

### GIST101 : Introduction to Geographic Information Systems

A broad-based overview of Geographic Information Systems (GIS) and their applications in the analysis and decision-making process. Students learn how maps are used to collect, analyze, display and evaluate facts and ideas for solving problems in multidisciplinary applications. These skills will help students prepare for careers in fields that use spatial data, including (but not limited to), natural and social sciences, environment, business, hospitality management, history, social work, public safety, health, real estate, criminal justice, engineering and military science. Students are required to have basic computer skills.

**Credits** 4

**Lecture Hours** 4

**Lab/Clinical/Field Study Hours** 0

### GIST150 : Geospatial Data Collection

A broad overview of the input module of a Geographic Information System (GIS) that supports coherent outputs to spatial queries. The focus is on the operations and characteristics of land-based, airborne and satellite systems for geospatial data acquisitions for GIS databases. Students will learn the basics of GIS input data quality, understand metadata descriptions, skills to evaluate and understand multisensor data fusion, data compatibilities and types, and a systems approach for a consistent output.

**Credits** 4

**Lecture Hours** 4

**Lab/Clinical/Field Study Hours** 0

**Prerequisites**

GIST101 and MATH074

### GIST201 : Digital Mapmaking

Course is designed to examine concepts and techniques related to the science and art of mapmaking, also known as cartography. Students will learn the fundamental elements of planning, creating and designing digital maps that effectively communicate spatial relationships while considering factors such as type of data, purpose of the map, audience and media. Students will critically analyze different kinds of maps and foster an understanding of the ethical issues involved in making maps.

**Credits** 4

**Lecture Hours** 4

**Lab/Clinical/Field Study Hours** 0

**Prerequisite Courses**

GIST101: Introduction to Geographic Information Systems