

Homeland Security and Emergency Management Academy
Advanced Geographic Information Systems and Remote Sensing
Essential Curriculum

Overview

In this course, students will be able to determine the practical uses of Geographic Information Systems. Advanced skills and knowledge of the ArcGIS family of programs will continue to build from skills gained in the Geographic Information Systems and Remote Sensing course. Students will synthesize information from a range of sources to initiate and participate in range of collaborative discussions

Unit I: Extended Tools in Remote Sensing

Students will be able to:

- Use data in image analysis
- Use orthorectification techniques
- Use feature extraction
- Display map vegetation
- Enhance images

Unit II: Extended Tools in 3D Visualization

Students will be able to:

- Use and identify 3D data types
- Convert 2D to 3D
- Display non-elevation data in 3D
- Animate and export projects
- Use global visualization techniques

Unit III: Extended Tools in Routing Analysis

Students will be able to:

- Explore geospatial networks
- Use best use analysis
- Find closest facility
- Determine service areas
- Model real world networks
- Identify best routes
- Analyze different types of geospatial networks

Application of Geospatial Project Management

Project Overview

Students will be able to:

- Use problem identification
- Determine stakeholders
- Determine project objectives
- Determine project title
- Determine geographic extent
- Project feasibility
- Determine functional requirements
- Determine project design
- Identify the components of a STARS certification
- Describe the process of a becoming STARS certified
- Present project to stakeholders
- Become S.T.A.R.S certified