



## Syllabus

### GIS 245 - Applications in Geographic Information Systems

#### General Information

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**Date** May 16th, 2023

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**Department** Conservation

**Course Prefix** GIS

**Course Number** 245

**Course Title** Applications in Geographic Information Systems

#### Course Information

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**Catalog Description** Geographic Information Systems are critical to understanding environmental change and restoration. Building on the fundamentals learned in Introduction to GIS, this course teaches data analysis, presentation and data management skills, and field mapping skills. Students will use conservation-based examples to construct and display maps that are useful in environmental decision making.

**Credit Hours** 3

**Lecture Contact Hours** 2

**Lab Contact Hours** 2

**Other Contact Hours** 0

**Grading Scheme** Letter

#### Prerequisites

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CON 241

#### Co-requisites

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None

## First Year Experience/Capstone Designation

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This course **DOES NOT** satisfy the outcomes applicable for status as a FYE or Capstone.

## SUNY General Education

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This course is designated as satisfying a requirement in the following SUNY Gen Ed category

None

## FLCC Values

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**Institutional Learning Outcomes Addressed by the Course**

Inquiry

## Course Learning Outcomes

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### Course Learning Outcomes

1. Analyze spatial and temporal environmental data.
2. Create and present maps showing spatial environmental data that clearly communicate results in a way that shows knowledge of industry standards.
3. Practice field collection and interpretation of spatial data including project planning; and data collection, management and presentation.

## Outline of Topics Covered

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- Spatial Data Use and Management
  - Georeferencing Images
  - Coordinate Systems and Projections revisited
  - Geodatabases
  - New data types (DEM's, LiDAR, Orthographic Imagery)
- Telling stories with maps
  - ArcGIS Story mapping
  - Online Interactive Maps
  - Showing land use change maps over time
- Mapping in the Field
  - ArcGIS Online
  - ArcGIS Field Maps
  - ArcGIS Survey 1 2 3
- Data Analysis
  - Database queries
  - Interpolation
  - Importing XY data

- Watershed delineation
- Image interpretation and analysis