Overview
The first of three courses in the ArcGIS Desktop Foundational Training Curriculum, this course teaches the fundamental concepts and basic functions of a GIS, the properties of GIS maps, and the structure of a GIS database. In course exercises, you will develop basic software skills by working with ArcGIS Desktop tools to visualize geographic data, create maps, query a GIS database, and analyze data using common analysis tools.

Who Should Attend
- Individuals who do not have any prior GIS education or workplace experience with GIS.
- Managers and GIS support staff who infrequently use ArcGIS and need to understand how GIS fits into their organization.

Goals
After completing this course, you will be able to:
- Understand what GIS is, what it can do, and how others are using it.
- See how your organization can benefit from a GIS.
- Create a basic GIS map.
- Work with different types of geographic data.
- Access information about geographic datasets and features.
- Apply a systematic approach to analyzing data in order to find patterns and relationships.

Topics Covered

**GIS overview**
- Basic functions of a GIS
- Real-world applications
- Components of a GIS map
- Features, layers, and data frames
- Map scale
- Relationship between features and attributes
- Exploring a GIS database
- Attribute tables
- Identifying features
- Symbolizing and labeling features based on their attributes

**Map layouts**
- Data view and layout view
- Layout tools
- Map templates
• Modifying map elements
• Printing maps
  Understanding location
• Coordinate systems and map projections
• Reading and finding location coordinates on a map
• Measuring area and distance on a map
  Raster data and vector data
• Representing real-world features
• Storing real-world locations
• Symbolizing rasters
• Using raster and vector data together
• The geodatabase
  Geographic data
• Data formats
• Methods of creating geographic data
• Using ArcCatalog to explore geographic data
• Metadata
  Querying data
• Attribute queries
• Spatial queries
  Analyzing spatial relationships
• Overlay
• Buffering features
• Accessing tools in ArcToolbox
• Performing Union and Intersect operations
  Solving problems with GIS
• The geographic inquiry process
• Applying GIS tools to solve a geographic problem
• Creating a map to present results

Prerequisites

Knowledge of Windows-based software for basic file management and browsing is required.

Registration – online at www.niagara.edu/ce or (716) 286-8181