Intermediate GIS Concepts

Course Length: 24 hrs ArcGIS Version: 10.1

Overview

ArcMap can do so much more than simple map display and navigation. It has many tools for answering questions with the data you already have. Take your ArcGIS skills to a new level by learning to manage your data. Create new files and modify existing ones. Combine existing data into new datasets to show well and lease information in one table. Discover the immense functionality available in ArcToolbox. Take your map layouts to the next level with enhanced labels, new techniques for layouts. Make use of some lesser known features of ArcMap, like seeing animations of schools being placed over a century of time, link parcels to other documents like deeds, and attach photographs to road hazard locations.

Audience

This course is for those who already know the basics of ArcGIS and want to expand their skills with the software and GIS in general.

Topics Covered

Day 1

- GIS Data Sources – Where does all the data come from? Who creates it? How can you access it? (GIS Data on the Web; ESRI and Vendor Datasets; ArcGIS Online; ArcMap review)
- Projection Basics – Understand the importance of making sure your data is in the right place. See real-life examples of issues inaccurate spatial locations can cause. (Spatial Reference Issues; Spatial Reference; Spatial Reference and ArcGIS; Setting the Projection of Data)
- Rasters – Learn how to display and work with scanned maps, surfaces, and other images, such as aerial photos and satellite imagery. (Raster vs. Vector Data; Raster Data Types; Raster Display Properties; Image Analysis Window; Clipping a Raster)
- Joins and Relates – Connect parcel to a spreadsheet of owner info that has no coordinates. (Using Tables in ArcMap – Connecting to Table Data; Table Relationships; Attribute Joins; Attribute Relates; Spatial Joins)
Day 2

- Bringing Data into ArcGIS – Take paper maps and place them into correct spatial locations, import or export data from Google Earth, and more. (Georeferencing; Importing data)
- Creating GIS Data – Create your own GIS data files. (GIS Data Types and File Creation; Setting Properties of GIS Data)
- Beginner Editing – Create your own GIS data and make changes to existing data. (Editing Workflow; Tips and Tricks for Successful Editing; Sketch Creation Tools – Working with Geometry; Feature Construction Tools – Creating Features from Scratch; Construction Methods – Modifying Existing Features; Edit Attributes)
- Advanced Editing – Employ some data QC techniques by creating your own feature templates and ensuring that the boundaries between features that touch are accurate. (Managing feature templates; Editing tips and tricks; Map Topology)

Day 3

- Geoprocessing Tools – Build right-of-way polygons, find potential flood zones, and combine datasets to showcase school zones with potential hazards. (Geoprocessing Menu; ArcToolbox; Search for Tools; Environment Settings; Geoprocessing Options)
- Labeling Features – Display important information about your features with a variety of techniques. Adjust the appearance and placement of labels for maximum effect, while still emphasizing what’s most important. (Label Basics; Label Styles; Label Expressions; Label Classes)
- ArcMap Tools – Customize your ArcMap interface with your own toolbar and the tools you use most. Display time-related features and view it as an animated. Create dynamic graphs that adjust with the selected features. (Accessing Tools; Tools Toolbar; Other Toolbars; Graphs and Reports)
- Advanced Layouts – Learn additional techniques for making a clean map layout. Clip the data frame to the outline of a layer. Add a grid to show coordinates. Show how different data frames relate to one another. Create a set of multiple maps for a whole area, such as one for each parcel. (Aligning map elements, Clipping a data frame; Grids and graticules; Inset maps, Data Driven Pages, Exporting to PDF)

Format

In-person instruction with hands-on practice, and course materials you can keep.
Prerequisites and Recommendations

Students should have knowledge of Microsoft Windows® and be familiar with the basic use of ArcGIS, including the topics covered in either the Fundamentals of ArcGIS or ArcGIS Desktop I classes.