

Fundamentals
of
ArcGIS Desktop
Pathway

Table of Contents

| | |
|---|-----------|
| ArcGIS Desktop I: Getting Started with GIS | 3 |
| ArcGIS Desktop II: Tools and Functionality | 5 |
| Understanding Geographic Data | 8 |
| Understanding Map Projections and Coordinate Systems | 10 |
| Creating and Maintaining Metadata Using ArcGIS Desktop | 12 |
| Turning Data into Information Using ArcGIS 9 | 14 |
| Working with Rasters in ArcGIS Desktop | 17 |
| Basics of the Geodatabase Data Model | 19 |
| Customizing ArcMap: Easy Ways to Extend the Interface | 20 |
| Creating and Editing Labels and Annotation | 22 |
| The 15-Minute Map: Creating a Basic Map in ArcMap | 24 |
| Understanding GIS Queries | 26 |
| Working with Map Topology in ArcGIS | 27 |

ArcGIS Desktop I: Getting Started with GIS

2 days (16 hours)

Authored by ESRI

▼Overview

This course is part of the [ArcGIS Desktop 9.3 Foundational Training Curriculum](#). The ArcGIS 9.2 version of this course was titled [Learning GIS Using ArcGIS Desktop](#).

This course provides the foundation for understanding what GIS is, what it can do, and how others are using it. You learn the basic functions of a GIS, why a GIS database is powerful, and what coordinate systems and map projections are and why they are important. In course exercises, you work with ArcMap to visualize geographic data, create maps, query a GIS database, perform spatial analysis using common analysis tools, and solve geographic problems using a systematic approach. This course teaches the skills and knowledge needed to take [ArcGIS Desktop II: Tools and Functionality](#).

▼Who Should Attend

This course is designed for those who are new to GIS and ArcGIS, or those who are infrequent users of ArcGIS who do not have a GIS background.

▼Goals

Those completing this course will be able to

- Explain what a GIS is and what it can do.
- Work with and create GIS maps in ArcMap.
- Access and query a GIS database.
- Describe two common GIS data structures.
- Explain what geographic data is, how it is made, and where to get it.
- Explain what spatial analysis is and solve geographic problems using ArcGIS analysis tools.

▼Topics Covered [Table of Contents](#) [PDF 21kb]

- The big picture of GIS: Basic functions of a GIS; Real-world applications.
- Exploring GIS maps: Defining features, layers, and data frames; Exploring map scale; Understanding the relationship between features and attributes.

- Exploring a GIS database: Exploring attribute tables; Identifying features; Symbolizing features based on their attributes; Labeling features based on their attributes.
- Creating map layouts: Understanding data view and layout view; Using the Layout toolbar; Using map templates; Modifying map elements; Printing maps.
- Understanding location: Defining coordinate systems and map projections; Reading and finding location coordinates on a map; Measuring area and distance on a map.
- Understanding raster and vector data: Representing geography; Storing real-world locations; Symbolizing rasters; Using raster and vector data together; Understanding geodatabases.
- Acquiring geographic data: Data formats; Methods of creating geographic data; Using ArcCatalog to explore geographic data; Using metadata.
- Querying data: Understanding and performing attribute queries; Understanding and performing spatial queries.
- Analyzing spatial relationships: Understanding overlay; Understanding buffer; Accessing tools in ArcToolbox; Performing Union and Intersect; Buffering features.
- Solving problems with GIS: Applying the geographic inquiry process; Using GIS tools to solve a geographic problem; Creating a map to show results.

▼Prerequisites

Students should know how to use Windows-based software for basic file management and browsing.

▼Software Used in Course

This course is designed to work with the following software:

| ArcGIS Desktop* | Version |
|------------------------|----------------|
| ArcView | 9.3 |
| ArcEditor | 9.3 |
| ArcInfo | 9.3 |

ArcGIS Desktop II: Tools and Functionality

3 days (24 hours)

Authored by ESRI

▼Overview

*This course is part of the [ArcGIS Desktop 9.3 Foundational Training Curriculum](#). The ArcGIS 9.2 version of this course was titled *Introduction to ArcGIS I*.*

ArcGIS Desktop software is an integrated system that includes all the tools needed to get the most out of a GIS. This course teaches the range of functionality available in the software and the essential tools for visualizing, creating, managing, and analyzing geographic data. The hands-on course exercises emphasize practice with ArcMap and ArcCatalog (the primary applications included with ArcGIS Desktop software) to perform common GIS tasks and workflows. The tools for creating and managing geographic data, displaying data on maps in different ways, and combining and analyzing data to discover patterns and relationships are highlighted, and you learn how ArcGIS Desktop provides a complete GIS software solution. By the end of the course, you will be prepared to start working with the software on your own.

▼Who Should Attend

This course is designed for those with an education in or workplace experience with GIS but no ArcGIS software experience. This course assumes knowledge of basic GIS concepts. This course teaches the skills and knowledge needed to take other ArcGIS courses, including [ArcGIS Desktop III: GIS Workflows and Analysis](#).

▼Goals

Those who complete this course will be able to

- List common GIS tasks and identify which ArcGIS Desktop application is used for each task.
- Understand what the geodatabase offers for GIS data storage.
- Create and edit geodatabase features.
- Control the appearance and display of data layers in ArcMap.
- Classify and symbolize map data.
- Label map features.
- Change the coordinate system and map projection used to display a dataset.

- Access feature information in tables and control table display properties.
- Query and analyze GIS data.
- Create presentation-quality maps and graphs.

▼ **Topics Covered** [Table of Contents](#) [PDF 25kb]

- Investigating geographic data: How geographic data is stored; Vector and raster data; Geodatabase basics and advantages; Shapefiles; Coverages; CAD data; Managing data in ArcCatalog; Displaying data in ArcMap; ArcMap basics; Data and layers.
- Managing map layers: Zooming to layers; Bookmarks; Display windows; Scale ranges; Group layers; Selection layers; Layer files; Creating hyperlinks.
- Symbolizing categorical data: Symbology; Choosing symbology; Types of symbols (marker, line, fill); Creating symbols.
- Symbolizing quantitative data: Symbology options (graduated colors, graduated symbols, proportional symbols, dot density, charts); Classification methods (Natural Breaks, Equal Interval, Quantile, Manual); Excluding data from a classification; Rendering raster data.
- Labeling map features: Label placement for different feature types (points, lines, polygons); Label symbology; Controlling label display using scale range and SQL query; Label classes; Label expressions; Label ranks and weights; What is annotation?; Geodatabase annotation; Map annotation.
- Using coordinate systems and map projections: What is a coordinate system?; Geographic coordinate systems; Datums; Projected coordinate systems; Map projections; Feature classes and coordinate systems; Data frames and coordinate systems; Geographic transformations; Working with an unknown coordinate system; Projecting data; Defining a projection.
- Making a map layout: Working in layout view; Tools for arranging map elements; Data frame properties for layouts; Adding legends, scale bars, and other map elements; Exporting maps; Working with map templates.
- Managing tables: Table structure; Layer attribute tables; Nonspatial tables; Getting information from tables; Field properties; Table appearance; Creating graphs and reports; Connecting tables using joins and relates; Cardinality.
- Editing features and attributes: Reasons to edit data; Working with the Editor toolbar; Edit sketches; Common editing tools; Edit tasks; Snapping to features while editing; Editing attributes; Calculating values for geometry fields; Working with coincident geometry in a map topology; Typical editing workflow.

- Creating geodatabases and feature classes: Types of geodatabases; Geodatabase organization; Feature class organization; Feature class properties and attributes; Metadata; Creating, viewing, and editing metadata; Importing and exporting metadata; Creating features in a new feature class.
- Getting locations from attributes: Adding x,y coordinate data; Finding places and addresses; Finding routes and nearby places; Geocoding; Geocoding components (address table, address locator, reference data); Address matching overview; Geocoding workflow; Reference data sources.
- Solving spatial problems with query and analysis: GIS analysis basics; Typical analysis workflow; Common analysis operations (attribute and spatial queries, clipping data from layers, buffering features, overlaying features); Overview of geoprocessing; Analysis results.
- Customizing ArcGIS Desktop: Why customize the interface?; Customize dialog box; Locating commands; Adding new toolbars, commands, and menus; Saving customizations; Saving to a template; Storing templates.

▼Prerequisites

Students should have completed [ArcGIS Desktop I: Getting Started with GIS](#) or [Getting Started with GIS](#) or have equivalent knowledge.

▼Software Used in Course

This course is designed to work with the following software:

| ArcGIS Desktop* | Version |
|------------------------|----------------|
| ArcEditor | 9.3 |
| ArcInfo | 9.3 |
| ArcView | 9.3 |

Understanding Geographic Data

6 modules (18 hours)

Authored by [David DiBiase](#)

▼Overview

Acquiring geographic data is an expensive process, so it makes sense for GIS users and their customers to know what to look for and where to look for their data. This course provides a comprehensive survey of the nature of geographic data and of the technologies and professions involved in producing the data. Students gain a thorough understanding of the geographic data needed to perform common GIS tasks. In course exercises, students find geographic data on the Internet from institutions such as the U.S. Geological Survey and the U.S. Census Bureau, and work with ArcGIS software and public domain data viewing applications to visualize the data they study.

▼Who Should Attend

This course is designed for new GIS users and customers of GIS service providers who want to become informed consumers of geographic data.

▼Goals

Those completing this course will be able to

- Specify the characteristics of geographic data needed to perform common GIS tasks.
- Determine whether the required data is available.
- Recognize the technology required to produce data needed for a particular task.

▼Topics Covered

- What Are Geographic Data?: Data informs decision making; Properties of geographic data; Map scale and map projections; Sources of geographic data; Exploring ArcGIS Desktop
- Land Surveys and GPS: Specifying positions on a plane; Horizontal positions; Vertical positions; Specifying positions on a spheroid; The Global Positioning System (GPS)
- Aerial Photographs and Planimetric Data: Topographic maps; Air photos and photogrammetry; Vector planimetric data
- Aerial Photographs and Elevation Data: Elevation data on topographic maps; Vector elevation data; Raster elevation data

- Remotely Sensed Image Data: The nature of remotely sensed image data; Visible and infrared image data; Multispectral image processing; Microwave data
- Census Data and Thematic Maps: Attribute data produced by the U.S. Census Bureau; Thematic maps; Planimetric data produced by the U.S. Census Bureau

▼Prerequisites

None.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |
| ArcEditor | 9.1, 9.2 or 9.3 |
| ArcInfo | 9.1, 9.2 or 9.3 |

*Only one product in this category is required.

Other

Adobe Reader

QuickTime

You can download Adobe Reader for free from Adobe Systems Incorporated at www.adobe.com.

You can download QuickTime Player for free from Apple Computer, Inc. at <http://www.apple.com/quicktime/download/>.

Understanding Map Projections and Coordinate Systems

6 modules (18 hours)

Authored by ESRI

▼Overview

Accurately representing features found on the earth's three-dimensional surface on a flat piece of paper or computer screen is a huge logistical problem—one whose solution involves mathematics, human ingenuity, and ever-evolving technology. In a GIS, map projections and coordinate systems are used to map real-world features. This six-module course introduces the fundamental concepts behind map projections and coordinate systems. Essential characteristics of all map projections—aspect, perspective, and distortion—are discussed. The emphasis is on theory, but students gain practical experience working with ArcGIS software to apply map projections, modify their properties, and manipulate data stored in different coordinate systems. This course does not teach the mathematics behind individual map projections.

▼Who Should Attend

This course is designed for students and GIS professionals who want to understand the properties of different map projections and coordinate systems.

▼Goals

Those completing this course will be able to

- Explain map projection distortion.
- Define map projection plane and aspect.
- Set map projection parameters.
- List strengths and weaknesses of different map projections.
- Describe horizontal datums.
- Understand the properties of different coordinate systems.

▼Topics Covered

- Sizing Up the Earth: Discovering the earth's shape and size; Refining the earth's shape; Establishing location
- Flattening the Earth: Birth of the map projection; Developable surfaces; Refining the map projection

- Understanding Aspect and Perspective: Aspect for cylindrical projections; Aspect for planar projections; Aspect for conic projections; Perspective; Classifying projections
- Understanding and Controlling Distortion: Understanding distortion; Examining tangents and secants; Projection parameters; Choosing a projection
- Geographic and Planar Coordinate Systems: What is a coordinate system?; Commonly-used coordinate systems
- Introduction to Datums: Basics of datums; Datum transformations

▼Prerequisites

Students should be familiar with basic GIS concepts. Familiarity with ArcGIS software is beneficial.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |
| ArcEditor | 9.1, 9.2 or 9.3 |
| ArcInfo | 9.1, 9.2 or 9.3 |

*Only one product in this category is required.

Creating and Maintaining Metadata Using ArcGIS Desktop

3 modules (9 hours)

Authored by ESRI

▼Overview

Metadata, the key information that documents a dataset, has emerged as a powerful tool for safeguarding an organization's investment in spatial data. Documenting datasets allows people to efficiently find them, evaluate their usefulness for a particular project, and share them with others. This course shows how metadata supports efficient management and use of spatial data and teaches practical strategies for creating and maintaining metadata using ArcGIS Desktop software. Students learn how to write proper metadata using tools in ArcCatalog and how to automate metadata workflows using templates.

▼Who Should Attend

This course is designed for experienced ArcGIS users who work with, create, edit, or manage spatial data.

▼Goals

Those completing this course will be able to

- Describe the benefits of creating and maintaining metadata.
- Explain the advantages of adhering to a metadata standard.
- Implement an appropriate metadata standard.
- Search metadata to find datasets.
- Evaluate datasets using metadata.
- Plan metadata content.
- Write proper metadata.
- Create templates and use sample code to streamline metadata production.
- Identify various ways to share metadata.

▼Topics Covered

- Getting Started with Metadata: The value of metadata; Finding data and applying metadata standards
- Creating and Editing Metadata: Creating metadata; Planning metadata content
- Planning a Metadata Workflow: Developing a metadata workflow; Sharing your metadata

▼Prerequisites

Students should have completed [Learning ArcGIS Desktop](#) or have equivalent knowledge.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |
| ArcEditor | 9.1, 9.2 or 9.3 |
| ArcInfo | 9.1, 9.2 or 9.3 |

*Only one product in this category is required.

Turning Data into Information Using ArcGIS 9

6 modules (18 hours)

Authored by ESRI and [Paul A. Longley Ph.D.](#), [Michael F. Goodchild Ph.D.](#), [David J. Maguire Ph.D.](#), and [David W. Rhind Ph.D.](#)

▼Overview

Along with the explosive growth of GIS over the last decade, a considerable increase in the availability and use of digital sources of spatial data has occurred. Producing new and useful information from spatial data requires a thorough understanding of their limitations and the methods used to process them.

This course examines the scientific methods used to derive useful information from spatial data. A companion to the book *Geographic Information Systems and Science, Second Edition* published by John Wiley & Sons Ltd, the course is designed to complement this book and reinforce its concepts through exercises and examples. Students explore GIS theory related to the visualization, measurement, transformation, and optimization of spatial data. An underlying theme that uncertainty is an inherent characteristic of spatial data is thoroughly examined and students learn how to identify it, measure it, and live with it.

▼Who Should Attend

This course is designed for those with a basic, intermediate, or advanced knowledge of GIS who want to develop the skills associated with creating useful information from spatial data. This course is a companion to the book *Geographic Information Systems and Science, Second Edition*. The book can be ordered through [John Wiley & Sons](#) but is not required to complete the course. Students and GIS professionals alike will find this course provides core skills that will be a beneficial addition to their GIS knowledge base.

▼Goals

Those completing this course will be able to

- Describe what spatial data are and how information is derived from them.
- Identify how to best represent spatial data.
- Assess the nature of spatial data and techniques of spatial autocorrelation, sampling, and interpolation.
- Understand how uncertainty in spatial data is propagated through the conception, measurement, and analysis of geographic phenomena.

- Comprehend how GIS-based visualization allows users to derive information, interact with spatial data, and represent attributes and spatial objects.
- Query and measure spatial and other attribute data.
- Perform spatial overlays, interpolation, and density estimations in order to transform spatial data into meaningful information.
- Produce statistical summaries of spatial data.
- Conduct optimization studies with spatial data to identify desired point locations and routes.
- Understand the rationale of and methods for spatial hypothesis testing.
- Assess the uncertainties associated with spatial data.

▼Topics Covered

- Basics of Data and Information: Representing geography; The nature of geographic data; Creating and visualizing information; Uncertainty
- Cartography, Map Production, and Geovisualization: GIS-based visualization; Representing attributes and spatial objects; Scientific visualization; Advanced methods for improving visualizations
- Query and Measurement: Querying views of a GIS; Advanced queries; Querying for measurements
- Transformations and Descriptive Summaries: Buffering, point-in-polygon, and polygon overlay; Spatial interpolation and density estimation; Centers and dispersion; Histograms, pie charts, and scatterplots; Spatial dependence and fragmentation
- Optimization and Hypothesis Testing: Optimization; Hypothesis testing
- Uncertainty: Measuring uncertainty of nominal and ordinal values; Measuring uncertainty of interval or ratio values; Uncertainty issues for spatial data

▼Prerequisites

Students should have completed [Learning ArcGIS Desktop](#) or have equivalent knowledge.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|-----------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |

| | |
|-----------|-----------------|
| ArcEditor | 9.1, 9.2 or 9.3 |
|-----------|-----------------|

| | |
|---------|-----------------|
| ArcInfo | 9.1, 9.2 or 9.3 |
|---------|-----------------|

*Only one product in this category is required.

ArcGIS Extensions

Version

| | |
|-----------------|-----------------|
| Spatial Analyst | 9.1, 9.2 or 9.3 |
|-----------------|-----------------|

Working with Rasters in ArcGIS Desktop

3 modules (9 hours)

Authored by ESRI

▼Overview

Requires ArcGIS 9.2 or 9.3.

Many geographic phenomena are best represented as rasters, but GIS users tend to be less familiar with this data model than with the vector data model. This course unlocks the mysteries of the raster. Students learn which types of geographic phenomena are appropriately represented as rasters and how the type of data affects raster analysis. In course exercises, students explore and work with a variety of raster datasets using core ArcGIS tools. Students gain experience displaying rasters and modifying their properties to aid visual interpretation.

▼Who Should Attend

This course is designed for experienced ArcGIS users who want to better understand and work with rasters. This course provides a foundation for more advanced work with rasters using the ArcGIS Spatial Analyst and ArcGIS 3D Analyst extensions.

▼Goals

Those completing this course will be able to

- Describe the structure of a raster.
- Display different types of rasters in ArcMap.
- Work with raster catalogs.
- Georeference rasters.
- Symbolize rasters using a variety of classification methods.
- Choose appropriate analysis techniques for different types of rasters.
- Adjust raster brightness, contrast, and transparency.
- Assign appropriate band colors to display multiband rasters.
- Understand which band combinations are useful for different applications.

▼Topics Covered

- Raster Basics: What is a raster?; Types of rasters; What do cell values mean?
- Displaying Rasters in ArcMap: Displaying thematic rasters; Displaying multiband rasters

- Managing Raster Data: Raster storage; Aligning raster data with other spatial data

▼Prerequisites

Students should have completed [Learning ArcGIS Desktop](#) or have equivalent knowledge.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|----------------|
| ArcView | 9.2 or 9.3 |
| ArcEditor | 9.2 or 9.3 |
| ArcInfo | 9.2 or 9.3 |

*Only one product in this category is required.

Basics of the Geodatabase Data Model

1 module (3 hours)

Authored by ESRI

▼Overview

The geodatabase is the latest data model created by ESRI for representing real-world features and storing geographic data. This course introduces the basic components of a geodatabase—tables, feature classes, feature datasets, and relationships. Together, these components form the building blocks needed for geographic data input, query, display, and analysis. Students learn how geographic data is stored in each of the four components.

▼Who Should Attend

This course is designed for those who are new to the geodatabase or who are considering migrating their geographic data from other formats to the geodatabase.

▼Goals

Those who complete this course will be able to

- List the basic components of the geodatabase data model.
- Use the ArcCatalog tools for identifying and examining geodatabase components.
- Understand different ways to organize geodatabase feature classes.

▼Prerequisites

None.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |
| ArcEditor | 9.1, 9.2 or 9.3 |
| ArcInfo | 9.1, 9.2 or 9.3 |

*Only one product in this category is required.

Customizing ArcMap: Easy Ways to Extend the Interface

1 module (3 hours)

Authored by ESRI

▼Overview

You don't need to be an experienced programmer to customize ArcMap. This course introduces easy ways to add custom functionality to the ArcMap interface. Using sample Visual Basic and VBA code, you will learn how to add, remove, and rearrange toolbars and menus; create new buttons, tools, commands, and shortcut keys; and access commands that are not on the ArcMap interface.

▼Who Should Attend

This course is designed for ArcGIS users who would like to customize the default ArcMap interface or extend its functionality.

▼Goals

Those who complete this course will be able to

- Use the Customize dialog box to add, delete, and move buttons and tools on standard ArcMap toolbars.
- Create a custom toolbar.
- Modify a shortcut key.
- Find sample code and run it as a macro.
- Associate a macro with a tool on a toolbar.
- Save customizations only to the current map document or to all ArcMap sessions.

▼Prerequisites

Students should be familiar with basic ArcMap operations and concepts. No programming experience is required.

▼Software Required

To complete course exercises, you need the following software:

ArcGIS Desktop***Version**

ArcEditor

9.1, 9.2 or 9.3

ArcInfo

9.1, 9.2 or 9.3

ArcView

9.1, 9.2 or 9.3

*Only one product in this category is required.

Creating and Editing Labels and Annotation

2 modules (6 hours)

Authored by ESRI

▼Overview

ArcGIS software provides powerful tools for adding descriptive text that enhances maps and makes them more usable. This course teaches how to create labels and annotation, as well as how to manage them to streamline map creation. The hands-on exercises illustrate a variety of processes for resolving realistic labeling challenges.

▼Who Should Attend

This course is designed for experienced ArcGIS users who want to learn how to efficiently create attractive, effective map labels and annotation.

▼Goals

Those who complete this course will be able to

- Organize feature labels into label classes.
- Position and prioritize feature labels.
- Customize label appearance.
- Use VBScript to customize label text.
- Create annotation by converting feature labels.
- Convert coverage annotation to geodatabase annotation.
- Add new annotation features.
- Modify annotation attributes, position, and symbology.

▼Topics Covered

- Working with Labels: Adding labels to your map; Managing labels
- Working with Annotation: Getting started with annotation; Organizing annotation; Modifying annotation

▼Prerequisites

Students should have completed [Learning ArcGIS Desktop](#) or have equivalent knowledge.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |
| ArcEditor | 9.1, 9.2 or 9.3 |
| ArcInfo | 9.1, 9.2 or 9.3 |

*Only one product in this category is required.

Note: ArcView users can complete all course exercises, except the last one. The final exercise guides students through the creation of feature-linked annotation, which requires ArcEditor or ArcInfo.

The 15-Minute Map: Creating a Basic Map in ArcMap

1 module (3 hours)

Authored by ESRI

▼Overview

Creating presentation-quality maps does not have to be time-consuming. The map templates included with ArcMap provide attractive default layouts for fundamental map elements such as geographic data, titles, scale bars, and company logos. Using a template is an efficient way to reduce the time spent creating a map. This focused course teaches how to use ArcMap templates to streamline map creation. Students learn how to identify map element properties and defaults, how to modify elements while maintaining proper cartographic design principles, and how to add elements to layouts to create custom ArcMap templates.

▼Who Should Attend

This course is designed for ArcGIS users who are interested in learning quick and efficient map production techniques.

▼Goals

Those completing this course will be able to

- Access and preview map templates.
- Modify map elements such as titles, data frames, legends, scale bars, and graticules.
- Draw a graphic on a map.
- Add text to a map.
- Save a map as a custom template.
- Prepare a map for printing.

▼Prerequisites

Students should be familiar with basic ArcMap operations and concepts. Completion of the free first module of [Learning ArcGIS Desktop](#) is recommended.

▼Software Required

To complete course exercises, you need the following software:

ArcGIS Desktop*

Version

ArcView 9.1, 9.2 or 9.3

ArcEditor 9.1, 9.2 or 9.3

ArcInfo 9.1, 9.2 or 9.3

*Only one product in this category is required.

Understanding GIS Queries

1 module (3 hours)
Authored by ESRI

▼Overview

Queries are an important component of geographic analysis and problem solving. This course teaches how to construct spatial and attribute queries using ArcGIS software. The basic elements of a query are defined and query-building tools are introduced. Using these tools, analysis can be performed, complex questions can be answered, and geographic problems can be solved.

▼Who Should Attend

This course is designed for new ArcGIS users or for those new to GIS who want to learn how to create queries using ArcGIS software.

▼Goals

Those completing this course will be able to

- Construct a query to select features based on an attribute.
- Construct a query to select features based on their location.
- Construct a query to remove features from a selected set.

▼Prerequisites

Students should be familiar with basic ArcGIS operations and concepts.

▼Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |
| ArcEditor | 9.1, 9.2 or 9.3 |
| ArcInfo | 9.1, 9.2 or 9.3 |

*Only one product in this category is required.

Working with Map Topology in ArcGIS

1 module (3 hours)

Authored by ESRI

▼ Overview

ArcView users can use map topology to perform a host of topological edits that do not require the use of geodatabase topology. Map topology is a basic form of topology used on simple features in a map during an edit session. These features may be stored in either a shapefile or a personal geodatabase feature class. With map topology you can simultaneously edit features that overlap or touch. This focused course provides an overview of map topology and gives ArcView users a foundation for working with map topology tools.

▼ Who Should Attend

This course is primarily designed for ArcView users, but is also useful for ArcEditor or ArcInfo users who want to learn about map topology.

▼ Goals

Those who complete this course will be able to

- Create a map topology.
- Modify coincident feature geometry.
- Set snapping preferences for an edit session.
- Move a boundary shared by two features.

▼ Prerequisites

Students should be familiar with basic ArcMap operations and basic editing tasks.

▼ Software Required

To complete course exercises, you need the following software:

| ArcGIS Desktop* | Version |
|------------------------|-----------------|
| ArcView | 9.1, 9.2 or 9.3 |
| ArcEditor | 9.1, 9.2 or 9.3 |
| ArcInfo | 9.1, 9.2 or 9.3 |

*Only one product in this category is required.

