



ESRI authorized course

INTRODUCTION TO ArcGIS 9

(16 hours)

Overview

Welcome to ArcGIS®. Here begins the foundation for becoming a successful ArcView®, ArcEditor™, or ArcInfo™ user. This course covers fundamental GIS concepts as well as how to query a GIS database, manipulate tabular data, edit spatial and attribute data, and present data clearly and efficiently using maps and charts. Participants learn how to use ArcMap™, ArcCatalog™, and ArcToolbox™ and explore how these applications work together to provide a complete GIS software solution.

Students Receive:

- Two books, a CD with GIS tutorial data, and an evaluation copy of ArcGIS
- Course certificate from ESRI upon completion
- An understanding of fundamental GIS concepts
- Ability to use ArcGIS software

Audience

This course is for those who are new to ArcGIS or new to geographic information systems in general.

Prerequisites and recommendations

Participants should know how to use windowing software. This course provides the fundamental ArcGIS knowledge and experience needed to enrol in *Introduction to ArcGIS II*.

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Topics covered

- ArcGIS overview: Capabilities and applications; Interacting with the interface; Basic display
- Spatial data concepts: Representing spatial data and descriptive information
- ArcGIS data model: Geodatabases; Shapefiles; Coverages; Feature types; Attributes
- GIS software: Components; Functions; Applications
- Spatial coordinate systems and map projections: Georeferencing data; What map projections are; How ArcMap works with map projections
- Querying data: Selecting and identifying features; Creating reports and graphs
- Find features using spatial relationships
- Edit spatial and attribute data
- Map displays: Creating; Symbolizing; Scaling; Adding map elements

Cost

€ 700 + VAT (per student)

Further Information

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Detailed Program

Lesson 1: Exploring GIS concepts

- What is a GIS?
- GIS functions
- Capturing data
- Storing data
- Query
- Analysis
- Display
- Output
- Organizing spatial data
- Representing features in vector data
- Map scale
- Components of geographic data
- Using spatial relationships
- ArcGIS Desktop Products
- Overview of applications
- ArcMap
- ArcCatalog
- ArcToolbox Window
- Getting help

Lesson 2: Displaying data

- The ArcMap interface
- Data View or Layout View?
- Layers, data frames, and maps
- Layers
- Data frames
- Maps
- Managing the Table of Contents
- Moving around the map
- Using a bookmark
- Magnifier and overview windows
- Layer symbology in ArcMap
- Displaying qualitative values
- Displaying quantitative values
- Changing symbol properties
- Labeling features
- Scale-dependent display
- Creating a definition query
- Saving a layer file
- Changing the data source for a layer
- Setting ArcMap options

Lesson 3: Querying your database

- Identifying
- Finding
- Measuring
- Map tips and hyperlinks
- Why do you need a selection?
- Available selection tools

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- Selection layers
- Selection methods
- Interactive selection options
- Attribute selection
- Select by location (spatial query)
- Location selection methods
- Select by graphics
- Calculating summary statistics

Lesson 4: Working with spatial data

- Representing geographic features
- Introducing feature classes
- Linking features and attributes
- Spatial data formats
- Geodatabase data format
- Advantages of the geodatabase
- Geodatabase validation
- Other ESRI data formats
- CAD file data format
- Tabular locations to a point feature class
- Managing Raster Datasets
- Using Geography Network data
- Using ArcCatalog
- Three ways to view data
- The Contents tab
- Creating thumbnail images
- The Preview tab
- Introducing metadata
- The Metadata tab
- Connecting to folders
- Adding tables from other databases
- Accessing data on the Internet
- ArcCatalog Options
- Add new file types

Lesson 5: Working with tables

- Tables
- Understanding table anatomy
- Tabular data field types
- Table manipulation
- ArcGIS tabular formats
- Associating tables
- Table relationships
- Joins and relates
- Connecting tables with joins
- Connecting tables with relates
- Graphs
- Graph creation
- Reports
- The ArcMap Report Writer
- Crystal Reports

Lesson 6: Editing data

- ArcGIS editable data formats
- The Editor toolbar
- Managing edit sessions
- Selecting features

- Simple editing functions
- Working with sketches
- Using snapping
- Edit tasks
- Create New Feature task
- Modify Feature and Reshape Feature
- Extend/Trim Features and Cut Polygon
- Auto-Complete Polygon
- Adding a vertex or point
- Adding curves
- Trace tool
- Sketch context menus
- Modifying existing features
- Control sketch elements
- Editing attribute data for selected features
- Editing attributes on an open table
- Making schema changes
- Schema changes in ArcMap
- Adding table fields in ArcCatalog
- Schema changes with ArcToolbox
- Create New Feature Class

Lesson 7: Working with georeferenced data

- What is georeferencing?
- Coordinate systems
- Datums and datum conversion
- Referencing locations
- Map projections
- Projection distortion
- Types of projections
- Coordinate system components
- Storing projection information
- Viewing projection information
- ArcMap and projections
- Changing projections

Lesson 8: Presenting data

- Map and design objectives
- Factors controlling cartographic design
- Communication in maps
- Types of maps
- Issues in cartographic design
- Creating maps in ArcMap
- Setting up the page
- Identifying map elements
- Inserting map elements
- An example of the Legend Properties dialog
- Adding a north arrow and a scale
- Incorporating a reference system
- Inserting textual information
- Layout tools
- Grids and rulers
- Creating and using map templates
- Printing and plotting maps

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