Working with Cartographic Representations
Two Days

Overview
ArcGIS software provides the ability to create cartographic representations, which are used to create sophisticated feature symbology that is stored in the geodatabase with the associated spatial data. This course explains what cartographic representations are and how they can be used to solve cartographic problems. You learn how to create symbology for different map purposes and scales without duplication and reprocessing of spatial data. The course teaches cartographic representations in the context of a map project: in the exercises, you convert existing symbology to representations and gain experience with advanced symbol creation and manipulation as you improve a map designed to promote bicycling. Along the way, you learn how balancing the use of cartographic representations with traditional symbology methods can optimize a map production workflow.

Who Should Attend
This course is designed for intermediate to expert ArcGIS users who make maps or are responsible for managing cartographic data standards for their organizations.

Goals
Those completing this course will be able to

- Describe the structure of cartographic representations.
- Create cartographic representations using different methods.
- Create custom symbols using cartographic representations.
- Use cartographic representations to solve cartographic problems associated with symbol conflict, generalization, and scale.
- Create multiple cartographic representations for a single geodatabase feature class.
- Understand when to use cartographic representations and when to use traditional methods to symbolize map features.

Topic Covered
- Overview of cartographic representations: Review of the traditional symbology model; Elements of the cartographic representation model; Implications of storing symbology in the geodatabase; Representations vs. traditional symbology; Benefits of using representations.
- Cartographic project planning: Introduction to the course project map; Project map size, output media, and audience; Project data, study area, map scale, and coordinate system; Project layout and symbology requirements.
- Basics of cartographic representations: Understanding the representation structure; Creating, managing, and modifying representation rules; Assigning rules to features; Converting existing symbology to representations; Creating multiple representations for a feature class.

- Understanding symbol layers: Creating and modifying marker, stroke, and fill layers; Working with the Marker Editor; Importing symbology from style files and graphic files.
- Understanding marker placement styles and geometric effects: Uses and properties of marker placement styles; Overview of geometric effects; Geometric effects for point, line, and polygon geometry; Global geometric effects; Understanding and solving geometry logic errors.
- Managing overrides: Types of overrides; Storing override values; Creating and removing overrides; Managing symbol properties as attributes (field mapping).
- Refining representations: Using geoprocessing tools for automated cartography; Understanding free representations.
- Managing cartographic representations: Planning and workflow considerations; Review of proper use of rules, overrides, and field mapping; Using labels and annotation with representations; Geodatabase schema changes and implications for versioned geodatabases.
- Perfecting the map: Fine-tuning the project map with representations; Map layout and printing.

Pre-requisite

Students should have completed ArcGIS Desktop II: Tools and Functionality or Learning ArcGIS Desktop and Cartography with ArcGIS or Cartographic Design Using ArcGIS 9 or have equivalent knowledge.

Software Used in the Course

This course is designed to work with the following software:

ArcGIS Desktop	Version
ArcInfo	9.3