

MODELING GEODATABASES USING CASE TOOLS

COURSE OUTLINE

OVERVIEW

This three-day course teaches students how to use Microsoft Visio® and ArcGIS computer-aided software engineering (CASE) tools to design, diagram, and implement UML models of a geodatabase schema. A review of the geodatabase data format is included, along with instruction on how to migrate existing data sources, such as coverages and shapefiles, into a geodatabase. This course is an excellent follow-up to *Geodatabase Design Concepts*. This course does not address programming or database administration. Users interested in these topics may enroll in *Advanced ArcObjects Component Development I* and *Introduction to ArcSDE using ArcInfo 8*.

DURATION

3 Days

TOPICS COVERED

- **Geodatabase concepts:** Overview of geodatabase data format; Comparison of personal and ArcSDE geodatabases; GIS design considerations
- **Introduction to CASE tools:** Using CASE tools with the geodatabase; What CASE tools cannot do; Introduction to Visio; Stencils and shapes; Exporting a UML model to the repository; Installing the ArcCatalog CASE tool; Importing a UML model
- **Modeling object classes:** Modeling classes in CASE tools; Organizing multiple models in Visio; Using the Visio UML navigator; Using multiple diagrams for a model; Modeling classes; Setting class properties, class tagged values, class attributes, and attribute tagged values
- **Modeling binary associations:** Modeling binary associations in CASE tools; Setting relationship properties and relationship tagged values; Modeling attributed relationships
- **Modeling subtypes:** Modeling subtypes as classes in CASE tools; Setting subtype defaults; UML stereotypes and relationship rules between subtypes; Generating geodatabase schema from the UML model
- **Modeling domains:** Using template coded value and range domain classes in CASE tools; Setting domain properties; Creating a range domain; Creating a coded value domain; Organizing domains in the model
- **Modeling connectivity rules:** Modeling connectivity rules in CASE tools; Deciding to use connectivity rules; Setting edge-to-edge connectivity rules with Nary associations; Setting edge-to-junction connectivity rules with binary associations; Using generic junctions in the rules
- **Loading data into personal and ArcSDE geodatabases:** Using the ArcCatalog simple data loader; Using the ArcMap object loader; Considerations for migrating existing data
- **Reapplying a model:** Using CASE tools to reapply the UML model to a geodatabase; Effects on existing classes, fields, subtypes, relationship classes, domains, and networks
- **Modeling behavior:** Options for customizing applications and for extending the geodatabase data model; Using CASE tools to generate code; Building custom classes and custom class extensions

OBJECTIVES

Class participants learn how to

- Become familiar with the Visio and ArcGIS CASE tool environment
- Capture a UML geodatabase design model using CASE tools
- Generate geodatabase schema using CASE tools
- Load data into a geodatabase schema
- Generate code for custom classes and class extensions using CASE tools

Prerequisites

This is an intermediate course, best-taken following *Geodatabase Design Concepts*. Participants must be familiar with Geodatabase concepts (feature classes, domains, etc.) and the software that interacts with the geodatabase (ArcMap, ArcCatalog, and ArcToolbox). Prerequisite conceptual knowledge may be obtained in *Geodatabase Design Concepts*. Prerequisite software skills may be obtained in *Introduction to ArcGIS II* (for ArcView 8, ArcEditor 8, and ArcInfo 8) or *What's New in ArcInfo 8*.