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.