CivilTraining, LLC
a DAVEY company

AutoCAD Map 3D Intermediate – 16.0 Hours (2 Days)

Course Description

Summary

This class continues the examination of the features in AutoCAD® Map 3D, with additional emphasis on their applications in GIS. Much of the material covered in this class is common to both Map 3D and the map component of AutoCAD® Civil 3D®; the exception is certain survey and coordinate geometry tools that differ between the two programs. Owners of either Map 3D or Civil 3D will benefit from this course, and direction for operators of either program will be provided.

The Map 3D Intermediate class deals with concepts uniquely suited to GIS and Mapping applications, such as Object Classification, Topologies and Dynamic Annotation. Additionally, the class explores the use of Feature Data Objects, providing a means to interface with a number of external data formats and sources.

Topics and Schedule

Using Feature Data Objects in Map 3D
- Overview of Feature Data Objects (FDO)
- FDO Provider Sources
- Advantages and Disadvantages of Feature Data
- Connecting to a Feature Source
- Feature Sources and Geospatial Coordinate Systems
- Filtering Data from Feature Sources

Editing Feature Data
- Editing Feature Geometry
- Editing Feature Attributes
- Creating Feature Data from Drawing Geometry
- Splitting and Merging Geospatial Features

Using Object Classification in Map 3D
- Object Classification Process Overview
- Setting Up Object Classification
- Working with Classified Objects

Stylizing Drawings and Features
- Creating Display Maps from Drawing Data
- Using the Display Manager
- Creating and Using Display Maps

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Stylizing Drawings and Features (Continued)
- Stylizing Feature Data
- Available Feature Styles
- Applying Feature Stylization

Dynamic Annotation in Map 3D
- Dynamic Annotation Concepts
- Dynamic Annotation versus Static Labels
- Creating Dynamic Annotation Templates
- Using Map 3D Dynamic Annotation

Working with Topologies in Map 3D
- Topology Concepts
- Topology Types in Map 3D
- Using Drawing Cleanup to Produce Geometrically Clean Drawings for Topology Creation
- Creating Topologies in Map 3D
- Using Drawing-Based and External Attribute Data in Topologies

Topology Applications in Map 3D
- Topology Thematic Queries
- Network Topology Concepts – Direction and Resistance
- Route and Shortest Path Queries with Network Topologies
- Topology Buffer Overlays

Creating and Transforming Geospatial Data
- Creating Centroids from Polygons
- Creating Esri Shapefiles

Advanced Editing in Map 3D
- Source Drawing Editing and Save Back
- Creating Drawing Templates for Edit-Save Back
- Multi-user Access to Source Drawings
- Topology Editing

Working With Raster Data in Map 3D
- Connecting to a Raster Feature Source
- Raster Data in FDO versus Raster Design
- Map 3D and Digital Elevation Models (DEMs)
- Attaching and Stylizing a DEM
- Creating Contours from a DEM

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Advanced Map Tools and Utilities

- Map 3D Coordinate Geometry (Cogo) Tools
- Survey Data in Map 3D
- Map 3D Survey Data Stores

Using Map 3D Collaboratively with Esri Products

- Techniques for Esri Data Editing in Map 3D
- Working with Geodatabases

Prerequisites

Thorough familiarity with AutoCAD is essential. Participants should have completed the AutoCAD Map 3D Essentials course or have complete familiarity with its concepts.

Learning Objectives

1. Participants will be able to attach and stylize Feature Data using the sample project data used in the course.

2. Participants will be able to create dynamic annotation using an annotation template with the sample project data used in the course.

3. Participants will be able to create a polygon topology and a network topology using the sample project data used in the course.

4. Participants will be able to perform a topology thematic query using the sample project data used in the course.

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AutoCAD Map 3D Intermediate – Two Days	
Overall Course Length	16 Hours
Instructional Time	14 Hours
Professional Development Hours (PDHs)	
New York State Land Surveyors	14.0 PDHs
New York State Professional Engineers	14.0 PDHs

This course is a registered Continuing Education class with the AIA. Courses taught by CivilTraining, LLC meet continuing education/professional development requirements for Alabama, Delaware Professional Engineers, Georgia, Illinois, Kentucky, Michigan, Nevada, New Mexico, Ohio, Pennsylvania, South Carolina, Tennessee Professional Engineers, Texas Professional Engineers, Utah, Virginia, and West Virginia. CivilTraining, LLC is an approved Florida Board of Professional Engineers Continuing Education Provider for Area of Practice courses and is an approved Continuing Education Provider with the Florida Department of Agriculture and Consumer Services for the Board of Professional Surveyors and Mappers. The Indiana State Board of Registration for Professional Engineers has approved this course for continuing education, and CivilTraining, LLC is an approved Land Surveyor Continuing Education Provider by the Indiana State Board of Registration for Land Surveyors Professional Licensing Agency; 12.0 hours can be claimed for continuing education credit. CivilTraining, LLC is an approved provider of Continuing Professional Competency (CPC) requirements for Maryland Professional Engineers and Land Surveyors, approved by the Maryland Boards for Professional Engineers and Land Surveyors, and has received preapproval for this course by the Missouri Board for Architects, Professional Engineers, Professional Land Surveyors and Landscape Architects. CivilTraining, LLC is an approved provider of Continuing Professional Competency courses for New Jersey Professional Engineers by the New Jersey State Board of Professional Engineers and Land Surveyors, and this course has received approval for Continuing Professional Competency for Continuing Education of Land Surveying by the New Jersey Board of Professional Engineers and Land Surveyors. CivilTraining, LLC, an approved sponsor of continuing education for Professional Engineers and Land Surveyors in New York State, NYS Sponsor #171, has received approval for the above-referenced PDHs for this course. CivilTraining, LLC is an approved sponsor for North Carolina Engineers and Land Surveyors, approved by the North Carolina Board of Examiners for Engineers and Surveyors. This course is approved for continuing education credits for Rhode Island Professional Land Surveyors by the Rhode Island State Board of Registration for Professional Land Surveyors, and the Tennessee Board of Examiners for Land Surveyors has reviewed and approved CivilTraining, LLC's training courses for continuing education. This educational activity is approved by the Vermont Board of Land Surveyors for continuing education.

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