

## **AutoCAD Map 3D Essentials – 16.0 Hours (2 Days)**

### **Course Description**

#### **Summary**

This course explores the capabilities of AutoCAD® Map, either as a component of Autodesk Civil 3D® or as the separate product, AutoCAD Map 3D. The class serves as an introduction to Map for those interested in its use as a complete GIS toolset, those using Map in conjunction with Esri products for GIS applications, or those in the Civil Engineering, Surveying and Land Planning industries who wish to explore the Map capabilities in their AutoCAD® and Autodesk products.

The class provides a comprehensive overview of the Map tools for managing various types of graphical and non-graphical data. The class examines the use of Map source drawings providing selective viewing, querying and plotting of data across different drawings through work sessions. This class also examines Map's capabilities for management of non-graphical data through Map Object Data and external database attachments. Non-graphical data of this type may be created within Map for GIS/Mapping applications, may be imported into drawings in AutoCAD Map from external files such as shapefiles, or may be developed using Map tools for engineering and design takeoffs and estimating.

Editing and conversion aspects of the course focus on Map's ability to interchange data with other CAD and GIS systems, and to easily produce smaller, geometrically correct drawings.

#### **Topics and Schedule**

##### **Introduction to AutoCAD Map 3D**

- Map 3D Concepts and Capabilities
- The Map 3D user Interface
- Workspaces in Map 3D

##### **Working with Map Source Drawings**

- Source Drawing Concepts
- Working with Drive Aliases
- Attaching Source Drawings
- Source Drawing Capabilities and Basics of Querying
- Using Quick View

##### **Map Coordinate Systems**

- The Map Coordinate System and Capabilities
- Coordinate System Transformation

##### **Map and Drawing-Based Attributes**

- Drawing-Based Attribute Types in Map
- Capabilities, Advantages and Disadvantages of Drawing-Based Attributes

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### Working with Map Object Data

- Creating Map Object Data Tables
- Deploying Map Object Data Tables in a Project
- Attaching, Editing and Reviewing Map Object Data
- Querying Map Object Data

### Importing Data Files into the Map Drawing

- Map Import Capabilities and Supported Formats
- Importing Attribute Data
- Importing Shape Files

### Map Queries and Analysis with Drawing Data

- Property Alteration Queries
- Using Queries for Static Annotation
- Using Queries to Transfer Contour Elevation Data
- Object-Based Thematic Queries
- Performing a Buffer Overlay

### Map and External Databases

- External Database Concepts
- Map Database Connectivity Tools
- ODBC and the 64-Bit Environment
- Creating Databases for Use with Map
- Creating Database Links
- Using Database Links in Map Drawings

### More Advanced Map Data Operations

- Thematic Queries with Database Information
- Using Map Document Views with Object and Database Data

### Map Tools and Utilities

- Map Drawing Cleanup
- Using Drawing Cleanup for Data Conversion
- Working with Raster Images in Map
- Image Georeference Data, Map Coordinate Systems and AutoCAD Raster Design

### Prerequisites

Thorough familiarity with AutoCAD is essential.

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### Learning Objectives

1. Participants will be able to Quick View and query source drawings using the sample project data used in the course.
2. Participants will be able to create, attach and query Map Object Data using the sample project data used in the course.
3. Participants will be able to create, attach and query external database data using the sample project data used in the course.
4. Participants will be able to import Esri shapefile data, set elevations and create static annotation using the sample project data used in the course.

<b>AUTOCAD MAP 3D ESSENTIALS – TWO DAYS</b>	
Overall Course Length	16 Hours
Instructional Time	14 HOURS
<b>PROFESSIONAL DEVELOPMENT HOURS (PDHs)</b>	
New York State Land Surveyors	14.0 PDHs
New York State Professional Engineers	14.0 PDHs



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