



OVERVIEW OF COURSE

AutoCAD Civil 3D for Surveyors

Course Length: 3 days

This in-depth AutoCAD Civil 3D for Surveyors training course is for surveyors and survey technicians that do not necessarily need all of the functionality that is taught in AutoCAD Civil 3D Fundamentals. This training course equips the surveyor with the basic knowledge required to use AutoCAD Civil 3D efficiently in a typical daily workflow. Students learn how to import the converted field equipment survey data into a standardized environment in AutoCAD Civil 3D and to use the automation tools to create an Existing Condition Plan. Data collection, and traverses are also covered. Other topics that help in increasing efficiency include styles, correct AutoCAD drafting techniques, the methodology required to create linework effectively for variables used in defining symbology, surfaces, categorizing points, and importing imagery.

The main topics covered in this course are:

- The AutoCAD Civil 3D Interface
- The Planning and Analysis workspace
- Points overview and styles
- Importing points and coordinate transformations
- Creating points and drafting
- Point groups, grips, and reports
- Point security and editing
- Introduction to data collection in the field
- Introduction to Civil 3D Survey and automated linework
- Survey networks
- Coordinate Geometry Editor for entering traverse information or legal descriptions
- Surface overview
- Surface editing
- Surface labels and analysis
- Point clouds and creating a surface from point cloud data

Prerequisites:

Previous experience with the AutoCAD software and a basic understanding of the Surveying profession is recommended.



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Chapter 1: The AutoCAD Civil 3D Interface

- Product Overview
- AutoCAD Civil 3D Workspaces
- AutoCAD Civil 3D User Interface
- AutoCAD Civil 3D Toolspace
- AutoCAD Civil 3D Panorama
- AutoCAD Civil 3D Templates, Settings, and Styles

Chapter 2: Connecting to Geospatial Data

- Introduction to the Planning and Analysis Workspace
- Coordinate Systems
- Geospatial Data Connection
- Create a Surface from GIS Data

Chapter 3: Survey Setup

- Survey Workflow Overview
- Collecting Field Data
- Introduction to the Survey Toolspace
- Survey Figures
- The Survey Database
- Lines and Curves
- Coordinate Geometry Editor

Chapter 4: Points

- Points Overview
- Point Label Styles
- Point Settings
- Creating Points
- Transparent Command
- Description Key Sets
- Importing and Exporting Points
- Point Groups
- Reviewing and Editing Points
- Locking/Unlocking Points
- Point Reports



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Chapter 5: Points with Connective Codes

- Field Codes
- Survey Data - Figures
- Survey Data - Line Code
- Translating a Survey Database

Chapter 6: Field Book Files

- Survey Networks
- Importing a Field Book
- Working with Figures
- Filtering a Survey Database

Chapter 7: Surfaces

- Surface Process
- Surface Properties
- Surface Data
- Breaklines and Boundaries
- Surface Editing
- Surface Analysis Tools
- Surface Labels
- Surface Volume Calculations
- Surface Analysis Display
- Point Cloud Surface Extraction

Appendix A: Additional Tools

- Opening a Survey Database
- Least Squares
- Creating a Least Squares Input File
- Traverse Basics
- Defining a Traverse
- Multiple Network Surveys

Appendix B: AutoCAD Civil 3D 2016 Certification Exam



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