AutoCAD Civil 3D Fundamentals

Course Length: 4 days

The AutoCAD Civil 3D Fundamentals training course is designed for Civil Engineers and Surveyors who want to take advantage of the AutoCAD® Civil 3D® software’s interactive, dynamic design functionality. The AutoCAD Civil 3D software permits the rapid development of alternatives through its model-based design tools. You will learn techniques enabling you to organize project data, work with points, create and analyze surfaces, model road corridors, create parcel layouts, perform grading and volume calculation tasks, and layout pipe networks.

Topics Covered

▪ Learn the AutoCAD Civil 3D user interface.
▪ Create and edit parcels and print parcel reports.
▪ Create points and point groups and work with survey figures.
▪ Create, edit, view, and analyze surfaces.
▪ Create and edit alignments.
▪ Create data shortcuts.
▪ Create sites, profiles, and cross-sections.
▪ Create assemblies, corridors, and intersections.
▪ Create grading solutions.
▪ Create gravity fed and pressure pipe networks.
▪ Perform quantity takeoff and volume calculations.
▪ Use plan production tools to create plan and profile sheets

Prerequisites

Experience with AutoCAD® or AutoCAD-based products (such as Autodesk® Land Desktop) and a sound understanding and knowledge of civil engineering terminology.
Training Guide Contents

Chapter 1: The AutoCAD Civil 3D Interface

- 1.1 Product Overview
- 1.2 AutoCAD Civil 3D Workspaces
- 1.3 AutoCAD Civil 3D User Interface
- 1.4 AutoCAD Civil 3D Toolspace
- 1.5 AutoCAD Civil 3D Panorama
- 1.6 AutoCAD Civil 3D Templates, Settings, and Styles

Chapter 2: Project Management

- 2.1 AutoCAD Civil 3D Projects
- 2.2 Sharing Data
- 2.3 Using Data Shortcuts for Project Management

Chapter 3: Parcels

- 3.1 Lines and Curves
- 3.2 Introduction to Parcels
- 3.3 Creating and Editing Parcels by Layout Overview
- 3.4 Creating and Editing Parcels
- 3.5 Renumbering Parcels
- 3.6 Parcel Reports
- 3.7 Parcel Labels
- 3.8 Parcel Tables

Chapter 4: Survey

- 4.1 Survey Workflow Overview
- 4.2 Survey Figures
- 4.3 Points Overview
- 4.4 Point Settings
- 4.5 Creating Points
- 4.6 Description Key Sets
- 4.7 Importing Survey Data
- 4.8 Point Groups
- 4.9 Reviewing and Editing Points
- 4.10 Point Reports

Course description shown for Autodesk AutoCAD Civil 3D 2018. Topics, curriculum, and/or prerequisites may change depending on software version.
Chapter 5: Surfaces

- 5.1 Surface Process
- 5.2 Surface Properties
- 5.3 Contour Data
- 5.4 Other Surface Data
- 5.5 Breaklines and Boundaries
- 5.6 Surface Editing
- 5.7 Surface Analysis Tools
- 5.8 Surface Labels
- 5.9 Surface Volume Calculations
- 5.10 Surface Analysis Display
- 5.11 Point Cloud Surface Extraction

Chapter 6: Alignments

- 6.1 Roadway Design Overview
- 6.2 AutoCAD Civil 3D Sites
- 6.3 Introduction to Alignments
- 6.4 Alignments Layout Tools
- 6.5 Alignment Properties
- 6.6 Labels and Tables

Chapter 7: Profiles

- 7.1 Profiles Overview
- 7.2 Create a Profile View Style
- 7.3 Create Profiles from Surface
- 7.4 Create Profile View Wizard
- 7.5 Finished Ground Profiles
- 7.6 Create and Edit Profiles

Chapter 8: Corridors

- 8.1 Assembly Overview
- 8.2 Modifying Assemblies
- 8.3 Creating a Corridor
- 8.4 Corridor Properties
- 8.5 Designing Intersections
- 8.6 Corridor Surfaces
- 8.7 Corridor Section Review and Edit
- 8.8 Corridor Visualization
Chapter 9: Grading

- 9.1 Grading Overview
- 9.2 Feature Lines
- 9.3 Grading Tools
- 9.4 Modifying AutoCAD Civil 3D Grading

Chapter 10: Pipe Networks

- 10.1 Pipes Overview
- 10.2 Pipes Configuration
- 10.3 Creating Networks from Objects
- 10.4 The Network Layout Toolbar
- 10.5 Network Editing
- 10.6 Annotating Pipe Networks
- 10.7 Pressure Pipe Networks

Chapter 11: Quantity Take Off/Sections

- 11.1 Sample Line Groups
- 11.2 Section Volume Calculations
- 11.3 Pay Items
- 11.4 Section Views

Chapter 12: Plan Production

- 12.1 Plan Production Tools
- 12.2 Plan Production Objects
- 12.3 Plan Production Object Edits
- 12.4 Creating Sheets
- 12.5 Sheet Sets

Appendix A: Additional Information

- A.1 Opening a Survey Database
- A.2 Design Data
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