



Johannesburg

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Civil 3D Essentials

This course covers the essentials of AutoCAD Civil 3D. Students learn how to work with point data in AutoCAD Civil 3D; create and analyze a surface; develop a site; model corridors, and pipe networks; work with survey data; and import and export data.

Course Summary

AutoCAD Civil 3D Environment

- Working with workspaces
- Examining Toolspace
- Creating Objects, Object Styles, and Label Styles
- Creating Drawing Templates
- Creating Reports

Survey

- Creating Survey Databases
- Creating Survey
- Creating Figure Styles and Importing Field Book Files
- Working with Survey

Points

- Import and Create Points
- Manage Points
- Use Grips to Control Graphical Point Display
- Create a Point Table

Surfaces

- Create a Surface
- Modify the Surface Properties
- Edit a Surface
- Assign a Contour Style and Apply Surface Labels

Site Design: Parcel Creation

- Create a Right-of-Way
- Create Parcels Using Layout Tools
- Create Parcels from Objects
- Edit and Renumber Parcels
- Label Parcels and Create Table



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Site Design: Horizontal Alignments

- Create an Alignment with Polylines and Land XML
- Edit Alignments
- Label Alignments and Create Tables

Site Design: Existing and Design Profiles

- Create a Profile Using an Existing Terrain Surface
- Create a Design Profile Using Layout Tools
- Edit Profile Geometry
- Use Labels and Label Styles for Profiles and Profile Views

Site Design: Assemblies and Corridors

- Create Tool Palette with Subassemblies
- Create Assemblies for Cedar Cove Corridor
- Create a Corridor Model
- Create a Corridor Surface
- Extract Grading Feature Lines from Corridor

Site Design: Grading and Quantities

- Create and Edit Feature Lines
- Create Interim Grading Surface
- Create Feature Lines from the Surface and Update Surface
- Create Final Grading Surface and Calculate Volumes
- Create Spot Elevation and Grade Labels

Site Design: Pipes

- Work with Pipe and Structure Rules
- Layout Pipe Network
- Draw Pipes in Profile View and Edit Pipe Network
- Label Pipes in Plan and Profile

Transportation: Alignments and Profiles

- Create a Horizontal Alignment Using the Alignment Layout Tools
- Use Station Reference Points, Design Speeds, and Superelevations
- Create, Edit, and Annotate Layout Profiles

Transportation: Assemblies and Corridors

- Create an Assembly and Modify Assembly Properties
- Create a Corridor (Corridor Parameters-RG)
- Modify the Corridor Properties and Create Corridor Surface
- Prepare 3D Model of Finished Road Design

Transportation: Cross Sections and Quantities

- Create Cross-Section Sample Lines



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- Create Cross-Section Views
- Calculate Earthworks and Pavement Structure Quantities
- Create Quantity Reports
- Modify the Sample Line Group Properties
- Create Construction Staking Data

Transportation: Plan Production

- Create View Frames in a View Frame Group
- Create All Sheets in Individual Drawings
- Use AutoCAD Sheet Set Manager

Data Management

- AutoCAD External References
- Civil 3D Data Shortcuts and Reference Objects