Autodesk Civil 3D Grading

Course Length: 2 days

The Autodesk Civil 3D software supports a wide range of civil engineering tasks and creates intelligent relationships between objects. The Autodesk Civil 3D Grading training course is recommended for users that are required to create site grading plans using the Autodesk Civil 3D software. This learning guide is also ideal for managers that require a basic overview and understanding of this aspect of the Autodesk Civil 3D software.

Users use feature lines, grading tools, and corridors to create a commercial site containing a parking lot, building pad, pond, and simple sewage lagoon. An existing road has been included in the survey and a survey team collected the existing conditions. Users also work on a residential site to grade a small subdivision for proper grading of each lot.

Topics Covered

- Introduction to Grading
- Parcel Grading
- Grading using Feature Lines
- Grading using Grading Objects and Grading Groups
- Grading using Corridors
- Combining Surfaces
- Visualization

Prerequisites

Autodesk Civil 3D Fundamentals

Course description shown for Autodesk Civil 3D 2019. Topics, curriculum, and/or prerequisites may change depending on software version.
Training Guide Contents

Chapter 1: Introduction to Grading
- 1.1 Overview
- 1.2 Tools in AutoCAD Civil 3D
- 1.3 Settings and Defaults
- 1.4 Feature Line Styles
- 1.5 Grading Group Styles
- 1.6 Grading Criteria Sets
- 1.7 Surface Styles
- 1.8 Sites Overview

Chapter 2: Parcel Grading
- 2.1 Setting Parcel Line Elevations
- 2.2 Retaining Walls
- 2.3 Editing Surfaces
- 2.4 Feature Line Interactions With Parcel Lines

Chapter 3: Building Pad Design
- 3.1 Feature Lines Overview
- 3.2 Create Feature Lines from Objects
- 3.3 Grading Creation Tools
- 3.4 Editing the Grading
- 3.5 Grading Volume Tools

Chapter 4: Parking Lot Design
- 4.1 Draw Feature Lines
- 4.2 Create a Temporary Surface
- 4.3 Edit Feature Line Geometry
- 4.4 Copy or Move Feature Lines from One Site to Another
- 4.5 Create a Transitional Grading Group
- 4.6 Create a Grading Surface
- 4.7 Add Feature Lines to a Grading Surface

Chapter 5: Pond Design
- 5.1 Feature Line Review
- 5.2 Edit Elevations
- 5.3 Create Feature Lines From Corridors
- 5.4 Edit Geometry
- 5.5 Creating Complex Grading Groups
- 5.6 Pond Staging Volumes

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Chapter 6: Grading with Corridor Models

- 6.1 Corridor Baselines
- 6.2 Profiles
- 6.3 Create Grading Assemblies
- 6.4 Creating Complex Corridors
- 6.5 Modify Corridor Grading

Chapter 7: Combining Surfaces

- 7.1 AutoCAD Civil 3D Projects
- 7.2 Data Shortcuts

Chapter 8: Visualization

- 8.1 Introduction to the 3D Modeling Workspace
- 8.2 Basic 3D Viewing Tools
- 8.3 Working with Materials
- 8.4 Specifying Light Sources
- 8.5 Rendering Concepts

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