Autodesk Civil 3D Fundamentals for Surveyors

Course Length: 2 days

This in-depth Autodesk® Civil 3D® Fundamentals for Surveyors guide is for surveyors and survey technicians that do not necessarily need all of the functionality that is taught in Autodesk Civil 3D: Fundamentals. This course equips the surveyor with the basic knowledge required to use Autodesk Civil 3D efficiently in a typical daily workflow. You will learn how to import the converted field equipment survey data into a standardized environment in Autodesk 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.

Topics Covered

- The Autodesk 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.
Training Guide Contents

Chapter 1: The Autodesk Civil 3D Interface

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

Chapter 2: Connecting to Geospatial Data

▪ 2.1 Introduction to the Planning and Analysis Workspace
▪ 2.2 Coordinate Systems
▪ 2.3 Geospatial Data Connection
▪ 2.4 Create a Surface from GIS Data

Chapter 3: Survey Setup

▪ 3.1 Survey Workflow Overview
▪ 3.2 Collecting Field Data
▪ 3.3 Introduction to the Survey Toolspace
▪ 3.4 Survey Figures
▪ 3.5 The Survey Database
▪ 3.6 Lines and Curves
▪ 3.7 Traverse Editor

Chapter 4: Points

▪ 4.1 Points Overview
▪ 4.2 Point Label Styles
▪ 4.3 Point Settings
▪ 4.4 Creating Points
▪ 4.5 Transparent Command
▪ 4.6 Description Key Sets
▪ 4.7 Importing and Exporting Points
▪ 4.8 Point Groups
▪ 4.9 Reviewing and Editing Points
▪ 4.10 Locking/Unlocking Points
▪ 4.11 Point Reports

Chapter 5: Points with Connective Codes

▪ 5.1 Field Codes
▪ 5.2 Survey Data - Figures
▪ 5.3 Survey Data - Line Code
▪ 5.4 Translating a Survey Database

Course description shown for Autodesk Civil 3D 2019. Topics, curriculum, and/or prerequisites may change depending on software version.
Chapter 6: Field Book Files

- 6.1 Survey Networks
- 6.2 Importing a Field Book
- 6.3 Working with Figures
- 6.4 Filtering a Survey Database

Chapter 7: Surfaces

- 7.1 Surface Process
- 7.2 Surface Properties
- 7.3 Surface Data
- 7.4 Breaklines and Boundaries
- 7.5 Surface Editing
- 7.6 Surface Analysis Tools
- 7.7 Surface Labels
- 7.8 Surface Volume Calculations
- 7.9 Surface Analysis Display
- 7.10 Point Cloud Surface Extraction

Appendix A: Additional Tools

- A.1 Opening a Survey Database
- A.2 Least Squares
- A.3 Creating a Least Squares Input File
- A.4 Traverse Basics
- A.5 Defining a Traverse
- A.6 Multiple Network Surveys

Appendix B: Autodesk Civil 3D Certification Exam Objectives
Cancellation Policy

The following cancellation policy shall apply to all training engagements, Live Online, Consulting Services and Dedicated/Custom Training:

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.
- For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.
- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company’s Training Coordinator (trainingcoordinator@rand.com)
- For all Training orders, cancellation notices must be submitted to trainingcoordinator@rand.com. Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

To request more information or to see training locations, visit www.imaginit.com/contact-us.