



A Practical Guide to Autodesk Civil 3D 2020

Agenda

Day 1 8:00 AM to 4:30 PM	<p>Chapter 1 Autodesk Civil 3D User Interface</p> <p>1.1 Lesson: Navigating the Autodesk Civil 3D User Interface Describe the high-level design approach of the Civil 3D user interface.</p> <ul style="list-style-type: none">• Describe ribbons and their components.• Explain the Toolspace and how it is organized.• Navigate the Civil 3D interface and make settings. <p>1.2 Lesson: Project Overview</p> <ul style="list-style-type: none">• Describe different ways data is stored in Civil 3D.• List items that can be saved in a Civil 3D template.• Describe the project you will be working with in this book. <p>Chapter 2 Data Collection and Base Map Preparation</p> <p>2.1 Lesson: Importing GIS Data</p> <ul style="list-style-type: none">• Describe what Map Import is.• List the components that can be imported, and how Civil 3D interprets incoming data.• Identify and explain the tools used to import GIS data.• Import street segments and parcels with Object Data.• Review the data attached to the imported objects and describe its uses. <p>2.2 Lesson: Using Queries to Manage and Share Data</p> <ul style="list-style-type: none">• Create a Drive Alias.• Attach source drawings to a current drawing.• Describe the concept of queries and source drawings.• List common purposes of queries.• Describe the query tools.• Explain the options for location and property queries.• Explain the implications of saving drawings with queried objects.• Execute a location and property query <p>Chapter 3 Preliminary Layout</p> <p>3.1 Lesson: Creating a Preliminary Existing Ground Surface</p> <ul style="list-style-type: none">• Describe what a Surface is.• List the types of data that can be used to build a Surface.

Lunch

- Build a surface from AutoCAD Objects.
- Change Surface Styles.

3.2 Lesson: Creating a Preliminary Alignment

- Describe what an Alignment is.
- Create an Alignment.
- Use Transparent Commands to enter coordinates.

3.3 Lesson: Creating Points from an Alignment

- Control Point Settings.
- Create an Alignment.
- Create a Point Group.
- Create a Point Import/Export format.
- Export Points to an ASCII File.

Chapter 4 Creating a Survey Plan

4.1 Lesson: Importing Survey Points

- Describe Description Keys and their uses.
- Create a Description Key File.
- Control Point Settings.
- Import Points from an ASCII File.

4.2 Lesson: Working with Point Groups

- Describe Point Groups and their uses.
- Create a Point Group.
- Lock Points and Point Groups.

4.3 Lesson: Controlling Point Display

- Create Point Styles.
- Create Point Label Styles.
- Describe Point Group Display Order.
- Understand How Labels are sized.

4.4 Lesson: Drawing Linework Using Transparent Command

- Describe Transparent Commands and their Uses.
- Draw Lines by Point Number.
- Draw Lines by Point Object.

4.5 Lesson: Working with Parcels

- Describe the concept of a Site and its uses.
- Create Parcels from existing objects.
- Label Parcel Areas.
- Create reports based on Parcel geometry.

4.6 Lesson: Labeling Linework

- Label Parcel Segments.
- Label Parcel Areas.
- Create tables for line and curve data.
- Label AutoCAD lines and curves.

**Day 2
8:00 AM
to
4:30 PM**

Chapter 5 Building a Survey Quality Surface

5.1 Lesson: Building Surfaces from Survey Data

- Create a Point Group for use building a Surface
- List the types of data that can be used to build a Surface.
- Describe what a breakline is.
- Draw and define breaklines.

5.2 Lesson: Editing Surfaces

- Describe different methods of editing a Surface.
- Delete Surface TIN Lines.
- Edit Points.
- Edit Breaklines.
- Paste Surfaces together.

5.3 Lesson: Surface Analysis

- Describe different methods of analyzing a Surface.
- Create a new Surface Style.
- Display elevation bands for a Surface.
- Perform a slope analysis.

5.4 Lesson: Working with Contours

- Describe the contour properties in a Surface Style.
- Create a new Surface Style to display contours.
- Label Contours.
- Edit and Delete contour labels.
- Create and assign a new Surface Label Style to existing contour labels.

Chapter 6 Working with Alignments and Parcels

6.1 Lesson: Creating Alignments

- Describe the way Alignments and Parcels interact within a Site.
- Create a new Alignment.
- List different commands used to lay out alignments.

6.2 Lesson: Editing Alignments

- Describe the ways Alignments can be edited.
- Edit an Alignment graphically.
- Edit an Alignment through a table.

6.3 Lesson: Working with Alignment Labels

- Describe an Alignment Label Set.
- Modify the stationing of an Alignment.
- Create station and offset labels.
- Create Offset Alignments.

6.4 Lesson: Laying Out Parcels

- Describe how Parcels and Alignments interact within a Site.
- Layout Parcels according to specific parameters.
- Edit and delete Parcels.
- Renumber Parcels.

Lunch

**Day 3
8:00 AM
to
4:30 PM**

6.5 Lesson: Working with Parcel Styles and Labels

- List the properties of Parcel Styles.
- Create and apply a new Parcel Style.
- Create and apply a new Parcel Area Label Style.
- Describe how Parcels and Parcel Area Label Styles can be applied to multiple Parcels.

Chapter 7 Working with Profiles

7.1 Lesson: Creating Existing Ground Profiles

- Describe the relationship between Alignments, Surfaces and Parcels.
- Sample a Profile.
- Create and manage Profile Views.
- Create and apply Profile View Styles.

7.2 Lesson: Creating Finished Ground Profiles

- Layout a finished grade Profile.
- Edit Profile geometry.
- Create and edit Profile Labels.
- Describe the different types of Profile View Bands.

Chapter 8 Corridor Modeling

8.1 Lesson: Working with Assemblies

- Describe the relationship between Assemblies and Subassemblies.
- Create an Assembly.

8.2 Lesson: Working with Corridors

- Describe the components needed to create a Corridor.
- Create a Corridor.
- Edit a Corridor.
- Create Surfaces that are linked to a Corridor.
- Export Corridor Points for staking.

8.3 Lesson: Working with Sections

- Describe the difference between Sections and Corridors.
- Create Sample Lines.
- Create Section Views.
- Calculate Earthwork Quantities.
- Create a Mass Haul Diagram.

8.4 Lesson: Plan Production

- Create View Frames.
- Edit View Frame location and rotation.
- Create Plan and Profile Sheets.

Chapter 9 Pipes

9.1 Lesson: Working with Pipe Networks in Plan

- Describe a Network Parts List.
- Lay out a Pipe Network in plan view.
- Edit a Pipe Network in plan view

Wrap up	<p>9.2 Lesson: Working with Pipe Networks in Profile</p> <ul style="list-style-type: none"> • Draw a Pipe Network into a Profile View. • Edit a Pipe Network in Profile View. • Label a Pipe Network in Profile View. <p>9.3 Lesson: Working with Pressure Networks in Plan</p> <ul style="list-style-type: none"> • Describe a Pressure Network Parts List. • Lay out a Pressure Network in plan view. • Add a Fitting to a Pressure Network. <p>9.4 Lesson: Working with Pressure Networks in Profile</p> <ul style="list-style-type: none"> • Draw a Pressure Network into a Profile View. • Edit a Pressure Network in Profile View. • Label a Pressure Network in Profile View. <p>Chapter 10 Grading</p> <p>10.1 Lesson: Working with Grading Groups</p> <ul style="list-style-type: none"> • Create a Grading Group and link it to a Surface. • Create Grading Objects to represent your design. • Perform Stage Storage Calculations. <p>10.2 Lesson: Volume Calculations</p> <ul style="list-style-type: none"> • Describe the difference between Grid Volumes and TIN Volumes. • Create a Grid Volume Surface and find its Volume. • Create a TIN Volume Surface and find its Volume. <p>Chapter 11 Data Shortcuts</p> <p>11.1 Lesson: Sharing Project Data with Data Shortcuts</p> <ul style="list-style-type: none"> • Describe what a Data Shortcut is. • List the types of data that can be shared through Data Shortcuts. • Understand the Working Folder. • Create and Manage the Data Shortcut Project Folder. <p style="text-align: center;">Questions and Answers/Fill out Evaluations</p>
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Breakfast, Lunch, and Dinner NOT provide by CRAB.