

Autodesk Official Training Guide Essentials

AutoCAD®

Civil 3D® 2010

Learning AutoCAD® Civil 3D® 2010

Using hands-on exercises, explore the essential elements for creating, analyzing, and managing civil engineering drawings and projects.

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Introduction

Welcome to the *Learning AutoCAD Civil 3D 2010* Autodesk Official Training Guide, a training guide for use in Authorized Training Center (ATC®) locations, corporate training settings, and other classroom settings.

Although this guide is designed for use in instructor-led courses, you can also use it for self-paced learning. This guide encourages self-learning through the use of the AutoCAD® Civil 3D® Help system.

This introduction covers the following topics:

- Course Objectives
- Prerequisites
- Using this guide
- CD contents
- Installing the exercise data files from the CD
- Imperial and metric datasets
- Feedback

This guide is complementary to the software documentation. For detailed explanations of features and functionality, refer to the Help in the software.

Course Objectives

After completing this course, you will be able to:

- Describe the AutoCAD Civil 3D working environment.
- Use Survey functionality in Civil 3D.
- Create and manage points.
- Create and edit surfaces.
- Create, edit, and label, sites and parcels.
- Create and label alignments and create tables.
- Create surface profiles, profile views, and layout profiles. Edit profile geometry and label profiles and profile views.
- Create assemblies, corridor models, and corridor surfaces.
- Create feature lines, interim and final grading surfaces, and calculate quantities.
- Create, edit, and label pipe networks, and design storm sewer networks.
- Design criteria-based alignments, apply superelevation, and create offset alignments.
- Create transportation assemblies, corridors, and corridor surfaces. Create intersections and model road designs in 3D.
- Calculate corridor quantities, create quantity reports, and create section views.
- Produce plans, work with data shortcuts and reference objects, calculate quantity takeoff, and work with Autodesk Vault.

Prerequisites

This guide is designed for new AutoCAD Civil 3D users. It is recommended that you have:

AutoCAD Civil 3D 2010 installed on your computer.

Knowledge of civil engineering principles and processes.

A working knowledge of AutoCAD®.

A working knowledge of Microsoft® Windows® XP or Microsoft® Windows® Vista.

Using This Guide

The lessons are independent of each other, although they follow a typical civil engineering work flow. We recommend that you complete these lessons in the order that they are presented.

Each chapter contains:

Lessons

Usually two or more lessons in each chapter.

Exercises

Practical, real-world examples for you to practice using the functionality you have just learned.

Each exercise contains step-by-step procedures and graphics to help you complete the exercise successfully.

CD Contents

The CD attached to the back cover of this book contains all the data and drawings you need to complete the exercises in this guide.

Installing the Exercise Data Files from the CD

To install the data files for the exercises:

1. Insert the guide CD.
2. When the setup wizard begins, follow the instructions on screen to install the data.
3. If the wizard does not start automatically, browse to the root directory of the CD and double-click setup.exe.

Unless you specify a different folder, the exercise files are installed in the following folder:

C:\Autodesk Learning\AutoCAD Civil 3D 2010\Learning

After you install the data from the CD, this folder contains all the files necessary to complete each exercise in this guide.

Imperial and Metric Datasets

In exercises that specify units of measurement, alternative files are provided as shown in the following example:

Open *I_Pipe Networks.dwg* (imperial) or *M_Pipe Networks.dwg* (metric).

In the exercise steps, the imperial value is followed by the metric value in parentheses as shown in the following example:

For Length, enter **13'2"** (**4038** mm).

In the exercise steps, the unitless value is specified as shown in the following example:

For Length, enter **400**.

Notes, Tips, and Warnings

Throughout this guide, notes, tips, and warnings are called out for special attention.



Notes contain guidelines, constraints, and other explanatory information.



Tips provide information to enhance your productivity.



Warnings provide information about actions that might result in the loss of data, system failures, or other serious consequences.

Feedback

We always welcome feedback on Autodesk Official Training Guides. After completing this guide, if you have suggestions for improvements or if you want to report an error in the book or on the CD, please send your comments to learningtools@autodesk.com.

