

# **AutoCAD**<sup>®</sup> 2009

# **AutoCAD LT**<sup>®</sup> 2009

## **Essentials Volume 1**

Autodesk Official Training Courseware (AOTC)

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# Acknowledgements

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CrWare, LP began publishing courseware for Autodesk Inventor in 2001. Since that time, the company has grown to include full-time curriculum developers, subject matter experts, and technical writers, each with a unique set of industry experiences and talents that enables CrWare to create content that is both accurate and relevant to meeting the learning needs of its readers and customers.

The company's Founder and General Partner, Ron Myers, has been using Autodesk products since 1989. During that time, Ron Myers worked in all disciplines of drafting and design, until 1996 when he began a career as an Applications Engineer, Instructor, and Author. Ron Myers has been creating courseware and other training material for Autodesk since 1996 and has written and created training material for AutoCAD, Autodesk Inventor, AutoCAD Mechanical, Mechanical Desktop, and Autodesk Impression.

# Introduction

Welcome to the *AutoCAD 2009/AutoCAD LT 2009 Essentials* Autodesk Official Training Courseware (AOTC), a training course for use in Authorized Training Center (ATC) locations, corporate training settings, and other classroom settings.

Although this courseware is designed for instructor-led courses, you can also use it for self-paced learning. The courseware encourages self-learning through the use of the AutoCAD® or AutoCAD LT® Help system.

This introduction covers the following topics:

- Course objectives
- Prerequisites
- Using this courseware
- Default installation
- CD contents
- Completing the exercises
- Settings for the exercises
- Installing the exercise data files from the CD
- Imperial and metric datasets
- Video
- Notes, tips, and warnings
- Using this courseware to prepare for Autodesk Certification exams
- Feedback

This courseware 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:

- Navigate the interface, open and close files, and use the Zoom commands to adjust the display of objects on the screen.
- Describe units, function keys, and coordinate systems and create basic objects, using different data input techniques, object snaps, object snap tracking, polar tracking, and PolarSnap.
- Select, modify, and adjust the properties of objects using object grips and the Move, Copy, Rotate, Mirror, and Array commands.
- Create and manage layers and linetypes and obtain geometric information from objects in the drawing.

- Modify objects by changing their size, shape, orientation, or geometric composition using Trim, Extend, Offset, Join, and other commands.
- Create layouts, and create and manipulate viewports on the layouts.
- Create and edit annotation objects using multiline and single line text.
- Create, edit, and manage dimensions and dimension styles.
- Enhance the drawing's visual appearance with hatch patterns and gradient fills.
- Create blocks and reuse them in your drawings using the Insert command, DesignCenter™, and tool palettes. Utilize the DesignCenter and tool palettes to insert and create other content in your drawings.
- Create multiple segmented polyline objects, create the smooth curve objects of splines and ellipses, and add tables to your drawings.
- Create and use page setups, and plot your designs from layouts and model space.
- Use drawing templates to simplify the process of creating new drawings that contain all the required dimension styles, text styles, and layers that you would otherwise create manually, each time you create a new drawing.

## Prerequisites

This course is designed for the new user who needs to know the essential commands necessary for professional 2D drawing, design, and drafting using AutoCAD or AutoCAD LT. No previous computer-aided design (CAD) experience is required.

It is recommended that you have a working knowledge of:

- Microsoft® Windows® 2000, Microsoft® Windows® XP, or Microsoft® Windows® Vista.
- Drafting and design experience is a plus.

## Using This Courseware

The lessons are independent of each other. However, it is recommended that you complete these lessons in the order that they are presented unless you are familiar with the concepts and functionality described in those lessons.

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.

## Default Installation

The information in this course is presented in such a way that it is assumed you have installed AutoCAD or AutoCAD LT using the default installation parameters. You should be using the *2D Drafting & Annotation* workspace as your active workspace throughout the course. You will learn how to do this in Chapter 1.

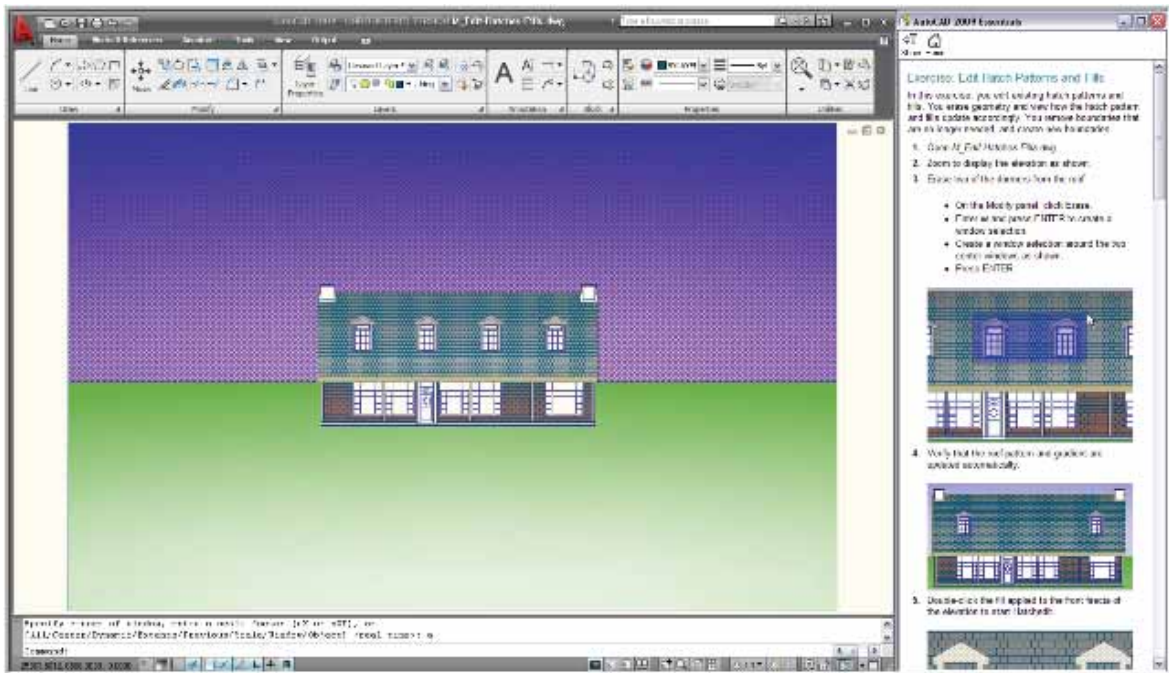
## CD Contents

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

## Completing the Exercises

You can complete the exercise in two ways: using the book or on screen.

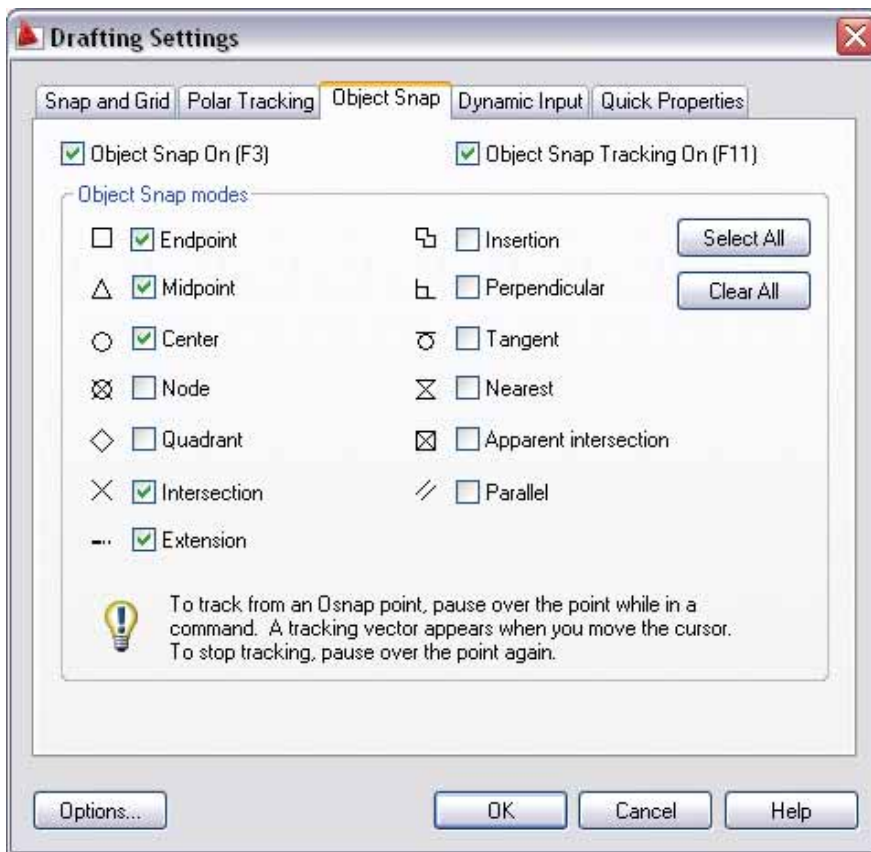
- **Using the book** – Follow the step-by-step exercises in the book.
- **On screen** – Click the AOTC - AutoCAD 2009 Essentials icon on your desktop, installed from the CD, and follow the step-by-step exercises on screen. The onscreen exercises are the same as those in the book. The on screen version has the advantage that you can concentrate on the screen without having to glance down at your book.



After launching the onscreen exercises, you might need to alter the size of your application window to align both windows.

## Settings for the Exercises

Each exercise is written with the assumption that the following Object Snap settings are active. You might need to confirm these settings for each exercise.



Each exercise is written with the assumption that the following Status Bar options are turned ON. If necessary adjust these options when you open the dataset for each exercise.



## Installing the Exercise Data Files from the CD

To install the data files for the exercises:

1. Insert the courseware 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:\Documents and Settings\All Users\Autodesk Learning\AutoCAD 2009\Essentials\*

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



The datasets and exercises can be used with AutoCAD LT. The location of the files will be the same whether you are using AutoCAD or AutoCAD LT. The name of the shortcut for the onscreen version of the exercises is named AOTC - AutoCAD 2009 Essentials, but can also be used with AutoCAD LT 2009.

## Imperial and Metric Datasets

For some of the exercises that specify units of measurement, alternative exercise tables are provided. You will see a note stating that an imperial and metric version are available. An example of the file naming convention is as follows:

- Open *i\_stair\_settings.dwg* (imperial) or *m\_stair\_settings.dwg* (metric).

In the exercise steps, you will see either the imperial or metric value as shown in the following example:

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

For exercises with no specific units of measurement, files are provided as shown in the following example:

- Open *c\_stair\_settings.dwg* (common).

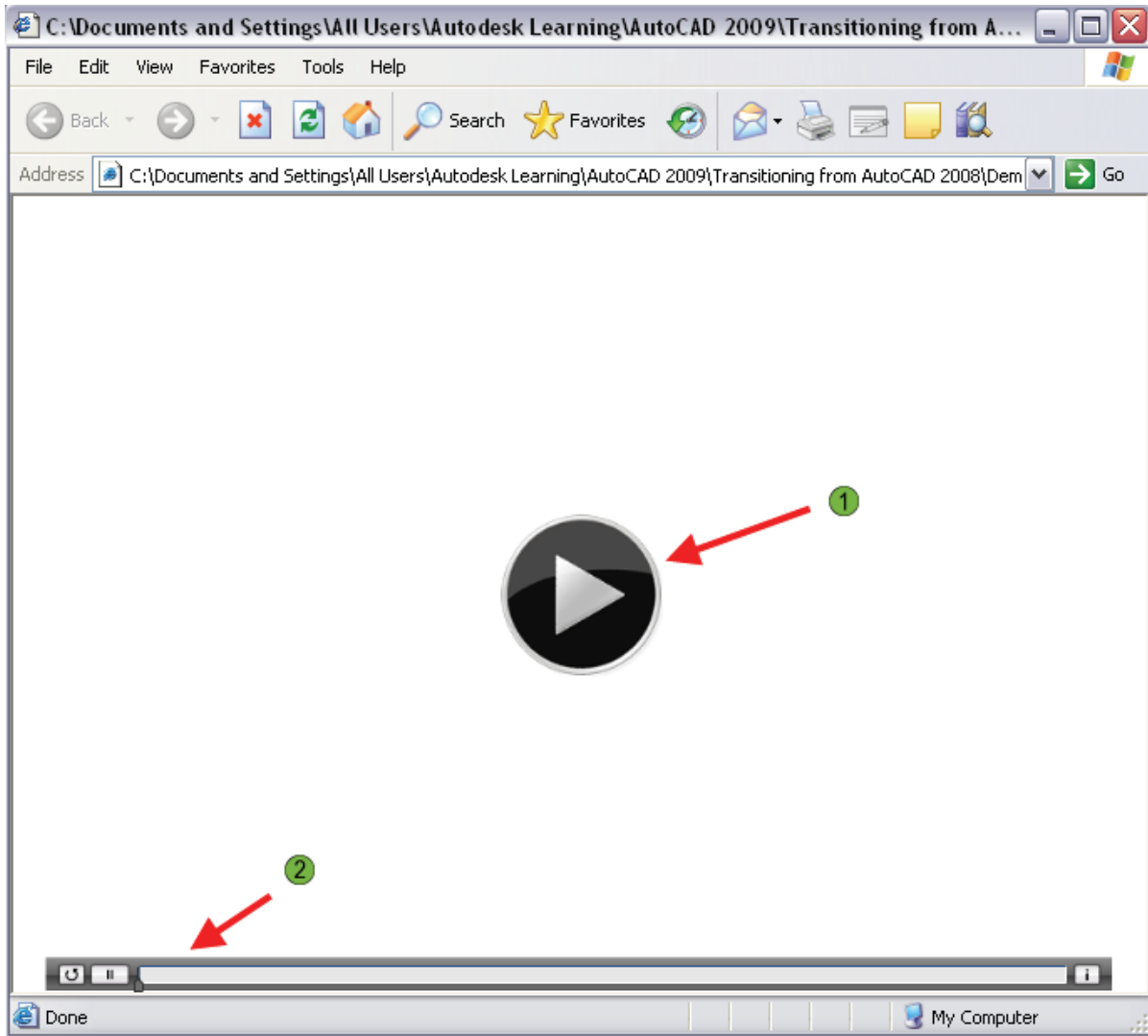
In the exercise steps, the unitless value is specified as shown in the following example:

- For Length, enter **400**.

## Video

After you install the contents of the courseware CD, video demonstrations are installed in the *\Demonstration* folder. These videos match practice exercises located throughout the book. If a practice exercise has a matching video, the name of the file will be noted and you can access the file at this location.

The videos are published in Adobe® Flash® format. To view a Flash file, you will either need to first install the Adobe Flash player, or ensure that your browser is configured with a Flash player plugin.



- 1 Click the play button in the middle of the window to start the animation.
- 2 Use the player controls to stop, rewind or play back the animation.

## Notes, Tips, and Warnings

Throughout this courseware, 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.

## Using this Courseware to Prepare for Autodesk Certification Exams

This book supports preparation for Autodesk Certification Exams. If you are planning to become Autodesk Certified on AutoCAD 2009 this book can help you prepare. The learning objectives of the lessons and exercises in this book map directly to the objectives and questions on the Autodesk Certification Exams.

For more guidance on how to use this book to prepare for the exams, visit [www.autodesk.com/certification](http://www.autodesk.com/certification).

## Feedback

We always welcome feedback on Autodesk Official Training Courseware. After completing this course, 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 [AOTC.feedback@autodesk.com](mailto:AOTC.feedback@autodesk.com).

