Course Syllabus

AutoCAD Level I

Course Description

Through a combination of lecture, hands-on exercises, and drawing problems, this course introduces the student to computer-aided design/drafting with AutoCAD. The AutoCAD topics covered in this Level I course include an introduction to AutoCAD features, starting and setting up drawings, point coordinate entry methods, creation of basic 2D drawing objects, layer management, linetypes and colors, selection sets, object snap modes, AutoSnap, polar tracking, object snap tracking, construction techniques, creating and managing text objects, editing geometry, display control, and drawing inquiry methods.

Objectives

After completing this course, the student will be able to do the following:

- Use AutoCAD's precision drawing tools and methods to construct accurate 2D drawings.
- Create and manage drawing layers, and control object colors and linetypes.
- Create, edit, and modify text styles and text objects in AutoCAD.
- Control the drawing display and utilize named drawing views.

Course Length

32 hours. 16 hours lecture, demonstration, and activities. 16 hours lab.

Prerequisite

Basic computer and operating system knowledge or equivalent experience is recommended.

Academic Dishonesty

A student who submits the work of another student as her/his own or deliberately fails to properly credit words or ideas borrowed from another source is guilty of plagiarism. A student who uses notes without permission, takes an exam for another student, copies answers from another student's exam, copies drawings in any manner, or engages in any other similar conduct aimed at making false representation with respect to a student's academic performance is guilty of cheating.

Appropriate Use of Electronic Information Resources

Users shall be responsible for messages they transmit through the Internet and shall obey the acceptable use policies of the Internet and any rules of discussion forums in which they participate. Fraudulent, harassing, or obscene messages and/or materials as defined by contemporary court decisions are not to be sent or stored.

Required Text

AutoCAD and its Applications—Basics, Chapters 1–6, 8, 10, 12–13, and 16.

Required Materials

Removable storage media, such as diskettes, Zip disks, or CD-RWs.

Course Outline

Session	Topics and Commands
1	**Topics:** Introduction to AutoCAD features, starting and setting up drawings, working with drawings, drawing lines, erasing objects, and managing layers.
	Commands: HELP, **UNITS**, **LIMITS**, **GRID**, **LINE**, **U**, **SNAP**, **NEW**, **SAVE**, **SAVEAS**, **QSAVE**, **OPEN**, **EXIT**, **MULTIPLE**, **ERASE**, **OOPS**, **REDRAW**, **LAYER**, **LINETYPE, LINEWEIGHT**, **PROPERTIES**, **PLOT**.
	Assignment: Read Chapters 1–4.
	Exercises: 2-1 through 2-6, 3-1 through 3-6, 3-10, 4-1, 4-2, 4-6 through 4-11.
	Required Problems: 2-8, 2-9, 2-12, 2-15, 3-3, 3-4, 4-1, 4-2.
	Optional Problems: 1-3, 1-5, 1-6.
2	**Topics:** Drawing basic shapes, precision drawing using object snap and AutoSnap, geometric construction techniques, and multiview drawings.
	Commands: CIRCLE, **ARC**, **ELLIPSE**, **POLYGON**, **RECTANG**, **DONUT**, **XLINE**, **RAY**, **OSNAP**, **APERTURE**, **OFFSET**, **POINT**, **DDPTYPE**, **DIVIDE**, **MEASURE**.
	Assignment: Read Chapters 5–6.
	Exercises: 5-1 through 5-5, 5-7 through 5-9, 6-1 through 6-13.
	Required Problems: 5-3, 5-5, 6-1, 6-5, 6-12, 6-15.
	Optional Problems: 5-2, 5-6, 5-9, 6-2, 6-3, 6-6.

Session	Topics and Commands
3	**Topics:** Creating and editing text in a drawing, creating and modifying text styles, and controlling the drawing display.
	Commands: PROPERTIES, **BLIPMODE**, **ZOOM**, **REGEN**, **VIEW**, **PAN**, **VIEWRES**, **VPORTS**, **TEXT**, **STYLE**, **QTEXT**, **MTEXT**, **CHANGE**, **DDEDIT**, **SPELL**.
	Assignment: Read Chapter 8, pages 275–307 and 311–315, and Chapter 10.
	Exercises: 8-1, 8-4, 8-10, 8-11, 8-13, 10-1 through 10-5.
	Required Problems: 8-2 through 8-4, 10-2, 10-3.
	Optional Problems: 8-5, 8-13, 8-17, 10-1, 10-4.
4	**Topics:** Basic editing commands, grips and grip editing, creating arrays, grouping objects, obtaining information about the drawing.
	Commands: CHAMFER, **FILLET**, **BREAK**, **TRIM**, **EXTEND**, **LENGTHEN**, **MOVE**, **COPY**, **ROTATE**, **ALIGN**, **SCALE**, **STRETCH**, **PROPERTIES**, **ARRAY**, **AREA**, **LIST**, **DIST**, **ID**, **TIME**.
	Assignment: Read Chapters 12–13, 16.
	Exercises: 12-1 through 12-16, 13-1 through 13-7, 16-1, 16-3, 16-4.
	Required Problems: 12-9, 12-10, 12-13, 12-14, 12-20, 13-1 through 13-4, 16-2.
	Optional Problems: 12-12, 12-15.