

Course: AutoCAD 2023 – Essentials and Intermediate (Level 1)

Contact Hours: 30

Pre-requisite: Computer Literacy

Abstract

This courseware is designed for AutoCAD users who require comprehensive training. It incorporates the features, commands and techniques for creating, editing and printing drawings. Hands-on exercises throughout the courseware explore how to create 2D production drawings. The exercises are provided in both a printed format as well as an onscreen format that can be viewed in the software.

Target Audience

- Engineers
- Students
- Draftsman
- Surveying Technicians

Learning Outcomes

On completion of this course, learners will be able to:

1. Navigate through the User Interface
2. Create Basic Drawings
3. Manipulate Objects
4. Implement Drawing Organization and Inquiry Commands
5. Alter Objects
6. Annotate a Drawing
7. Dimension Drawings
8. Hatching Objects
9. Creating Additional Drawing Objects and work on Projects
10. Plot the Drawing Output

Course Content

1. Navigate through the User Interface

- Starting AutoCAD
- Identify & state the interface elements
- Open, create and save drawings
- Undo and Redo Commands

2. Creating Basic Drawings

- Inputting Data
- Creating Basic Objects
- Using Object Snaps
- Using Polar Tracking and PolarSnap
- Using Object Snap Tracking
- Working with Units

3. Manipulating Objects

- Selecting Objects in the Drawing
- Changing an Object's Position
- Creating New Objects from Existing Objects
- Changing the Angle of an Object's Position
- Creating a Mirror Image of Existing Objects
- Creating Object Patterns
- Changing an Object's Size

4. Drawing Organization and Inquiry Commands

- Using Layers
- Changing Objects Properties
- Matching Objects Properties
- Using the Properties Palette
- Using Linetypes
- Using Inquiry Commands

5. Altering Objects

- Trimming and Extending Objects to Defined Boundaries
- Creating Parallel and Offset Geometry
- Joining Objects
- Breaking an Object into Two Objects
- Applying a Radius Corner to Two Objects
- Creating and Angled Corner Between Two Objects
- Changing Part of an Object's Shape

6. Annotating the Drawing

- Creating Multiline Text
- Creating Single Line Text
- Using Text Styles
- Editing Text

7. Dimensioning

- Creating Dimensions
- Using Dimension Styles
- Editing Dimensions
- Using Multi-leaders

8. Hatching Objects

- Hatching Objects
- Editing Hatch Objects

9. Creating Additional Drawing Objects

- Working with Polylines
- Creating Splines
- Creating Ellipses
- Using Tables

10. Plotting Your Drawings

- Using Page Setups
- Plotting Drawings

Assessment Criteria

In order to achieve Learning Outcome...	The Learner must...
1. Navigate through the User Interface	Identify interface elements, Explain and demonstrate how to open, close and save a drawing file.
2. Creating Drawings	Use the tools in the draw panel of the ribbon to create simple but accurate drawings.
3. Manipulating Objects	Use the tools in the modify panel to make changes and facilitate revisions on various drawings.
4. Drawing Organization and Inquiry Commands	Incorporate LAYERS into the planning and production of simple drawings and use the inquiry commands to gather data.
5. Altering Objects	Use additional tools in the modify panel to make changes and improve efficiency and accuracy.
6. Annotating the Drawing	Within a drawing create and edit the two distinct types of text namely MTEXT AND Single Line Text.
7. Dimensioning	Use a drawing and create an appropriate dimension style that can be edited.
8. Hatches	Utilize the characteristics of a block and create such items to be used within a drawing and also be sourced through the designcenter. Additionally create and edit hatches for a variety of drawings.
9. Creating Additional Drawing Objects	Be able to set up an Architectural or Metric project and use the tools and techniques used throughout the course to increase accuracy and timeliness.
10. Plotting	Create layouts and viewports and produce a final plot of a drawing.

Essential Learning Resources:

Textbook

AutoCAD 2017 Beginning and Intermediate Paperback by Munir Hamad

Websites

<http://www.sbcs.edu.tt/>

<http://www.autodesk.com/>

