

AutoCAD Essentials

Overview

The objective of AutoCAD®/AutoCAD LT® 2017 Essentials is to enable students to create a basic 2D drawing in the AutoCAD software. Even at this fundamental level, the AutoCAD software is one of the most sophisticated computer applications that you are likely to encounter. Therefore learning to use it can be challenging.

AutoCAD/AutoCAD LT 2017 Essentials covers the essential core topics for working with the AutoCAD software. The teaching strategy is to start with a few basic tools that enable the student to create and edit a simple drawing, and then continue to develop those tools. More advanced tools are also introduced throughout the training course.

Prerequisites

It is recommended that delegates have a working knowledge of one or more of the following:

- Attended Introduction to Technical Drawing / Experience with Drafting, design, or engineering principles.
 - Computer Literate
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Available Exams and Certifications

- Autodesk Certified User
 - Autodesk Certified Professional
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Course Accreditations

6 Credits (By the South African Institute of Architects - SAIA)

Course Outline

Introduction to the Working Environment

- Interactive session introducing the menus and screen layout
- Basic file operations – open, close, new, save, etc
- Using available help files
- Menus, ribbons, panels and dialogue boxes

Creating Basic Shapes

- Using lines, arcs and circles to define drawings
- Methods of placement and definition
- Introducing polylines Work planes and coordinate systems
- Drawing accurately
- The exercise guides users through the basic tools to create a simple floor plan

Organising the Drawing

- Defining and controlling the published appearance of lines
- Layers and layer management
- Object property overrides
- Enquiry tools – measuring distance, size and area
- Two-part exercise on layer management and the enquiry tools

Object Manipulation

- Element selection methods
- Introduction to basic manipulation tools
- Erase; Move; Copy; Rotate and Array
- Using object grips to manipulate elements
- Exercise split into three stages to look at copying, moving and manipulating objects

Object Modification

- Explanation of basic modify tools
- Offset; Explode; Trim; Extend; Polyline editing
- The exercise is split into two stages to explore the modify tools

Annotating Drawings

- Single and multi-line text tools
- Settings and style format
- Font; Size and scale; Colour
- Spell checking, thesaurus and find/replace

- Modifying text
- Exercise on adding, editing and manipulating labels

Dimensioning Drawings

- Dimension styles
- Linear; Radial; Arc
- Continuous and baseline dimensions
- Dimension settings
- Exercise on placing and modifying various dimensions

Hatching Regions

- The concept of hatching
- Boundaries Controlling the pattern and appearance
- Draw order
- The exercise guides users through placing, manipulating and customising hatch regions including Island hatching

Using Element Block Libraries

- Creating blocks from existing elements
- Layers within blocks Inserting blocks
- Editing blocks
- Exercise on inserting a block and then manipulating it

Cross-Referencing Information

- Working with references
- Attaching references
- Editing and manipulating references
- The above principles are explored in a exercise on references

Preparing Layouts for Plotting and Publication

- Understanding paperspace and modelspace
- Managing layouts and viewports
- Page setup and print settings
- Plotting / publishing a drawing
- Exercise on taking a drawing and preparing it for plotting

External References

- Working with external reference files
- Attaching various file formats and options (dxf, dgn, etc)
- Design Center and linking images (jpeg, bmp, etc)
- Reference types (xrefs)
- Exercise on creating a drawing with linked plans using xrefs and applying scaling

User defined attributes and Fields

- Defining and attaching block attributes
- Managing attribute modes Data extraction wizard – extracting table data
- Attaching user attributes and fields to Title Blocks
- Exercise to define and attach user attributes to objects and title blocks

Introduction to 3D

- Introducing 3D tools (extrude, revolve, etc)
- Develop 3D walls from 2D plan view
- Create openings for doors and windows
- Profile development using the revolve, sweep and loft tools
- Exercise on 3D creation of walls, doors, and windows and profile creation

Working with Parameters

- Exercise on creating a parametric object.