CERTIFICATE IN AUTO CAD- CIVIL

DURATION: 90 Hours

TOTAL CREDITS: 3

COURSE SYLLABUS

Objective

The main objective of Auto cad- Civil is to create precise 2D and 3D drawings used in engineering and design fields such as residential and commercial buildings

Exit Profile

- Knowledge in Civil CAD drawing
- Knowledge to draw 2D and 3D views of Civil drawings
- 2D & 3D design

Career Path

- Civil Cad draftsman
- Civil engineering designer

Course Outline

Course Name:	CERTIFICATE IN AUTO CAD- CIVIL	Duration:	90 H
Module	Topic	Duration	Total Duration
Module -I	Introduction to AutoCAD 2D	3	50 H
	Design features in AutoCAD	2	
	2D Drafting tool	15	
	Modifying tools	10	
	Layers, Arrays	5	
	Dimensioning	3	
	Object Properties, Hatching	2	
	Layout, Publish	2	
	Exercises	8	
Module -2	Introduction to AutoCAD 3D	2	40 H
	3D Modelling	6	
	Editing in 3D Modelling	4	
	Surface Modelling	6	
	Mesh Modelling	5	
	Section, Layout	2	
	Material, Camera, Light, Render	5	
	Exercises	10	

Course In Detail

MODULE - 1

INTRODUCTION TO AUTO CAD 2D

➢ Introduction to Auto cad 2D,
➢ Understanding the basic terminology in Auto cad.
➢ Exploring User Interface system
➢ Co-ordinate systems
➢ Display control
➢ File Management
➢ Unit, Limit

DESIGN FEATURES IN AUTO CAD:

➢ Drafting Settings
➢ Polar, Ortho, Grid, Snap
➢ Dynamic, Input
➢ Quick Properties.
➢ Selection Cycling

2D DRAFTING TOOLS:

➢ Line, Circle, Rectangle, Polygon, Arc, Ellipse
➢ Polyline, Donut, Point
➢ Pline, Multiline, Spline

MODIFYING TOOLS:

➢ Move, Copy, Mirror, Offset
➢ Rotate, Scale, Stretch, Lengthen
➢ Trim, Explode, Extend, Break
➢ Chamfer, Fillet
➢ Align, Join

LAYERS, ARRAYS

➢ Layer Properties Manager
➢ Layers and Layer Properties
➢ Performance analysis
➢ Layer State Manage
➢ Arrays – Rectangular, Polar and Path arrays

DIMENSIONING

➢ Dimension style manager
➢ Dimension- Linear, Aligned, Radial, Angular, Arc length
➢ Dimension Style, Baseline and continued dimension
➢ Quick dimension
➢ Ordinate Dimension

OBJECT PROPERTIES, HATCH

➢ Property window
➢ Color command
➢ Line types, Line weight
➢ Match properties
➢ Hatch- Edit, gradient, Pattern

LAYOUT, PUBLISH

➢ PAGESETUP
➢ MSPACE
➢ PLOT
➢ PUBLISH
➢ Arrays – Rectangular, Polar and Path arrays
➢ Plot style

EXERCISES

- ➢ Practice the Exercises related to Civil Engineering drawing
- ➢ Draw and Design Civil engineering 2D drawing such as building Plan, Elevation, section etc..

MODULE - 2

Introduction to Auto cad 3D

- ➢ Types of 3D models
- ➢ Visual Style manager
- ➢ Wireframe, surface, solid models
- ➢ UCS, V Cube, Steering wheel

3D MODELLING

- ➢ Solid primitives
- ➢ Extrude, Press pull
- ➢ Loft
- ➢ Sweep
- ➢ Revolve
- ➢ Poly solid

EDITING IN 3D MODELLING

- ➢ Union, Subtraction, Intersection
- ➢ 3D fillet, 3d chamfer
- ➢ Taper face, Extrude face
- ➢ Slice, thicken
- ➢ Shell
- ➢ Imprint

SURFACE MODELLING

- ➢ Planar surface
- ➢ Network surface
- ➢ Surface patch
- ➢ Surface offset
- ➢ Surface extrude, revolve, sweep
- ➢ Surface fillet, trim
- ➢ NURBS surfaces

MESH MODELLING:

- ➢ Mesh primitives
- ➢ Rev surface
- ➢ Edge surface
- ➢ Rule surface
- ➢ Tab surface
- ➢ Smooth object
- ➢ Extrude mesh surface

SECTION, LAYOUT

- ➢ Section plane
- ➢ Introduction to layout
- ➢ PAGESETUP
- ➢ Plot
- ➢ Layout1, Layout2
- ➢ View Ports

MATERIAL, CAMERA, LIGHT, RENDER

- ➢ Material- Mapping, browser,
- ➢ Lights- Different types
- ➢ Sun status, shadow
- ➢ Camera- Properties
- ➢ Layout1, Layout2
- ➢ View Ports
- ➢ Render
- ➢ Render destination
- ➢ Creating animation

EXERCISES

- ➢ Practice the Exercises related to Civil Engineering 3d drawing
- ➢ Draw, Design and rendering Civil building models