

AUTOCAD 2D AND 3D SYLLABUS

Course Objectives:

To develop proficiency in the use of Architectural / Engineering oriented computer application software. Student should be able to utilize basic drafting function in CAD & other design related software.

Required Student Level: Beginner

1.Exploring User Interface

- Exploring the user interface
- Using the ribbon
- Changing Workspaces
- Using Status Bar
- *Using Navigation Bar*
- Quick Access Toolbar

2.Manging Files and Option

- Opening, Saving and Closing Files
- Setting, Converting Drawing Options
- Using Template Files

3.Navigating Drawing

- *Using zoom, pan, mouse, view cube, navigation bar*
- Model and Layout
- *Help, Undo, and redo, Points Filters,*
- Redraw, Regen, Regenall, Viewers

4. Drawing Aids

- *Units, Limits, Status, Snap, Grid, Ortho Snap, Osnap and options*
- Blipmode, Use of Function key Layers, Right Click Customization

5. 2D Drawing Construction

- Screen Organization
- *Implementing AutoCAD Commands and Functions*
- Co-Ordinate System, Angles and Distance
- *Drawing Command Tools (Point, Line, Arch, Circle, Polygon, Ellipse, Donut, Pline)*
- *Use of Ray, Multiline, Xline, Sketch, Helix*

6. Modifying Object

- *Erase, Offsets, Oops, Copy, Scale, Array, Move, Break, Trim, Fillet, Chamfer, Mirror*

- *Extend, Stretch and Lengthen, Break and Join, Grips and grip editing, Boundaries, Fillet and Chamfer, Divide and measure, Polyline and spline, Linetype*
- *Chdrop, Explode, Divide, Match Property,*
- *Rotate, Pedit, Pdsiz, Pdmode, Setvar*

7. Drawing Accurately

- *Using Grid and Snap, working with co-ordinates, Polar Tracking, Dynamic Input, Object Snap, Using Is draft*
- *ID, dist, Area, List, dlist, status, Time*
- *Fine tuning Drawing in AutoCAD*
- *Ucsion, Line type, Itscale, Isoplane, Elevation*

8.Hatching and Gradient

- *Defining and creating Hatch*
- *Customization (scale, angle, transparency, boundary and others)*
- *Layering hatch patterns and Colors*

9. Using with text styles

- *Single line text, Multi-Line text, aligning text, Framing text in title block, Justification, Uniform line spacing*
- *DDedit, ddmodify, ehtext, qtext, Style,Text Font*

10. Grouping

- *Block, Wblock, Insert, Minsert, Explode, Base, External Reference*
- *Library*

11. Dimensioning

- *Breaking, Defining, Spacing, Editing, Multileader*
- *Tolerance, Limits, Dimension Setup, Variables, Scale*

12. Object and Layer Properties

- *Working with layers*
- *Import and export*
- *Customization*

13. Attributes and Table

- *Creating a block with attributes*
- *Designing with table*
- *Adding with table*

14. Layout and Annotation

- *Viewport (Creating, Locking)*
- Title Block
- Detailing the size of Workspace

15. Creating Output

- Page Setup
- *Outputting to different Formats*

16. Designing a Plan as per NBC CODE (Detail drawing)

- View Plan
- Section Plan
- *Structural Drawing (Beam section, plan, column layout, reinforcement drawing,)*
- *Trench Plan, Beam Plan, Foundation Plan*
- *Pre Load and Dimension Calculations (Column, Beam, Slab size)*
- *Stair Section*

17. Introduction to 3d

- Introduction to primitives
- Box
- Wedge
- Torus
- Pyramid
- Sphere
- Cone

18. 3D Manipulation

- Rotate 3d
- Mirror 3D
- 3d Array
- 3D Scale
- *3D Move*
- Fillets and Chamfers in 3d

19. Boolean Handling

- Introduction to Boolean
- Union
- Subtract
- Intersect
- Smoothing
- Modeling

20. Solid Modeling

- Revolve
- Shell
- Taper

- Loft
- Sweep
- Helix

21. *Faces and Edges*

- 3d Path
- Copy, Move, Delete faces
- Copy Edges
- *Working with Edges (Color, Copy,)*

22. Surface Smoothing and Meshing

- • Surfacing Command
- • Smooth Meshing
- • Region
- • 3d Mesh
- • *Surf(Table, Edge, Rule)*
- • 21.UCS
- • UCS
- • World
- • Origin
- • View
- • *View ports*
- • Faces
- • 3 Point

23. View and Cameras

- • Distance
- • Clip
- • Undo
- • Zoom
- • Pan
- • Point
- • Twist
- • Rotate
- • Target
- • *Path Animation*

24. Rendering

- • *Spot Light*
- • *Point Light*
- • Distant Light
- • Rendering