KIDS & TEENS FREELANCING TRAINING INSTITUTE

AutoCAD 2D & 3D Course Outline

Module 1: Introduction to AutoCAD and Basic Concepts

- What is AutoCAD and where it's used in real life (architecture, engineering, design)
- Real-life example: Designing a floor plan of a small house
- Setting up AutoCAD and exploring the workspace (ribbons, menus, toolbars)
- Understanding 2D vs 3D design basics
- Activity: Open AutoCAD and create your first simple 2D line

Module 2: Basic 2D Drawing Tools and Techniques

- Learning essential 2D drawing tools: line, circle, rectangle, arc
- Real-life example: Drawing a basic room layout
- Using Object Snap, Ortho Mode, and Polar Tracking
- Editing drawings: Move, Copy, Rotate, Scale, Mirror
- Activity: Create a simple 2D furniture layout

Module 3: Layers, Annotation, and Dimensioning

- Understanding layers and why they are important
- Real-life example: Creating separate layers for walls, furniture, and doors
- Adding text, labels, and dimensions to drawings
- Setting up line types, colors, and layer properties
- Activity: Create a multilayered 2D floor plan with dimensions

Module 4: Introduction to 3D Modeling

- Basics of 3D modeling and why 3D is important
- Real-life example: Building a 3D model of a chair

- Using tools: Extrude, Revolve, Sweep, Loft
- Changing views: Isometric and Perspective modes
- Activity: Create a 3D model of a simple box and cylinder

Module 5: Advanced 3D Modeling Techniques

- Working with complex 3D objects: Union, Subtract, Intersect
- Real-life example: Modeling a 3D kitchen or car part
- Creating 3D surfaces and meshes
- Editing 3D solids and adding materials
- Activity: Create a 3D model of a basic house with doors and windows

Module 6: Plotting, Printing, and Presenting Your Work

- Setting up layouts and viewports for printing
- Real-life example: Printing a house plan for a client presentation
- Plotting drawings in different sizes and formats (PDF, DWG)
- Understanding scales and title blocks
- Activity: Prepare and print a final version of a 2D and 3D project

Module 7: Real-World Projects and Challenges

- Working on mini real-world projects like floor plans, 3D furniture, and site layouts
- Real-life example: Redesigning a small apartment space
- Collaboration tips: Sharing AutoCAD files with teams
- Receiving and applying client feedback
- Activity: Complete a mini project from scratch and share it

Module 8: Final Project – Design Your Dream Space

- Plan, draw, and model a custom project (e.g., your dream room or vehicle)
- Apply 2D and 3D techniques together
- Create layouts, views, and a final presentation
- Activity: Showcase your full AutoCAD project to peers or instructors

Bonus Materials

- Quick commands cheat sheet
- Layer and annotation templates
- Ready-to-use 2D and 3D project samples
- Printable plotting and printing checklist
- Certificate of Completion for AutoCAD 2D & 3D Mastery