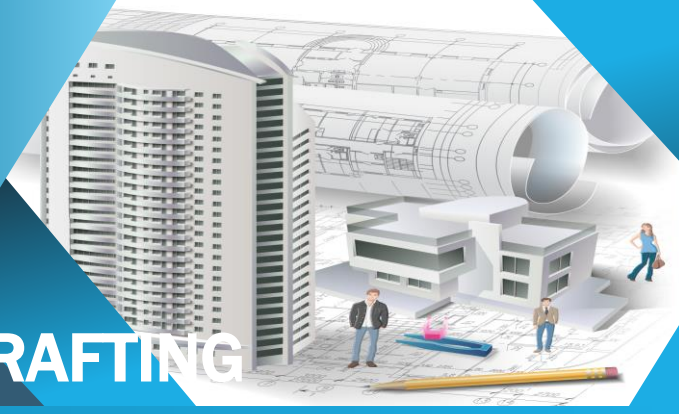

AUTODESK AUTOCAD ARCHITECTURE | CIVIL | DRAFTING

OVERVIEW

It is an Architecture design software used for manufacturing. AutoCAD Civil engineering design software which is used for manufacturing products for acceleration of Architectural CAD process in AutoCAD environment.

AutoCAD Architecture draws the best of AutoCAD in the alignment of industry-specific libraries of plans and components, making it a must learn for those who are involved in design and construction of the Infrastructure.

Course Objectives

Learning AutoCAD is a course I wrote for people looking to get a handle on this powerful software in a short amount of time. By the end of the course, you'll be comfortable with how to work with drawing files, controlling the views, creating basic geometry, editing, and creating text to accompany your work.
A great benefit of this course is the pause button; you're able to stop the video and try out the commands, continuing when you're ready. Let your curiosity lead you through the course, and try to apply it to the type of work you're expecting to use the software for.

Course Outline:

1. INTRODUCTION AND INTERFACE
    a. Document creation
    b. Units setup
    c. User interface
    d. Required shortcuts
    e. Grids and 2d work station

2. Drawing Tools
    a. Line
    b. Polyline
    c. Circle
    d. Arc
    e. Rectangle
    f. Polygon
    g. Ellipse
    h. Ellipse arc
    i. Spline fit

Essa Al Oatami Street. Building No. 34. Block No. 10. Salmiya. 22204171 | 65701004 info@bia.edu.kw | www.bia.edu.kw

j. Ray
k. Contraction lines

3. **Modification Tools**
    a. Move
    b. Copy
    c. Rotate
    d. Mirror
    e. Scale
    f. Trim
    g. Extend
    h. Fillet
    i. Chamfer
    j. Blend curve
    k. Array
        i. Rectangular array
        ii. Polar array
        iii. Path array
    l. Explode
    m. Offset
    n. Join
    o. Break
    p. Align

4. **Layers Tools**
    a. Creation of layers
    b. Setting on layer
        i. Lock layer
        ii. Freeze layer
        iii. Layer color
        iv. Layer line weight
        v. Layer plot
        vi. Layer delete

5. **Properties**
    a. Object color or color by layer
    b. Object style or style by layer
    c. Match properties
    d. 3D layers dimensions of object

6. **Grouping And Clipboard**
    a. Grouping objects
    b. Ungrouping
    c. Group editing
    d. Copy from document to document
    e. Paste as block
    f. Paste as link
    g. Paste as copy

Essa Al Qatami Street, Building No. 34, Block No. 10, Salmiya. 22204171 | 65701004 info@bia.edu.kw | www.bia.edu.kw

7. Block Creation
    a. Creating editable block
    b. Editing block parameters
    c. Reusing block in other documents
    d. Sending blocks
    e. Attributes
    f. Insert blocks
    g. Edit attributes of block

8. Annotations
    a. Adding dimensions
    b. Creating custom dimension style
    c. Annotative dimensions
    d. Adding dimensions to layers

9. Text
    a. Multiline text
    b. Single line text
    c. Editing the text styles
    d. Creating custom style
    e. Adding layer styles to text
    f. Annotative text size

10. Leaders And Tables
    a. Adding leaders to parts
    b. Adding table of content
    c. Annotative editing leaders and tables
    d. Incorporating with text dimension style
    e. Creating custom style of leader and tables
    f. Adding layer style to leaders and tables

11. Creating Layout
    a. Creating page setup
    b. Inserting views
    c. Editing the annotations and text
    d. Final pdf export

12. Documenting Project
    a. Saving project as pdf
    b. Setting up the paper size
    c. Reusing pdf
    d. Importing pdf

13. MISCELLANEOUS
    a. Applications options tab
    b. Printing options
    c. File save as formats
    d. Design center

14. 3D Interface
    a. Interface over view

Essa Al Qatami Street, Building No. 34, Block No. 10, Salmiya. 22204171 | 65701004 info@bia.edu.kw | www.bia.edu.kw

b. 3D workstation
c. Visual styles
d. Pan and orbit
e. 3d view cube
f. Importing 2d drawing

15. 3D Modelling Tool
    a. 3d pre exits models
    b. Polysolid
    c. Press pull

16. 2D-3D Modelling Tools
    a. Extrude
    b. Loft
    c. Revolve
    d. Sweep
    e. Combination of extrude and press pull
    f. Difference between solid , surface and mesh
    g. Solid from polyline
    h. Surface from line
    i. Join and explode to made solid or surface

17. 3D Modification Tools
    a. Union
    b. Subtract
    c. Interface
    d. Thicken
    e. Extrude surface
    f. 3d mirror
    g. 3d gizmo move, rotate and scale

18. Sections
    a. Creation of 3d sections
    b. Editing in section view
    c. Setting for rendering
    d. Saving as picture

19. Coordination System
    a. The view settings
    b. Face setting
    c. Work coordination system
    d. Unnamed editing

20. Solid Tools
    a. 3d fillet
    b. 3d chamfer
    c. 3d slice
    d. Extract edges
    e. Face offset
    f. Shell
    g. Clean up

Essa Al Qatami Street, Building No. 34, Block No. 10, Salmiya. 22204171 | 65701004 info@bia.edu.kw | www.bia.edu.kw

h. Imprint
i. Taper face

21. Surface Tools

a. Blend
b. Patch
c. Surface fillet
d. Network
e. Planar
f. Surface extrude, revolve, sweep, loft
g. Nurbes creation
h. Surface offset
i. Creation curves
j. Spline CV
k. Extend
l. Trim or untrim
m. Sculpt

22. Visualizing

a. Lights
    i. Point light
    ii. Web light
    iii. Spot light
    iv. Distant light
b. shadow
c. Sun setting
d. Background clouds and illuminations
e. View configuration
f. Camera creation
g. Materials editor
    i. Creating materials
    ii. Editing cut off and bumps
    iii. Editing picture materials

23. Rendering

a. Render setup
b. Render window setting
c. Render time and levels
d. Render saving
e. Walkthrough
f. Creating point and path walkthrough
g. Saving walkthrough into video

24. 3D Layout Creation

a. Creating page layout
b. Saving project
c. Adding render picture into layout

Essa Al Qatami Street, Building No. 34, Block No. 10, Salmiya. 22204171 | 65701004 info@bia.edu.kw | www.bia.edu.kw

25. Project -1

Creating a Simple Residential plan.

This project includes the architectural drawing on which first you will be thought how to adding the 2D layout for the entire house and then adding the required annotations and final saving it into pdf. Then the same drawing will be utilize to creation of 3D model of plan of the house. This drawing both 2D and 3D will be completed in the class under the guidance of the instructor.

26. Project -2

Creating a Complex Commercial Plan

This project will include the architectural plan on which you will be learning to create complex commercial plan. On which first you will be thought how to adding the 2D layout for the entire house and then adding the required annotations and final saving it into pdf. Then the same drawing will be utilize to creation of 3D model of plan of the house. This drawing both 2D and 3D will be completed in the class under the guidance of the instructor.

27. Project -3

3D Models from 2D Layout Drawings

You will be given 2D and 3D printouts of Architectural Components.

a. Creating and Editing Architectural Systems
   i. Custom Railings and wall sweeps
   ii. Flooring with materials
   iii. Exterior wall façade
   iv. Curtain wall
   v. You will be learning how to read a 2D drawing and create 3D model on it.

28. Project -4

Final Project Creation

In this you will be given the 2D plan on which you should create a 3D model by the skills you have learned in this course. This project you will be doing by yourself. You can ask for guidance from the instructor. This project should be progressive as the course goes on. By the end of course you should submit the project as pdf format only.

29. Final Briefings

The last hour of the class will be taken as over view of the entire course along with the final project submission.

Essa Al Qatami Street, Building No. 34, Block No. 10, Salmiya. 22204171 | 65701004 info@bia.edu.kw | www.bia.edu.kw