

# Syllabus of AutoCAD

## AutoCAD 2016 (Fundamentals + Advanced)

### 1. Creating a Simple Drawing

#### *Getting Started with AutoCAD*

- o Starting AutoCAD
- o AutoCAD's Screen Layout
- o Working with Commands
- o Opening an Existing Drawing File
- o Saving Your Work
- o AutoCAD's Cartesian Workspace

#### *Basic Drawing & Editing Commands*

- o Drawing Lines
- o Erasing Objects
- o Drawing Lines with Polar Tracking
- o Drawing Rectangles
- o Drawing Circles
- o Viewing Your Drawing
- o Undoing and Redoing Actions

### 2. Making Your Drawings More Precise

#### *Drawing Precision in AutoCAD*

- o Using Object Snap
- o Object Snap Overrides

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- o Polar Tracking Settings
- o Object Snap Tracking
- o Drawing with SNAP and GRID

### ***Making Changes in Your Drawing***

- o Selecting Objects for Editing
- o Moving Objects
- o Copying Objects
- o Rotating Objects
- o Scaling Objects
- o Mirroring Objects
- o Editing Objects with Grips

## **3. Drawing Organization and Information**

### ***Organizing Your Drawing with Layers***

- o Creating New Drawings With Templates
- o What are Layers?
- o Layer State
- o Changing an Object's Layer

### ***Advanced Object Types***

- o Drawing Arcs
- o Drawing Polylines
- o Editing Polylines
- o Drawing Polygons
- o Drawing Ellipses

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### ***Getting Information From Your Drawing***

- Measuring Objects
- Working with Properties

## **4. Creating More Complex Objects**

### ***Advanced Editing Commands***

- Trimming and Extending
- Stretching Objects
- Creating Fillets and Chamfers
- Offsetting Objects
- Creating Arrays of Objects

### ***Inserting Blocks***

- What are Blocks?
- Inserting Blocks from Tool Palettes
- Inserting Blocks using Insert
- Inserting Blocks with DesignCenter

## **5. Preparing to Print**

### ***Setting Up a Layout***

- Printing Concepts
- Creating Viewports
- Setting up Layouts
- Guidelines for Layouts

### ***Printing Your Drawing***

- Printing Layouts
- Printing a Check Plot

## **6. Annotating Your Drawing**

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**Text**

- o Working with Annotations
- o Adding Text in a Drawing
- o Modifying Multiline Text
- o Formatting Multiline Text

**Hatching**

- o Hatching

**Adding Dimensions**

- o Dimensioning Concepts
- o Adding Linear Dimensions
- o Adding Radial and Angular Dimensions
- o Editing Dimensions
- o Adding Notes to Your Drawing

**7. Beyond the Basics**

**Working Effectively with AutoCAD**

- o Setting up the Interface
- o Using the Keyboard Effectively
- o Working in Multiple Drawings
- o Using Grips Effectively
- o Additional Layer Tools

**Accurate Positioning**

- o Coordinate Entry
- o Locating Points with Tracking
- o Construction Lines
- o Placing Reference Points

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## 8. Creating and Organizing Blocks

### *Creating Blocks*

- o Creating Blocks
- o Editing Blocks
- o Removing Unused Elements

### *Blocks in Tool Palettes*

- o Adding Blocks to Tool Palettes
- o Modifying Tool Properties in Tool Palettes

## 9. Drawing Setup and Utilities

### *Creating Templates*

- o Why Use Templates?
- o Controlling Units Display
- o Creating New Layers
- o Adding Standard Layouts to Templates
- o Saving Templates

### *Annotation Styles*

- o Creating Text Styles
- o Creating Dimension Styles
- o Creating Multileader Styles

## 10. Advanced Layouts and Printing

### *Advanced Layouts*

- o Creating and Using Named Views
- o Creating Additional Viewports
- o Layer Overrides in Viewports
- o Additional Annotative Scale Features

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### ***DWF Printing and Publishing***

- o DWF Plotting and Viewing
- o Publishing Drawing Sets

### **11. Other Topics**

- o How to Use Quick Calc
- o Additional Zoom Commands
- o Creating Model Space Viewports
- o Advanced Object Selection
- o Single-Line Text
- o Other Text Tools
- o Additional Dimensioning Tools
- o Creating Boundaries
- o Working with Regions
- o Temporary Overrides

### **12. AutoCAD 2016 3D Drawing and Modelling**

#### **3D Foundations**

- Why use 3D?
- Introduction to the 3D Modeling Workspace
- Basic 3D Viewing Tools
- 3D Navigation Tools
- Introduction to the User Coordinate System

#### **Simple Solids**

- Working with Solid Primitives
- Solid Primitive Types
- Working with Composite Solids

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Working with Mesh Models

**Creating Solids & Surfaces from 2D Objects**

Complex 3D Geometry

Extruded Solids and Surfaces

Swept Solids and Surfaces

Revolved Solids and Surfaces

Lofted Solids and Surfaces

**Advanced Solid Editing**

Editing Components of Solids

Editing Faces of Solids

Fillets and Chamfers on Solids

**Working Drawings from 3D Models**

Creating Multiple Viewports

2D Views from 3D Solids

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## Syllabus of 3D Civil/ Architect

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### Day-1

Discussion regarding the Syllabus of 3D Civil Course

Lecture for creating 2D Drawings of Architectural plan and all their levels

Lecture for creating 3D Drawings of Building Models, Assigning Materials, Camera, Lights, Rendering and Produce Bitmap Image.

### Day-2

Lab session for Creating Building plan with Layers

### Day-3

Extruding the Building Model from the above 2D plan

Subtracting Doors and Windows

Applying Plinth, Slab and Column of Building and Porch

### Day-4

Applying Doors, Window Frame, Pannel and Glasses.

### Day-5

Applying Different types of Chhajjas to Windows with Pardi.

### Day-6

Applying Different types of Railings.

Creating Parapet Wall and Coping.

Creating Slab.

### Day-7

Providing Front Elevation Section

Creating Entrance Gate

Creating Boundary Wall

### Day-8

Assignment for modeling a Double Storied Building Project with Applying Doors and Window Frames up to ground floor.

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**Day-9**

Updating previously created plan by creating its first floor

**Day-10**

Creating Ground Floor Slab with Balcony Design

**Day-11**

Creating First Floor Slab with Parapet wall, Railing, Pardi, Tower and Porch Wall Design

**Day-12**

Lecture Regarding Materials & Landscaping

**Day-13**

Lab Sessions for Materials & Landscaping

**Day-14**

Lecture Regarding Camera settings, Lights and Rendering Effect  
Creating Bitmap Image of Building Model

**Day-15**

Details for Submission Drawings  
Creating Front Elevation and site plan with Dimension

**Day-16**

Details for Section, Location plan, Schedule of opening, Area Status etc. of Submission Drawing

**Day-17**

Types of Building Drawing  
Understanding and making of Layout Plan, Lintel Level Plan and Slab Level Plan

**Day-18**

Creating Electrical Layout, Water supply, Sewerage distribution, Kitchen Drawing of Building

**Day-19**

Lecture regarding Plotting Guidance including plotting, printing and scaling of drawing in different sizes.

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# Syllabus of Revit Architectural

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## Day-1

Exploring user interface, Revit Architecture basics, creating and modifying levels and creating and modifying walls.

## Day-2

About element properties, about component families, adding and modifying floors, doors, windows.

## Day-3

Adding and modifying roofs (soffit, footprint, extrusion) and creating openings.

## Day-4

Presenting the building plan, filled region, color legend and using text and dimensions.

## Day-5

Adding and modifying stairs, railing, ramps.

Import and export.

Revision & test.

## Day-6

Using materials, textures and creating renderings.

Creating exterior view (Topo surface, sub-region, building pad, etc.)

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**Day-7**

Creating interior views (use of lights and ceilings etc.)

Revision and test.

**Day-8**

Massing and its applications.

Sheet layout, detailing and drafting.

**Day-9**

Construction documentation.

Revision and test.

**Day-10**

Using walkthroughs.

Using sun and shadow settings, managing images.

**Day-11**

Brushing up and time for model.

Revision & test.

**Day-12**

Adding and modifying curtain walls. Using editing commands.

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