

# Institute of Architectural Graphics

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Date- 28/12/17 To 19/3/2018

## Syllabus

### • **AutoCAD**

#### **Getting Started with AutoCAD**

- Starting AutoCAD
- AutoCAD's User Interface
- Working with Commands
- AutoCAD's Cartesian Workspace
- Opening an Existing Drawing File
- Viewing Your Work
- Saving Your Work

#### **2. Basic Drawing & Editing Commands**

- Drawing Lines
- Erasing Objects
- Drawing Lines with Polar Tracking
- Drawing Rectangles
- Drawing Circles
- Undo and Redo Actions

#### **3. Drawing Precision in AutoCAD**

- Using Running Object Snaps
- Using Object Snap Overrides
- Polar Tracking at Angles
- Object Snap Tracking

#### **4. Making Changes in Your Drawing**

- Selecting Objects for Editing
- Moving Objects
- Copying Objects

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- Printing Layouts
- Printing from the Model Tab

## **12. Text**

- Working with Annotations
- Adding Text in a Drawing
- Modifying Multiline Text
- Formatting Multiline Text
- Adding Notes with Leaders to Your Drawing
- Creating Tables
- Modifying Tables

## **13. Hatching**

- Hatching
- Editing Hatches

## **14. Adding Dimensions**

- Dimensioning Concepts
- Adding Linear Dimensions
- Adding Radial and Angular Dimensions
- Editing Dimensions

## **15. Working with Blocks**

- Creating Blocks
- Editing Blocks
- Removing Unused Elements
- Adding Blocks to Tool Palettes
- Modifying Tool Properties in Tool Palettes

## **16. Annotation Styles**

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

## Staad-Pro Syllabus

<b>Total Duration : 90 Hours</b>	
<b>Day</b>	<b>Topics</b>
<b>1</b>	<ul style="list-style-type: none"> <li>• Overview of Structural Analysis and Design</li> <li>• Calculating Shear Force and Bending Moment values for various supports and load types</li> <li>• Introduction ○ STAAD.Pro V8i ○ STAAD Editor</li> </ul>
<b>2</b>	<p><b>Co-ordinate Systems ○ Global Vs Local</b></p> <ul style="list-style-type: none"> <li>• Creating a New Project in STAAD.Pro</li> <li>• Units</li> <li>• Model Generation ○ Creating Nodes &amp; Members</li> <li>• Select Menu</li> </ul>
<b>3</b>	<p><b>Model Editing Tool-</b>            Translational Repeat            Move, Mirror, Rotate  <b>Insert Node</b>            For a Single Member  <input type="checkbox"/> For Multiple Members ○  <b>Add Beam</b>  <input type="checkbox"/> Point to Point  <input type="checkbox"/> Between Midpoints  <input type="checkbox"/> Perpendicular Intersection  <input type="checkbox"/> Curved Member</p>
<b>4</b>	Model Editing Tools ○ Connect Beams Along ○ Stretch Selected Members ○ Intersect Selected Members ○ Merge Selected Members ○ Renumber ○ Split Beam ○ Break Beams at Selected Nodes
<b>5</b>	Creating Models by using Structure Wizard - Mini Project
<b>6</b>	Support Specification Member Property Specification Member Offset Material Specification Group Specification

	Loading ◦ Creating a Primary Load ◦ Adding Selfweight
7	<b>Loading- Nodal</b> <b>Loading-Member</b>  <b>Load</b> <input type="checkbox"/> Uniform Force and Moment <input type="checkbox"/> Concentrated Force and Moment <input type="checkbox"/> Linear Varying Load <input type="checkbox"/> Trapezoidal Load <input type="checkbox"/> Hydrostatic Load <input type="checkbox"/> Pre/Post Stress ◦ Area Load ◦ Floor Load
8	Mini Project 2
9	Loading ◦ Wind Load ◦ Creating Load Combination ◦ Automatic Load Combination ◦ Edit Auto Load Rules ◦ Moving Load ◦ Reference Load ◦ Repeat Load
10	Mini Project -3
11	Introduction to Analysis ◦ Perform Analysis ◦ Overview of Output Page ◦ Pre-analysis Print ◦ Post-analysis Print Inactive or Delete Specification General Guidelines for Design Concrete Design in STAAD.Pro ◦ Column Design ◦ Beam Design
12	RC Designer ◦ Beam Design ◦ Column Design Project 1
13	Seismology ◦ Introduction ◦ Terminologies ◦ Standards for Earthquake Design ◦ General Principals for Earthquake Design ◦ Finding the Lateral Force (manual calculation) ◦ Finding the Lateral Force by using STAAD.Pro  Dynamic Analysis ◦ Response Spectrum Analysis Mini Project 4
14	Seismology ◦ Introduction ◦ Terminologies ◦ Standards for Earthquake Design ◦ General Principals for Earthquake Design ◦ Finding the Lateral Force (manual calculation) ◦ Finding the Lateral Force by using STAAD.Pro Dynamic Analysis ◦ Response Spectrum Analysis Mini Project 4
15	Foundation Design ◦ Isolated Footing ◦ Combined / Strip Footing ◦ Foundation Design-Mat,Pile