

# Course: AutoCAD 3D

---

## Course Description

*This module will introduce the students to the 3D Models. After the completion of this course, you will be able to use AutoCAD to create 3D Model, Surface, Mesh, Rendering and so on.*

## Class and Lab hours:

*25 (10 Theory, 15 Lab)*

## Prerequisite:

*Need to be an architect/engineer /technologists with basic knowledge of AutoCAD 2D.*

## Course Objectives

*Upon completion of the course, trainees/students will be able to:*

- 1. Create 3D models.*
- 2. Create Surface.*
- 3. Create Mesh Object.*
- 4. Rendering.*

## Detailed Course Outline

<b>Unit Heading</b>	<b>Unit Outcomes</b>	<b>Unit Topics</b>
<b>1.Introduction</b>	<ul style="list-style-type: none"> <li>• Upon completion of this unit, the students are expected to:</li> <li>• Why use 3D?</li> <li>• Introduction to 3D modeling workspace.</li> <li>• Coordinate system.</li> </ul>	<ul style="list-style-type: none"> <li>• Types of 3D models.</li> <li>• 3D Navigation tools.</li> <li>• 3D Viewing tools.</li> <li>• Setting viewport display.</li> <li>• World coordinate system.</li> <li>• User coordinate system and its settings.</li> </ul>
<b>2. Getting started with 3D Modeling</b>	<ul style="list-style-type: none"> <li>• Solid Modeling</li> <li>• Solid Editing</li> <li>• Section Plane</li> </ul>	<ul style="list-style-type: none"> <li>• Working with Solid Primitives.</li> <li>• Solid Primitive Types.</li> <li>• Extrude, Sweep, Loft, Revolve etc. of Solids.</li> <li>• Boolean Operations, Fillet, Chamfer etc. of Solid Objects.</li> <li>• Generate Section, Live Section, Flat shot etc. of Solids.</li> </ul>
<b>3. Getting started with Surfacing</b>	<ul style="list-style-type: none"> <li>• Create Surface</li> <li>• Edit Surface</li> </ul>	<ul style="list-style-type: none"> <li>• Planar, Sweep, Extrude etc. Of Surface.</li> <li>• Blend, Patch, Offset of Surface.</li> <li>• Trim &amp; Untrim of Surfaces.</li> </ul>
<b>4. Mesh</b>	<ul style="list-style-type: none"> <li>• Mesh Modeling.</li> <li>• Mesh Editing.</li> </ul>	<ul style="list-style-type: none"> <li>• Meshing of Primitives.</li> <li>• Smooth object.</li> <li>• Extrude, Split, Merge Face.</li> <li>• Conversion to Mesh.</li> </ul>
<b>5. Visualization</b>	<ul style="list-style-type: none"> <li>• Visual Styles.</li> <li>• Rendering.</li> </ul>	<ul style="list-style-type: none"> <li>• About Visual Styles.</li> <li>• Use of Light, Material, Sun.</li> <li>• Overview of Render.</li> <li>• About Render Environment and Render presets.</li> <li>• About Render window.</li> <li>• Controlling Render Output Size.</li> <li>• Use of Camera and Views.</li> </ul>

### Evaluation:

There will be one exam that every trainee/student must pass with at least 75% or more to get a certificate of completion from BIMNCAD.