

# Course Agenda



- Module 01      Advanced Blocks and Attributes**  
Dynamic Block – Conference Table Set  
Electrical Attribute Project – Mixing Amplifier  
Architectural Attribute Project – Door Schedule  
*These exercises create a dynamic block, adds parameters and actions, inserts blocks with attributes that contain information about components, then extracts this information onto a table. Creates an annotative door symbol block and defines attributes for the door specifications, extracts the attribute information and places the door schedule table onto the drawing.*
- Module 02      Output and Publishing**  
Sharing drawings electronically with non-AutoCAD users  
View and create markups using Autodesk Design Review  
View markups made to DWF files in the associated DWG file  
Batch plot electronic and paper drawing sets  
*The exercise plots a layout to a DWF file and opens it using Design Review. Exports a multi-sheet DWFx file, views it in Design Review and adds some markups, then uses the Markup Set Manager to import the DWFx file into the original drawing and make the relevant changes. The DWFx is republished to view the changes in Design Review, then Batch Plot multiple drawings.*
- Module 03      Collaboration Tools**  
Create a single, compressed, transmittal file that includes all associated files  
Create and save transmittal setups with specified properties to be reused  
Work with Hyperlinks in drawings for ease of accessing information  
*This exercise comprises two parts, providing practical examples on eTransmit and Hyperlinks.*
- Module 04      Cloud Collaboration and Model Integration**  
Connecting to the Cloud (A360)  
Uploading and Sharing files in the Cloud  
Attaching Navisworks Models  
Attach models from BIM 360 Glue  
*This exercise renders a drawing using the Render in the Cloud tool, then uploads drawings and other files to A360 so that they can be shared with other project stakeholders. An Autodesk Navisworks model is attached to an AutoCAD drawing and the display tools used to modify the appearance and navigate through the model.*
- Module 05      3D Essentials**  
The differences between 2D drawings and 3D models  
Introduction to the 3D Modeling Workspace  
Basic 3D Viewing and Orbiting Tools  
Using Visual Styles  
3D Navigation Tools  
The User Coordinate System  
*This exercise navigates the model by accessing the preset views, orbiting and using the visual styles. The ViewCube and SteeringWheel are used to view the models from various directions.*



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## Module 06

### Basic Solids

- Working with Solid Primitives
- Types of Solid Primitives
- Creating Composite Solids
- Working with Mesh Models

*These exercises use solid primitives to create an architectural and mechanical model, works with composite solids to combine 3D objects into a single model using a selection of tools. Create and modify a mesh model, refine it, and then extrude a mesh face before converting it into a solid.*

## Module 07

### User Coordinate System

- Move the UCS to a new location in a 3D mode
- Change the UCS display setting
- Rotate and Move the UCS to different planes
- Change the origin and alignment of the UCS using the grips
- Define, save, and reuse the UCS in a drawing

*These exercises changes the current UCS to various locations using the UCS, Origin, and UCS ,Face tools, creates objects at these new UCS locations to then Define, Save, and restore UCSs in a model.*

## Module 08

### 3D Solids and Surfaces

- Extrude 2D linework to create 3D solids
- Create 3D solid objects using 2D elements
- Revolve a Profile
- The Loft Tool
- Creating a Sweep Profile
- Basic Solid and Surface Editing
- Create and Edit a NURBS Surface

*These exercises start with a 2D floor plan, uses both the Presspull command and the Extrude tool to create the 3D external and internal wall, then defines the door and window openings, and creates the door and window frames, panels, and glazing. Finally exploring the Loft, Revolve and Sweep tools, basic solid and surface editing, and the creation and editing of a NURBS Surface.*

## Module 09

### 3D Editing

- Use the Shell tool to hollow out a solid
- Imprint 2D objects onto the faces of 3D solids
- Slice a solid to display the interior
- Compare solids to display overlapping volume areas
- Use the Planar Surface, Convert to Surface and Explode commands
- Create Solids from circles or polylines

*The exercises use various 3D editing tools to hollow out 3D solids, imprint edges, slice through a solid, check the interference between parts of an assembly and convert objects to surfaces and solids, define the door and window openings, create the door and window frames, panels and glazing as well as explore uses for the Loft, Revolve and Sweep tools.*

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## Module 10

### 3D Visualisation

Create new styles in the Visual Styles Manager

Attach materials to objects using the Material Browse

Specify light sources and cast shadows for realistic views

Create presentation quality 3D rendered images

*The exercises explore the process of creating visual styles, working with materials, specifying, and placing lights, creating a sun study, and rendering concepts.*

## Module 11

### Drawings from 3D Models

Visualise the 3D model in multiple 3D viewports

Create a wireframe model and hidden line views of 3D objects

Create a flattened view of 3D solids projected onto the XY plane using Flatshot

Import different types of 3D models directly into Model Space

Automatically generate intelligent documentation

*This exercise creates multiple viewports, 2D views of a solid model, and a profile using the solid profile tool. Uses Flatshot to create flattened views of a 3D object and create hidden line views of the 3D model and imports models of various formats then creates and edits drawing views.*