



CAD Services

Surveying

Scanning

CAD Software & Training

Healthcare Space Planning

Retail Store Planning

Visualisation

SpaceStation®

GIS

C A Design Services

//Training/MicroStation XM/ 3D

Training Profile

MicroStation XM 3D

Course Aims

This course is aimed at proficient MicroStation users who wish to progress their skills by learning how to model objects in 3D. On completion of the course, the student should have a thorough understanding of the essential aspects of MicroStation 3D. Though the course follows the topics indicated in the course outline, time will be made to cover aspects and concepts that are pertinent to course participants, using (where appropriate) the students own drawings/layouts etc. If this is required, then discussions will be held before the start of the course, between the students and the course tutor, to detail those areas. A certificate will be issued upon successful completion.

Pre-requisites

A good working knowledge of MicroStation in 2D, or successful completion of the MicroStation 2D Basics course.

Course Contents

Introduction

Introduction to the 3D Level 3 Course
Previous Skills
Work Habits
Units of Measure
Inclusions

Models and Views

File Settings
Design Cube
View Window Orientations
Rotating View Coordinates
View Controls vs. View Control Bar
Setting Active Depth
Setting Display Depth
Clip Volume Display

AccuDraw in 3D

Define Compass Orientations
View Compass Orientations
Design Cube Orientation
ACS Orientations

3D Primitive Tools

Place Slab
Place Sphere
Place Cylinder
Place Cone
Place Torus
Place W edge
Standard Editing Tools
Exercises

3D Construct Tools

Extrude
Construct Revolution
Extrude Along a Path
Shell Solid
Thicken to Solid
Loft Block to Circle

3D Modify Tools

Draw on Solid
Modify Solid
Delete Solid Entity
Taper Solid
Boolean Construct Union
Boolean Construct Intersection
Boolean Construct Difference
Cut Solid
Fillet Edges
Chamfer Edges
Edit 3D Primitive
Exercises

3D Utility Tools

Align Faces
Change Smart Solid Display
Extract Faces or Edge Geometry
Intersect Surface/Solid with Curve
Convert to Smart Solid/Surface

Free-Form Surfaces

Review B-Spline Curves
3D Surface Display
Construct Surface By Section or Network

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Construct Surface By Edges
Place Free-Form Surface
Exercise

Sweep, Projection, and Fillet Surfaces

Construct Skin/Solid Surface
Sweep Along Two Traces
Construct Helical Surface
Offset Surface
Construct a Planar Surface
Fillet surfaces using the Fillet Surfaces tool
Blend two or more surfaces using the Blend Surfaces tool
Blend two surfaces using the Blend Surfaces Between Rail
Curves tool
Apply the Mesh tools

Modify Surface

Construct Trim
Project Trim
Convert to 3D
Construct Stitch
Change Normal Direction
Untrim Surface
Change to Active Surface Settings
Split Surface
Extend Surface
Rebuild Surface
Evaluate Surface
Analyze Curvature

2D/3D, Cells, and Patterning

Import/Export 2D/3D Designs
Cells in 3D
Patterning in 3D

Drawing Composition

General Concepts
Sheet View Exercise
Apply Dimensions
Apply Annotations
Apply the Copy/Fold Reference Tool

Course Length

2 days minimum

If the course participants require more assistance/guidance for the working practices in their own environment, then another day could be added to this course. This day would cover those aspects in detail and could involve setting up the environment/customisation of the users systems.

Lunch is provided when course is taken at The Design Centre.

Booking Details

Please call us on **01493 440444** to find out course availability and other training options. Alternatively, you can e-mail sales@cadesignservices.co.uk.

Perspective Views

Basic Perspective Layouts
Change View Perspective Tool
Camera Tool

Lights and Camera Settings

Lighting Types
Placing Lights
Area Lights
Saving Rendered Views
Advanced Camera Settings

Material Assignments

New Base Drawing for Material Application
Material Options and Settings
Material Definitions
Colour/Level Material Assignments
Attribute Material Assignments
Assigning Procedural Textures

Advanced Rendering Set-up

Import House Design
3D Cells Creation
Wall and Ceiling Materials
Window Insertion
Exterior Finishes

Ray Trace, Radiosity, & Particle Trace

Interactive vs Photo-Realistic Rendering
Photo-Realistic Rendering Methods
Ray Trace Method
Radiosity Method
Particle Trace Method
Distant Lights and Sky Openings
Environmental Maps
Distance Cuing

Solar Studies and FlyThrough

Solar Studies
FlyThroughs