



## Training Profile

### MicroStation V8 2004 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

##### 3D Modify Tools

Modify Solid  
Remove Faces and Heal  
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  
Construct Facet

##### Free-Form Surfaces

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

CAD Services

Surveying

Scanning

CAD Software & Training

Healthcare Space Planning

Retail Store Planning

Visualisation

SpaceStation®

GIS

# C A Design Services

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Place Free-Form Surface  
Exercise

## **Sweep, Projection, and Fillet Surfaces**

Construct Skin/Solid Surface  
Sweep Along Two Traces  
Construct Helical Surface  
Offset Surface

## **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

## **Perspective Views**

Basic Perspective Layouts  
Change View Perspective Tool  
Camera 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 our trainer Rob Webb on **01493 440444** to find out course availability and other training options. Alternatively, you can speak to a member of our sales department on the same number or e-mail [sales@cadesignservices.co.uk](mailto:sales@cadesignservices.co.uk).

## **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