



Training Profile

MicroStation V8 2004 2D Basics

Course Aims

This course is aimed at both beginners and users with some exposure to CAD concepts. On completion of the course the student should have a thorough understanding of the essential aspects of MicroStation 2D. 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

IT literacy, an understanding of basic drafting techniques / geometry.

Course Contents

Startup and Interface Screen

- Opening a New Design File
- The Interface Screen
- Using Settings Boxes and Dialog Boxes
- MicroStation's Model System
- Saving the Design and Closing MicroStation

Lines, Circles, and View Controls

- Reopening the Design File
- Using the Mouse
- Opening Tool Boxes and Selecting Tools
- Floating Tool Boxes
- Using the View Control Tools
- View Control with a Wheel Mouse
- Help Options

Selecting and Deleting Elements

- Selecting Single Elements - Element Selection Tool
- Multi-Element Selection Sets - Element Selection Tool
- Multi-Element Selection Sets - Power Selector
- Deleting Elements
- Undoing and Redoing Actions

Snaps and Tentative Points

- Setting the Keypoint Snap Mode
- Identify Snap Options in the Locks Settings Box
- Using AccuSnap to place Tentative Points and Snaps
- Element Keypoints Locations and Divisor Setting
- Identify All Snap Modes
- Manual Tentative Point Placement
- Practicing the Snap Override
- "Cycling" through Snap Points
- Tentative Points as Coordinates
- Use Shift-Tentative Point for Snap Modes
- AccuSnap Setting Options

Design Plane, Working Units, and Inputs

- The Design Plane
- Working Units
- Entering Precise Dimensions
- Setting and Formatting Angle Input
- Custom and Advanced Working Units

AccuDraw

- Activating AccuDraw
- AccuDraw.s Compass
- Drawing Plane Coordinates
- Keyboard Shortcuts
- Circles and AccuDraw
- Recalling Previous Values
- Constraining Data Points
- Relocating the Compass Origin with "O" for "Origin"
- Shortcut Snap Modes and Constraints
- Unit Roundoff
- Using the Popup Calculator
- The Complete List of AccuDraw Shortcut Keys

Absolute Coordinates and Grids

- Opening the Data Point Key-In Settings Box
- Absolute (XY=) Key-In
- Delta and Distance Key-ins
- Using the Grid

Polygons

- The Place Block Tool
- Place Shape
- Place Orthogonal Shape
- Place Regular Polygon

CAD Services

Surveying

Scanning

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Healthcare Space Planning

Retail Store Planning

Visualisation

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Arcs and Ellipses

Arc Properties
The Place Arc Tool
Drawing Arcs - Center Method
Drawing Arcs - Edge Method
Ellipse Tools
Full Ellipse
Placing Half- and Quarter-Ellipses - Arcs Tool Box
Isometric Ellipses
Arc Editing Tools

SmartLine

Setting SmartLine Options
Drawing with SmartLine - Vertex Types
SmartLine's Options
Drawing Line Strings - Vertex Types
Drawing with SmartLine - Arcs
SmartLine and Arcs

Element Symbolology

Adding Color to Elements
Adding Line Style to Elements
Adding Line Weight to Elements
Levels
Setting Construction Class Elements
Setting Fill Color
Apply Element Attributes Quickly
Matching Element Attributes
Modify Line Style Attributes and Change Fill Type

Advanced Selection Sets

Building Fences
Copying with a Fence
Moving with Fences
Copying with the Shape Mode
Additional Fence Operations
Group Elements with Group Tool
Graphic Groups Creation
Selecting Elements by Attributes
Selecting Elements by "Select All"

Module 14 Manipulate Tools

Copy and Move Tools with Precision
Move and Copy Through the Windows Clipboard
Moving Quickly
Move Parallel
Using the Scale Tool
Using the Rotate Tool
Using the Mirror Tool
Using the Align Elements by Edge tool.
Using the Construct Array Tool

Module 15 Modify Tools

Element Selection Tool
Modify Element
Delete Part of Element
Extend Line
Extend Two Lines to Intersection
Extend Element to Intersection
Trimming Elements
Insert Vertex
Delete Vertex
Construct Circular Fillet
Construct Chamfer

Editing with Fences

Stretch and the Copy Element Tool
Stretch and the Scale Tool
Stretch and the Rotate Tool
Manipulate Fence Contents Tools
Deleting Fence Contents
Clip Mode and the Copy Element Tool

Inquiry Tools

Element Information
Measurement Tools

Exercises A collection of drawing exercises to help reinforce the previous instruction and to provide drawings for use in the next two Modules.

Annotation

Setting Text Attributes
Placing Text
Text Display
Plotting and Text Height
Text Tools
Create Text Styles
Character Mapping

Dimensioning

Dimensions and Text Settings
Dimension Settings
The Dimension Element Tool
The Dimension Size with Arrow and Stroke Tools
Dealing with Small Dimensions
Changing Existing Dimension Settings
Using the Modify Element Tool
Associative and Non-Associative Dimensions
Editing Dimension Text
Angular Dimension Tools
Radial Dimension Tools
Place Notes Tool
Additional Dimension Tools

Plotting and Printing

The Basic Process
Preparing the Drawings
Selecting Elements for Plotting
Plot Setup - English Units
Plot Setup - Metric Units
Plot Output

Additional Information - Plotter Driver Files
Additional Information - Drawing Setup

Key-Ins

The Key-in Dialog Box
Finding Key-in Sequences
Direct Key-in Entry
Escape Key Sequence and Docking the Key-in Window

Advanced Dimensioning

Working with Insert Vertex and Delete Vertex
Dimension Associations
Dimensions and Rotated Views
Understand and Apply Level Styles

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Saving Dimension Styles
Placing Geometric Tolerances

Advanced Annotation

Placement Methods
Text Nodes
Text Number Increment Tool
Data Field Tools
Importing Text Files
Find and Replace Text
Importing Fonts
Stretching Text
Annotation Tool Box Options
Use Different Font Editors
Import Text Styles

Reference Files

New Design Files
Referencing the Title Block
Modifying the Reference File
Adding Text to the Title Information
Copying Attachments and Copying Elements
Additional Settings and Tools
Dimensioning Attached Files
Saved Views and Self-attachment
Reference Files and Preferences
Reference Files and Working Units
Reference File and Models Exercise

Cells

MicroStation's Cell Libraries
Placing Cells
Placing Shared Cells
Using the Cell Selector
Other Cell Placement Tools
Creating Cells and Cell Libraries
Changing Cell Contents
Using the Replace Cells Tool
More Cell Information
Cell Exercise
Control Attachment of V7 Cell Libraries

Complex Elements

Using SmartLine
Creating Complex Chains
Creating Complex Shapes
Creating Regions (Boolean Operations)

Practical Uses
Dropping Complex Elements

Patterning

Single-Line Hatches
Crosshatches
Patterning Methods
Patterning with Cells
Manipulating Patterns
Associative Patterns
Deleting Patterns
Patterning Around Holes
Show Pattern and Match Pattern Attributes Tools
Linear Patten Tool

Custom Line Styles

The Basic Process
First Step - Create the Buoy Symbol and Point Component
Second Step - Create the New Stroke Pattern
Third Step - Associate the Symbol with the Stroke Pattern
Fourth Step - Create the Compound Component
Manage Line Style Definition Dialog Box
Additional Information

Points

The Active Point
The Place Active Point Tool
The Construct Active Points Between Data Points Tool
The Project Active Point onto Element Tool
The Construct Active Point at Intersection Tool
The Construct Active Points along Element Tool
The Construct Active Points at Distance along Element Tool

Miscellaneous Items

Creating Custom Tool Boxes
Auxiliary Coordinate System (Acs) vs Rotated Views
Open AutoCAD Files in MicroStation
Assigning Tools to Function Keys
Package Design Files and Open Archive Files
Apply Design History to Record Design Changes
Apply Data Cleanup

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Course Length

Beginners - 3 days minimum

Experienced CAD users - 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 both the beginners and experienced users 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.