



## Godfrey Data Consultancy Limited

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# Introduction to using MapInfo (2-3 day course)

## Course Objectives

Understand the principles of GIS (Geographical Information Systems) by learning the fundamentals of using MapInfo. By the end of this course, students will be able to make effective use of this powerful tool to create and modify maps, enter associated data, and produce personalised maps, tables and graphs of professional quality.

## Prerequisites

It is recommended that students have basic experience with the Windows operating system.

## Maps and Data

- Overview of viewing maps and attached data
- Working with layers
- Methods of selecting
- Understanding the MapInfo map and data file structure
- Drawing and editing vector-based mapping objects
- Registering and using Raster maps
- Saving and retrieving workspaces
- Buffering
- Calculating fields from existing data
- Using external sources; Access, Excel, and creating link fields
- Redistricting as a tool for data entry
- Geocoding

## Getting Information

- Select queries
- Displaying charts
- Calculating statistics
- Simple modifications to data table structure
- Displaying thematic maps
- Revision of select queries
- SQL queries

## Printing

- Transferring map images to Word documents
- Printing map frames
- Creating layout windows

## Making MapInfo user-friendly

- A taste of automating by generating MapBasic code.
- Typing simple MapBasic syntax
- Attaching routines to toolbar buttons

# Course Structure

For two days of training, choose the Introduction plus 6 sections, or (if non-beginner) choose the Consolidation plus 7 sections. For three days of training, choose another 4 sections. Always choose from left to right.

## Module 1: THE BASICS

- Default Day 1
- Default Day 2
- Default Day 3

**INTRODUCTION (3½ hrs):**

- MapInfo file and directory structure
- Saving, copying, and closing
- Understanding the MapInfo Screen
- How a map and data are connected
- View Tools: Zooming, setting map scale, arranging the map in its window
- Working with Layers
- Object size concepts: Formatted size versus actual space dimensions
- Understanding Workspaces
- Labelling the map
- Setting the zoom range: limiting the view of a map layer
- Map types: Raster versus Vector

**CONSOLIDATION:** OR  
Test your existing knowledge and skill with a consolidation exercise

## Module 2: SELECTING

**Part i. Basic select tools (1 hr)**

Select:

- One or several objects by clicking
- Within a rectangular area
- Within a circular area of set radius
- Within a (user-defined) drawn polygon
- Within the boundary of an area

Invert a selection  
Remove a selection

**Part ii. Queries (1½ hrs)**

Select by examining:

- whole textual entry in the data
- partial textual entry (wildcards)
- numeric values in the data
- length or area of a map object
- more than one aspect concurrently

**Part iii. SQL Queries (2 hrs)**

Select by examining:

- more than one table (layer) at once
- the position of objects in several layers ...and calculating
- counts / totals for numeric fields
- counts for text fields
- counts depending on position

## Module 3: DRAWING

**Part i. Basic drawing tools (2 hrs)**

Draw:

- Points of various styles / formats
- Lines of various patterns and thickness
- Areas of various fill and boundary style

Edit

- Reposition and reshape
- Reformat

**Part ii. Special techniques (2 hrs)**

Draw:

- Points in exact geographical locations
- "Holes" in area objects
- A boundary to exactly fit another
- Objects made by combining "islands"
- Objects made by combining others by category E.g. wards from output areas.

**Part iii. Creating new layers (3 hrs)**

Raster image registration  
Draw and use Buffers  
Geocoding: place objects by postcode (or similar)  
Create objects: automatically place points by X and Y co-ordinates

## Module 4: INFORMATION and PRESENTATION

**Part i. Information tools (1 hr)**

Find:

- Distance between points by measuring
- Object properties
- Statistics on stored numeric values
- charts production

**Part ii. Thematic mapping (2½ hrs)**

Thematic mapping:

- shade areas
- size of points
- thickness of lines
- two layers at once
- mini-charts to compare values

Restricting for presentation

**Part iii. Printing (1½ hrs)**

Copy-paste techniques  
Print directly from MapInfo - create Layout windows.

## Module 5: DATA

**Part i. Within MapInfo (2 hrs)**

Table definition:

- Creating new tables from scratch
- Creating new fields
- Use of various field types

Data manipulation

- Table "packing"
- Simple calculation from existing fields

**Part ii. Remote data (2 hrs)**

Data entry:

- Import data from external sources
- Restricting as a means of data entry

Link fields  
Link tables using locational elements  
Aggregate functions  
A taste of thematic mapping  
HotLinking

## Module 6: MAPBASIC

**Part i. In-built procedures (2 hrs)**

Here is a selection:

- Draw scale bar
- Draw grids
- Create an HTML web page
- Concentric ring buffers
- Draw north arrow

**Part ii. MapBasic concepts (2 hrs)**

Useful pre-written routines  
Automatically generating code  
Compile routines  
Call and run routines  
MapBasic code to create toolbars