

Introduction to Data Modelling for Geospatial Professionals (2 Days - £950 + VAT per person)

This course is designed to give geospatial professionals a foundation to start building their own data models and comply with existing spatial frameworks to ensure data consistency.

Learning Objectives:

- To provide a basic grounding in data modelling
- To introduce key terms and concepts
- To become familiar with Unified Modelling language (UML)
- To gain practical experience of building geospatial data models
- To use industry standard data modelling software

Pre-requisites:

- Good knowledge of Geographical Information Systems (GIS) and geospatial data

Day 1

1) Overview

- Introductions
- Outline of the course

2) What is data modelling?

- What are data models?
- Why are they used?
- Key concepts
- How do you create a data model?
- Overview of Data Modelling Process (Conceptual, Logical, Physical)
- A simple example

Exercise: Explore a simple data model

3) Unified Modelling Language (UML)

- UML History
- Key Concepts
- Data Modelling software

Exercise: Create a simple UML diagram

4) Data Requirements and Business use

- Data Requirements gathering
- The Data Dictionary
- Goal Maps
- Process diagrams / Links to models

5) Data Modelling Process - Conceptual

- Project Roles (Domain expert, modeller)
- Conceptual Models (Including Generic Conceptual modelling)
- Feature concepts / Feature Concept Dictionary (FCD)
- Entities
- Relationships

Exercise: Build a Conceptual Model based on an example domain

6) Data Modelling Process - Logical

- Attributes / formats
- Detailed Relationships (multiplicity etc.)
- Data Standards and best practice (ISO, OGC)
- Documentation

Exercise: Build a Logical Model and create documentation

Day 2

7) Data Modelling Process – Physical (Building the model)

- Software solution
- DDL

Exercise: Example of creating a physical model using DDL

8) INSPIRE Data Models – a case study

- INSPIRE Standards
- Resources

Exercise: Example of creating a physical model using DDL

9) Data Modelling - Project

Working on a domain of your choice (selected from 3 provided) the trainer will support you to put into practice the skills you have learnt over the previous sessions in order to create a geospatial data model from scratch.

Learning Outcomes:

- Familiarity with Data Modelling Concepts and Terminology
- Familiarity with Unified Modelling language (UML)
- Familiarity with Data Modelling software (Sparx Enterprise Architect)
- Confidence to build geospatial data models from scratch
- Ability to Import and use existing data models