

Introduction to QGIS Classroom based

COURSE OUTLINE

This course introduces the underlying principles and methods of Geographical Information Systems (GIS). It examines the processes involved in the capture, storage, manipulation, analysis, presentation and output of digital geographical data in a GIS and provides opportunities for the development of practical skills in processing data using a leading Open Source GIS software package, QGIS.

The course comprises a series of presentations, demos and practical sessions using QGIS software with example data sets taken from a

variety of fields. The main elements of the QGIS user interface are introduced and topics covered include: data management, data visualisation, analysis, data presentation and reporting.

This course is intended for those who have little or no GIS knowledge and who wish to use **FREE software** developed by the Open Source community as opposed to a proprietary commercial package.

By attending training with GeoData you can accrue CPD points towards the Chartered Geographer accreditation.

This course has been validated under the Association for Geographic Information CPD Scheme and it has been assessed for Royal Geography Society with IBG (RGS-IBG) Chartered Geographer (CGeog) accreditation (10 hours of CPD points).



ANTICIPATED COURSE OUTCOMES / ACHIEVEMENTS

Aims and objectives

- To provide delegates with an appreciation of the fundamental concepts of GIS including its strengths and limitations.
- To introduce the core functionality of QGIS software package.
- To teach the fundamental skills needed to obtain, import, manipulate, analyse, interpret, manage and output spatial data in order to investigate topics in the delegate's area of interest.
- To demonstrate real-world uses of GIS.
- To support the mapping of your own data in a QGIS project.

Learning outcomes - by the end of the course, delegates will have a knowledge and understanding of:

- What GIS is; what spatial data is; raster and vector data models
- The core tasks involved in a GIS analysis e.g. data acquisition and input; data storage and management; data manipulation and analysis; and data presentation and output
- The core functionality of QGIS
- Importing data from various sources
- Handling tables including selections and queries
- Creating and editing spatial data
- The steps required to produce paper maps from base data
- Basic geoprocessing tasks e.g. buffering and clipping

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	Description				
Session 1: Group training 9:30 - 4:30	1 - The What, Why, How of GIS What is GIS? What does it mean? Questions I can answer using GIS Presenting data using GIS What data can I use in a GIS? GIS Applications	2 - Introduction to QGIS OpenSource GIS Data Formats Map Layers Working with Tables Map Production Plugins Geoprocessing Finding Help <i>Exercise 2 – Getting Started</i>	3 - Using QGIS Identifying Features Layer Properties (Thematic Mapping, Labelling, Actions) Project files Project Properties <i>Exercise 3a – QGIS Basics</i> <i>Exercise 3b – Symbolising data</i>	4 - Data Management and Using Tables Data Management QGIS Browser Metadata <i>Exercise 4 – Metadata</i>	5 - Using Tables Adding/Editing fields and records Field Calculator Generating field statistics Joining tables <i>Exercise 5 – Working with Tables</i>
Session 2: Group training 9:30 – 4:30	6 – Selections and Queries Identifying features Select features interactively Selection by criteria – query builder Location-based selections Exporting selected data <i>Exercise 6 – Selections and Queries</i>	7 - Creating and Editing Layers Creating new data Shapefiles Geodatabases Editing and Snapping Editing Attribute data Saving data Undo and Redo <i>Exercise 7 - Creating & Editing GIS Data</i>	8 - Producing Maps Cartographic Design What is a Layout? Print Layouts Adding Maps Map Elements Graphic Elements Composer Templates Printing or Exporting <i>Exercise 8 – Producing a Map</i>	9 - Geoprocessing & Other Tools / Extensions GeoProcessing Spatial Joins Advanced Geoprocessing <i>Exercise 9 – Analysis and Geoprocessing</i>	