Call for participants:

Introduction to Geographical Information Systems and Cartography

The Department of Civil, Environmental and Geomatic Engineering, University College London, will be hosting an Introduction to Geographical Information Systems and Cartography Course on the 18th and 19th of February 2010. This course is aimed at novice or potential GIS Users interested in key concepts of geographical data capture, storage and analysis. After course completion participants will be able to generate, manipulate and analyse geographic information confidently and create high-quality cartographic outputs.

The course is organised into modules containing comprehensive overviews of fundamental topics relating to Geographical Information Systems, databases and cartography, alongside hands-on tutorials teaching participants the most important functionalities of GIS.

The course will introduce users to and use Open Street Map (OSM) data and Manifold GIS software. Participants will be tutored by leading GIS lecturers and researchers with extensive GIS expertise in a commercial and academic context.

Participants will receive a comprehensive training manual containing all of the course content such as presentation slides, tutorial worksheets, project files and datasets used. This training manual will act as a valuable reference guide after the course is completed.

Each participant can expect:

- Experienced academic tutors
- A workstation preloaded with all software and data for the tutorials
- State-of-the-art air-conditioned computer room
- Comprehensive course documentation folder
- Course Certificate from UCL on completion
- Lunch and refreshments provided

The course fee is £650 (incl. VAT) per participant. Please note that we have arranged a discount for organisations sending two or more participants. The course will be held on UCL's main campus in Bloomsbury, Central London.

For booking and any further enquiries, please email Patrick Weber at p.weber@ucl.ac.uk or you can phone +44 (0)20 7679 2745 .

UCL Department of Civil, Environmental and Geomatic Engineering
University College London Gower Street London WC1E 6BT
p.weber@ucl.ac.uk

Detailed Course Curriculum:

Day 1

Principles of GIS
- What is GIS?
- Differences between Vector & Raster Data
- Cartographic Projections
- Compendium of free data sources

Basic GIS Operations (p)
- Importing data
- Managing Projection
- Displaying & Navigating Data & Tables
- Creating a new Map
- Working with Layers in a Map
- Selecting, creating, editing objects in Drawings & Tables
- Querying feature attributes
- Saving a new Project

Cartographic Communication
- Core concepts in cartographic visualisation
- Thematic Formatting
- Colours and symbology
- Differences in screen/print display

Thematic Formatting of a Drawing (p)
- Formatting Drawings
- Setting Area, Point & Line formats
- Formatting in the Map Component
- Creating labels
- Thematic Mapping
- Themes for Thematic Mapping
- Adding a Legend

Creating a Map (p)
- Cartographic principles to consider
- Defining layout scope
- Layout Elements: Text, Images, Legend, Scale bar, North Arrow
- Exporting Layouts
- Printing a Map

Day 2

Introduction to databases
- What is a RDBMS?
- Database design (indexes, keys, integrity & normalisation)
- Geographical data storage in a RDBMS
- Principles of SQL language

Accessing Databases (p)
- Importing Excel Data
- Linking to an external RDBMS table
- Linked Drawings
- Joining table data to a Drawing
- Table Design
- The Selection Toolbar
- The Query Toolbar

Data processing using SQL (p)
- SQL Queries
- SQL Action Queries
- Parameter Queries
- Spatial SQL Queries

Spatial Analysis (p)
- Spatial Analysis Principles
- Spatial Selection using different operators
- Spatial Overlay
- Creating buffers, centroids
- Shortest path
- Point Density

(p) – Practical, Hands-on session