

TRAINING COURSE: GEOGRAPHIC INFORMATION SYSTEM (GIS) AND ITS APPLICATIONS FOR ASSESSMENT AND MANAGEMENT OF GROUNDWATER RESOURCES (LEVEL I)

24 – 28 April, 2010



TECHNOLOGY EXPERTS
GLOBAL EXPERTS GROUP



The Beneficiaries of this training Course:

This course would be of interest to new geographic information systems users, who are interested in advancing their GIS knowledge: Hydrogeology, Geology, Environment, Engineering, Geography, Cartography, Agriculture, surveying, commerce, Transport, natural resources management, public health, public safety, infrastructure management, Risk assessment and politics.

When do I register?

Registration ends one week before the beginning of the training course due to limited seats

Training course costs

The cost of the 5-day course is 4500 (SR), per person and will be reduced to 4000 when more one person from one institute are registered

Registration includes the following:

Comprehensive Course Notes, Computer Lab. Tutorial Notes and Data set you will work with.

Bank Transfer: National Commerce Bank

Account No. 26552900000103

IBAN SA8210000026552900000103

Contact Us!

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Course Objectives

The objective of this course is to provide participants with a basic understanding of the theory of Geographic Information Systems (GIS) and databases

Upon completion of the course, you will learn:

- Describe the functions of a GIS
- Display feature and tabular data
- Query features using logical expressions
- Find features using spatial relationships
- Associate tables with joins and relates
- Create and edit spatial and attribute data
- Perform simple spatial analysis
- Produce maps and graphs

Course Description

Introduction to GIS training course by Technology Experts is designed as a hands-on, application oriented training course. The course will provide the attendees with the knowledge and tools necessary to work with GIS quickly and efficiently.

The course covers fundamental GIS concepts as well as how to create, edit, and work with georeferenced spatial data. Attendees learn how to manipulate tabular data, query a GIS database and present data clearly in maps.

Capabilities and GIS applications; Components and functions; Interacting with the interface; Basic display Spatial data concepts: Representing spatial data and descriptive information GIS data model: Geodatabase, files, coverages; Feature types and attributes Querying data: Selecting and identifying features; Setting hyperlinks Table manipulation: Joining and relating tables Creating and editing data: What is georeferencing; Map projections; Setting spatial reference; Creating and editing data Simple spatial analysis: Buffering; Spatial data joins Presenting data: Creating; Symbolizing data; Setting scale; Adding map elements; Export options.

Course Schedule

Day 1:

Introduction

- GIS components and functions
- Organizing spatial data
- Representing features in raster and vector data
- Components of geographic data
- Using spatial relationships
- Exercise

Layers and maps

- Feature organization
- Layers, data frames, and maps
- Data and Layout views
- Managing the Table of Contents
- Finding, measuring, hyperlinks
- Exercise

Day 2:

Create Labels and Displaying data

- Using attributes for labeling and symbolization
- Symbolization Changing symbol properties
- Labeling features
- Layer files and data sources
- Exercise

Selecting features

- Why make selections?
- Selection methods: attribute, location, graphic,
- Exercise

Using selections

- Selection layers
- Exporting selected data – spatial / tabular
- Calculating summary statistics
- Graphs and interactive charts
- Exercise

Day 3:

Working with spatial data

- Feature classes and attributes
- Data formats: shape file, coverage, geodatabase, CAD
- Tabular locations
- Images and grids
- Introducing metadata
- Exercise

Working with tables

- Spatial and non-spatial tables
- Table structure and data field types
- Table manipulation and calculations
- Associating tables with joins and relates
- Exercise

Day 4:

Creating data

- Defining location - georeferencing
- Coordinate systems
- Projection distortion
- Storing spatial reference
- Exercise

Editing data

- Editable data formats
- Navigating the Editor
- Managing edit sessions
- Selecting features
- Simple editing functions
- Editing vertices
- Reshape, cut and Extend/Trim feature tasks
- Editing attribute data for selected features
- Editing tables using the Field Calculator
- Exercise

Day 5:

Simple spatial analysis and Geoprocessing

- Geoprocessing
- Buffering
- Spatial join
- Exercise

Presenting data

- Map layouts and content considerations
- Creating maps
- Identifying map elements
- Inserting map elements
- Changing element properties
- North arrows and scale bars
- Incorporating a reference system
- Layout options and tools
- Export options
- Printing and plotting maps
- Exercise