



Applied Geographical Information Systems

Presented by the Centre for Geoinformation Science, University of Pretoria

3 SACNASP CPD Points

3 ECSA CPD Points

Geographical Information Systems (GIS) can play a key role in helping scientists, decision-makers, and the public develop collaborative solutions to real-world problems. GIS mapping tools have become imperative for many fields, such as epidemiology, veterinary science, urban planning and environmental assessment. The **Applied Geographical Information Systems** short course is an introduction to a range of geospatial techniques used in the analysis of spatial data. Practical case studies are employed to help you confront real world problems and design a solution using GIS. The software package ArcGIS is used to visualise, explore, analyse and map the solution.

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Shifting knowledge to insight



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Course content

Theoretical content

- What is special about spatial data?
- Spatial autocorrelation
- Spatial analysis of points
- Spatial analysis of lines and areas
- Hot spot analysis
- Regression modelling
- Issues when analysing spatial data

Practical content

- Stepping through the spatial analysis process
- Descriptive statistics
- Exploratory spatial data analysis (ESDA)
- Spatial autocorrelation
- Spatial analysis
- Case study one: Solving a real world problem in public health
- Case study two: Solving a real world problem in crime
- Case study three: Solving a real world problem in the environmental sciences

Learning outcomes

After successfully completing this course, you will

- understand what spatial methods are appropriate for varying data types
- be aware of some of the societal problems and critiques associated with GIS
- be able to carry out an advanced GIS or spatial analysis research project using GIS
- be a competent user of mainstream GIS software, gaining skills employers require, and
- have the knowledge to critically appraise spatial analysis in published work.

Who should enrol?

This course is suitable for anyone with a basic knowledge and understanding of GIS, ethics and professionalism. This is not an introduction to GIS course.

Course fees

R7 500.00 per delegate (VAT incl.)

Course fees include all course notes, text books and refreshments during contact days.

Course fees must be paid in full 14 days prior to course start dates. Proof of payment can be submitted to enrolments@enterprises.up.ac.za.

Admission requirements

Prospective delegates should ideally have a basic knowledge of GIS and/or geographic data, but is not a prerequisite.

Accreditation and certification

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Registration and enquiries

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