

Advanced Geospatial Analysis: GIS, LiDAR Data Processing, and Modeling

Istanbul (Turkey)

22 - 26 June 2025



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Advanced Geospatial Analysis: GIS, LiDAR Data Processing, and Modeling

Code: IT28 From: 22 - 26 June 2025 City: Istanbul (Turkey) Fees: 4400 Pound

Introduction

The Advanced Geospatial Analysis course is designed to provide participants with a comprehensive understanding of the most modern and advanced techniques in Geographic Information Systems GIS, LiDAR data processing, and modeling. This hands-on course will equip participants with the skills and knowledge required to effectively analyze and interpret geospatial data, extract valuable insights, and create sophisticated models for various applications.

Objectives

- To provide participants with a solid foundation in GIS, LiDAR data processing, and modeling concepts.
- To familiarize participants with the latest advancements and best practices in geospatial analysis.
- To enable participants to acquire practical skills in manipulating and analyzing geospatial data using GIS software.
- To equip participants with the ability to process and interpret LiDAR data for various applications.
- To enable participants to create and implement advanced geospatial models for solving real-world problems.

Course Outline

Day 1

Introduction to GIS

- Overview of GIS fundamentals and applications
- Understanding spatial data models and coordinate systems
- Introduction to GIS software and tools
- · Data acquisition and sources for GIS analysis

Day 2

Advanced GIS Analysis Techniques

- Spatial data manipulation and geoprocessing
- Spatial analysis methods buffering, overlay, proximity analysis
- Raster analysis and modeling
- · Visualization and cartography techniques



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Day 3

LiDAR Data Processing

- Introduction to LiDAR technology and data characteristics
- LiDAR data acquisition and preprocessing techniques
- Point cloud classification and filtering
- Digital elevation model DEM generation from LiDAR data

Day 4

LiDAR Data Analysis and Applications

- LiDAR data visualization and exploration
- Terrain analysis and feature extraction
- LiDAR data fusion with other geospatial datasets
- · LiDAR applications in urban planning, forestry, and environmental studies

Day 5

Geospatial Modeling

- Introduction to geospatial modeling concepts
- Model design and parameterization
- Implementation of advanced geospatial models
- · Model validation and accuracy assessment



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