



HDTC Training Center

Provide

Technical proposal of the Training program

ArcGIS































Introduction

In today's data-driven world, Geographic Information Systems (GIS) have become essential tools for analyzing and visualizing spatial information.

This hands-on course is designed to build a strong foundation in using ArcGIS 10.2, equipping participants with the skills to manage geographic data, perform spatial analysis, and create professional map outputs across various fields.

Program Objectives:

At the end of this training program, participants will be able to:

- Provide participants with essential skills to navigate and operate within the ArcGIS environment.
- Understand different types of spatial data and how to organize and manage them effectively.
- Learn basic spatial analysis techniques such as Buffer, Clip, and Intersect.
- Build and apply SQL-based attribute queries for data filtering and analysis.
- Design and export high-quality maps suitable for presentation and decision-making.
- Encourage self-learning by utilizing ArcGIS's built-in help tools and online resources.

Program Outlines:

★ Day 1: Getting Started with ArcGIS 10.2

Introduction to GIS and ArcGIS 10.2

- o What is GIS?
- Overview of ArcMap, ArcCatalog, and ArcToolbox

Navigating the ArcGIS Interface

- Toolbars, map documents (.mxd), and data views
- Saving and organizing projects

Managing GIS Data

- Using ArcCatalog to explore shapefiles and geodatabases
- Understanding coordinate systems and projections















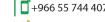






















Adding and Displaying Data

- Adding spatial and tabular data
- Symbolizing layers and customizing legends

★ Day 2: Data Analysis and Attribute Management

Working with Attribute Tables

- Field types, sorting, and calculating values
- Joining and relating tables

Attribute Queries

- **Using Select by Attributes**
- SQL expressions and logical operators

Spatial Analysis Basics

- Buffer, clip, and intersect tools
- Understanding geoprocessing workflows

Labeling and Annotation

- Dynamic labeling and label classes
- Converting labels to annotations

★ Day 3: Map Layout and Project Finalization

Map Layout and Design

- Layout view, map elements (legend, scale bar, north arrow)
- Customizing templates and exporting maps

Editing Spatial Data

- Creating and modifying features
- Snapping and topology basics

Metadata and Data Management Best Practices

- **Documenting datasets**
- Organizing project folders and backups

Using ArcGIS Help and Resources

- Accessing built-in help and online documentation
- Introduction to Esri's training resources





































Program Outputs:

By the end of the course, participants will be able to:

- Navigate ArcMap, ArcCatalog, and Arc Toolbox efficiently.
- Organize and manage GIS data, including shapefiles, geodatabases, and coordinate systems.
- Import and symbolize spatial and tabular data and create informative visualizations.
- Perform basic spatial analysis and understand its practical applications.
- Construct attribute queries using logical expressions and filters.
- Design and layout complete maps with essential map elements (title, legend, scale bar, etc.).
- Utilize ArcGIS help tools to continue learning independently.

Target Audience:

- ✓ Urban planning and municipal staff
- ✓ Professionals in engineering, environmental, and agricultural fields
- ✓ Data analysts and urban planners
- √ Geography, urban studies, and GIS students and graduates
- ✓ Anyone looking to build foundational GIS skills for professional or academic use

Training methods:

- Technology-Based Learning.
- Simulation in Training.
- On-the-job guidance.
- Trainer-Led Training.
- Work Teams and Roles.
- Films and Videos.
- Case Studies and Workshops.



