SCANDINAVIAN ACADEMY
For Training and Development

Course: As Built Maintaining Water Network Maps Using ArcGIS

Code	City	Hotel	Start	End	Price	Language - Hours
845	Zagreb (Croatia)	Hotel Meeting	2025-09-15	2025-09-19	5450 €	En - 25

Introduction

Accurate and up-to-date water network maps are crucial for efficient infrastructure management and maintenance. This course provides participants with the knowledge and skills to maintain and update as-built water network maps using ArcGIS. Through a combination of theoretical lessons and practical exercises, participants will learn best practices for data collection, mapping, and GIS-based network maintenance.

General Goal

To equip participants with the essential knowledge and technical skills required to maintain and update water network maps using ArcGIS, ensuring accuracy, efficiency, and sustainability in water infrastructure management.

Detailed Objectives

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

- Understand the importance of maintaining accurate as-built water network maps.
- Utilize ArcGIS for data collection, visualization, and analysis of water network systems.
- Implement best practices for updating and maintaining water network maps.
- Integrate field-collected data into GIS databases for accurate mapping.

- Analyze and troubleshoot common issues in water network mapping.
- Ensure compliance with industry standards and regulations in GIS-based water network management.
- Develop workflows for systematic updates of water network maps.
- Use advanced ArcGIS tools for spatial analysis and decision-making.
- Generate reports and visualizations for effective communication and management.
- Apply case studies and practical exercises to real-world water network mapping challenges.

Target Audience

- GIS professionals working in the water utilities sector.
- Engineers and technicians responsible for maintaining water network maps.
- Urban planners and infrastructure managers.
- Government and municipal employees involved in water resource management.
- Any professionals interested in using ArcGIS for water network mapping and maintenance.

Course Outline

Day 1: Introduction to As-Built Mapping and ArcGIS Fundamentals

- Overview of as-built mapping in water network management.
- Introduction to GIS and ArcGIS software.
- Understanding spatial data types and GIS databases.
- Data sources for water network mapping.
- Hands-on: Basic ArcGIS interface and tools.

Day 2: Water Network Data Collection and Integration

- Methods of collecting as-built data (GPS, surveys, remote sensing).
- Digitizing and importing water network data into ArcGIS.

- Georeferencing and aligning as-built maps with GIS layers.
- Data quality assurance and validation techniques.
- Hands-on: Importing and managing water network datasets.

Day 3: Maintaining and Updating Water Network Maps

- Editing and updating GIS layers for water networks.
- Attribute data management and metadata documentation.
- Best practices for maintaining GIS databases.
- Tracking changes and version control in ArcGIS.
- Hands-on: Updating and modifying network maps.

Day 4: Spatial Analysis and Troubleshooting

- Identifying and resolving errors in water network mapping.
- Using spatial analysis tools for network optimization.
- Hydrological modeling and flow analysis in ArcGIS.
- Troubleshooting connectivity and topological errors.
- Hands-on: Performing spatial analysis for decision-making.

Day 5: Visualization, Reporting, and Case Studies

- Generating professional reports and map layouts.
- Creating interactive dashboards and web maps.
- Real-world case studies of as-built mapping in water networks.
- Group discussions and problem-solving exercises.
- Final project: Developing an as-built water network map.

The Scandinavian Academy for Training and Development adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training and Development.

Program Timings:

- 9:00 AM to 2:00 PM in Arab cities.
- 10:00 AM to 3:00 PM in European and Asian cities.

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.