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Training Course Outline

Training the GIS Professional

Working with ArcGIS Network Analyst 10.x

2 Days

Overview

In this course, you will acquire the skills needed to use ArcGIS Network Analyst to find closest facilities, calculate service areas and find the shortest routes using the Network Analyst Extension.
The course will help users to understand the data requirements around Network Analyst and how to use the various solvers to analyse road network based queries.

Who should attend

The course will introduce existing users of ArcGIS to the extensive functionality provided by the Network Analyst extension.

Goals

After attending this course you will have a thorough understanding of network datasets and the functionality of the Network Analyst solvers; namely:

- Understand fundamental concepts of the ArcGIS network dataset
- Create network datasets
- Define network dataset properties such as connectivity groups, connectivity policies and network attributes
- Solve routing, closest facility, service areas problems
- Create Origin Destination matrices and use the Vehicle routing problem and Location-Allocation solvers
- Optionally perform network analysis using tools and models
- See examples of how network analysis is accessed in web environments

Topics Covered

Fundamentals of network systems

Directed flow networks (rivers, utilities); Undirected flow networks (roads); Physical and logical network representation; Edges, junctions, and turns; Geometric networks vs. network datasets; Overview of working with a network dataset.

The Route solver

Route solver concepts; Route solver types; Route outputs and directions reports

Calculating Service Areas

Analysis settings, options and results

The Origin-Destination Matrix solver

Analysis settings, options and results

The Vehicle Routing Problem solver

Analysis settings, options, network analysis classes, applications

The Location-Allocation solver

Analysis settings, options, problem types, applications

Advanced network analysis options

Network locations on the network, analysis settings of network locations, time windows, curb approach, hierarchy

Network dataset connectivity

Network datasets, properties, connectivity groups and policies, Line feature connectivity, point feature connectivity, elevation fields

Network attributes

Four types of network dataset attributes, assigning network attributes, attributes and edge directionality, Evaluators, parameterised attributes

Creating and building network datasets

Workflow, modeling penalties for global turns, building a network

Modifying network datasets

Editing network sources, modifying turn features, editing network dataset properties, rebuilding the network dataset, multimodal network systems

Network Analyst and geoprocessing (optional)

Review of ArcGIS geoprocessing framework, Network Analyst Tools toolbox, Review of ModelBuilder concepts, Network solvers in ModelBuilder

Network Analyst and ArcGIS Online (optional)

Review network analysis functionality in AGOL and other web environments.

Prerequisites

This course is designed for experienced ArcGIS users and assumes a good working knowledge of ArcMap and ArcCatalog.

Related Courses

- Working with the ArcGIS Model Builder 10.1
- Introduction to Geoprocessing Scripts using Python

Contact Us

For GIS training enquiries and bookings visit www.esriuk.com/training, email us at training@esriuk.com or call us on 01296 745504

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