

# Networking & TCP/IP Fundamentals (NWF)

**ID** NWF **Price** 1,590.— €(excl. tax) **Duration** 3 days

## Who should attend

- Network operators, administrators, network planners, and technical support staff
- CCNA Candidates

## Prerequisites

Basic Computer literacy

## Course Objectives

This course, developed by Fast Lane, is tailored for network beginners interested in the challenging and exciting world of network technologies. Course topics include essential technologies, structures, functions, and data transmission methods in modern LANs and WANs.

## Course Content

- LAN Basics
- Standard Models
- Devices and Media
- Switching
- Basic IP Routing
- Ports and Services
- Network Architecture
- Improving LANs
- Advanced Routing
- Security
- Certifications

## Detailed Course Outline

### Module 1: LAN Basics

- Lesson 1.1: Network Types
- Lesson 1.2: Network Components
- Lesson 1.3: Network Topologies
- Lesson 1.4: Network Characteristics
- Lesson 1.5: Communication Types

### Module 2: Standard Models

- Lesson 2.1: Standards Overview
- Lesson 2.2: The Seven Layer Model
- Lesson 2.3: Physical & Data Link Layers
- Lesson 2.4: Network Layer
- Lesson 2.5: Transport Layer
- Lesson 2.6: Upper Layers

### Module 3: Devices and Media

- Lesson 3.1: Transmission Media
- Lesson 3.2: Link Layer Devices
- Lesson 3.3: Network Layer Devices
- Lesson 3.4: Upper Layer Devices

### Module 4: Switching

- Lesson 4.1: Switching Fundamentals
- Lesson 4.2: Address Resolution Protocol
- Lesson 4.3: Frame Delivery

### Module 5: Basic IP Routing

- Lesson 5.1: IP Addresses
- Lesson 5.2: Subnetting
- Lesson 5.3: Internet Protocol
- Lesson 5.4: Basic Routing

### Module 6: Ports and Services

- Lesson 6.1: Transport Layer
- Lesson 6.2: Application Layer

### Module 7: Network Architecture

- Lesson 7.1: Design Models
- Lesson 7.2: Spanning Tree
- Lesson 7.3: First Hop Redundancy

### Module 8: Improving LANs

- Lesson 8.1: Link Aggregation
- Lesson 8.2: Virtual LANs
- Lesson 8.3: Inter VLAN Routing

### Module 9: Advanced Routing

- Lesson 9.1: Dynamic Routing
- Lesson 9.2: Network Address Translation
- Lesson 9.3: IPv6

#### **Module 10: Security**

- Lesson 10.1: Security Principles
- Lesson 10.2: Threats
- Lesson 10.3: Mitigation Techniques

#### **Module 11: Certifications**

- Lesson 11.1: Certifications

# About Fast Lane



Fast Lane is a global, award-winning specialist in technology and business training as well as consulting services for digital transformation. As the only global partner of the three cloud hyperscalers- Microsoft, AWS and Google- and partner of 30 other leading IT vendors, Fast Lane offers qualification solutions and professional services that can be scaled as needed. More than 4,000 experienced Fast Lane professionals train and advise customers in organizations of all sizes in 90 countries worldwide in the areas of cloud, artificial intelligence, cyber security, software development, wireless and mobility, modern workplace, as well as management and leadership skills, IT and project management.

## Fast Lane Services

- ✓ High End Technology Training
- ✓ Business & Soft Skill Training
- ✓ Consulting Services
- ✓ Managed Training Services
- ✓ Digital Learning Solutions
- ✓ Content Development
- ✓ Remote Labs
- ✓ Talent Programs
- ✓ Event Management Services

## Training Methods

- ✓ Classroom Training
- ✓ Instructor-Led Online Training
- ✓ FLEX Classroom – Classroom & Online Hybrid
- ✓ Onsite & Customized Training
- ✓ E-Learning
- ✓ Blended & Hybrid Learning
- ✓ Mobile Learning

## Technologies & Solutions

- ✓ Digital Transformation
- ✓ Artificial Intelligence
- ✓ Cloud
- ✓ Networking
- ✓ Cyber Security
- ✓ Wireless & Mobility
- ✓ Modern Workplace
- ✓ Data Center



**Worldwide Presence**  
with high-end training centers  
around the globe



**Multiple Awards**  
from vendors such as AWS,  
Microsoft, Cisco, Google, NetApp,  
VMware



**Experienced SMEs**  
with over 19.000 combined  
certifications

### Germany

**Fast Lane Institute for Knowledge  
Transfer GmbH**  
Tel. +49 40 25334610  
info@flane.de / www.flane.de

### Austria

**ITLS GmbH**  
(Partner of Fast Lane)  
Tel. +43 1 6000 8800  
info@itls.at / www.itls.at

### Switzerland

**Fast Lane Institute for Knowledge  
Transfer (Switzerland) AG**  
Tel. +41 44 8325080  
info@flane.ch / www.flane.ch