

Wireless Fundamentals 2 (WFUN2)

ID WFUN2 **Price** 1,590.— €(excl. tax) **Duration** 2 days

This course can be booked in combination with the [Wireless Fundamentals 1 \(WFUN1\)](#) as package [Wireless Fundamentals Complete Package \(WFUNP\)](#).

Who should attend

- IT staff
- Networkers
- Technicians/Electrical Engineers
- Administrators

Prerequisites

- [Wireless Fundamentals 1 \(WFUN1\)](#)
- Basic knowledge of network protocols and wireless LAN beneficial, but not required

Course Objectives

In this seminar, we will provide you with the advanced fundamentals of radio engineering and wireless technologies.

In addition, topics such as antenna design, complex modulations, SNR, RSSI, DCA, TPC, 802.11ax, WPA3, MU-MIMO, OFDMA, wireless mesh, office extend, high density, enterprise design, branch office design, use of analysis tools, use of planning and illumination tools, use of Wireshark will be covered.

The theory is accompanied with extensive practical exercises and examples from real networks as well as live demos by our WiFi experts. The course offers a vendor-independent introduction to wireless and provides all the basic knowledge needed to prepare you to attend vendor-specific courses such as AMF and WLFNDU.

Course Content

RF Advanced Topics

- Electromagnetic Spectrum
- Evolution of Wi-Fi 6

- Understanding Guard Interval
- Inverse-Square Law
- Advanced Antenna Design
- Wi-Fi RF Improvements
- Maximal Ratio Combining
- Transmit Beamforming
- Spatial Multiplexing
- Advanced Wi-Fi Modulation
- Relationship Between Modulation and SNR
- Channel Bonding

Radio Resource Management

- RRM Algorithm
- Dynamic Channel Assignment
- Dynamic Bandwidth Selection
- Dynamic Frequency Selection
- Transmit Power Control
- Coverage Hole Detection and Mitigation

802.11ax / WiFi 6 / WiFi 6e

- 802.11ax
- Understanding OFDMA
- Resource Units
- OFDMA and MU-MIMO
- BSS Coloring
- 6 GHz and more

Different Wireless Deployments

- Enterprise Deployment
- High Density Deployment
- Branch Office Deployment
- Central Breakout Considerations
- Local Breakout Considerations
- Wireless Mesh
- Office Extend and Teleworkers

Advanced Wireless Security

- Types of guest access
- Advanced Wireless Security
- WPA3 Security Enhancements
- Identity PSK

High Availability

- WLC High Availability
- HA SSO
- N+1 HA
- N+N HA
- Failover Issues

Wireless Deep Dive and Analysis

- WiFi Analysis
- Wi-Fi Useful Tools
- Application Testing
- Using Wireshark to Analyze a Packet Capture
- Wireshark Filters

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