

LTE Long Term Evolution - New Air Interface and Architecture

This 2 day training session offers a profound introduction to LTE. Besides an overview of LTE basics - like the new air interface and network architecture - the main focus will be on principles and functional contexts in LTE. After the training the participant will have comprehensive knowledge of LTE basics and will be able to transfer this knowledge to his daily routine.

Target Group / Requirements

Employees working in technical departments with basic knowledge in GSM and/or UMTS who require an overview of LTE.

Course Content

LTE – Key Concepts

- LTE Key Parameters and Concepts

LTE – Physical Layer

- OFDM in Downlink and SC-FDMA in Uplink
- Time and Frequency Domain in LTE: Resource Grid and Resource Blocks
- Reference and Synchronization Signals in Uplink and Downlink
- Physical Channels in Downlink: Control and Data Region, PHICH, PDCCH, PDSCH, PBCH, PCFICH
- Physical Channels in Uplink: PUCCH, PUSCH, RACH
- Resource Allocation in Downlink and Uplink
- Modulation
- Interference Mitigation Techniques
- Spectrum Allocation
- MIMO Basics and the Use of MIMO in LTE

LTE Network Architecture

- Evolved Packet System Architecture
- LTE Protocol Architecture
- Radio Channels in LTE

LTE Interfaces and Procedures

- X2-Interface: Protocol Structure and functions
- S1 Interface: Protocol Structure and functions
- Scheduling in eNB
- HARQ in LTE
- Layer 3 Procedures in LTE: Registration, Tracking Area Update, Service Request
- Mobility in LTE: Mobility in Idle and in Active Mode

Course Duration:

2 days

Course Number:

NW1243

Requirements:

Basic knowledge of Mobile Networks

Interworking LTE with UMTS/GSM

- Mobility Concept
- Network Enhancements for Inter-RAT Handover
- Inter-RAT Handover Procedure

Certification

Certificates are given to all participants at the end of the course about the successful completion.

Course Registration:

Please contact us via

- phone: +49 89 1894354-405
- email: training@tfk-technologies.de or
- via our website <https://skilleap.com/courses>

You will receive a confirmation of your registration. We can also advise you concerning the best combination of course contents.

For clients with special requirements the optimal training concept can be customized. Modules from our training portfolio can be combined to meet your company-specific needs.