LTE, LTE-Advanced & 5G

All about State-of-the-Art Mobile Communications

LTE is the most successful mobile communications standard of all time. Launched in 2010, LTE is now available in almost every country in the world and there are many billions of LTE contracts. LTE has been and is being further developed towards 5G as LTE-Advanced and LTE-Advanced Pro.

A variety of functions make LTE more flexible, more powerful, more customer-oriented and more cost-effective. The agenda includes very high data rates (Gbit/s), intelligent heterogeneous network structures with cells from a few 10 m to 100 km, new frequency ranges, the Cellular Internet of Things CIoT with NB-IoT and LTE-M, device-to-device D2D transmission and group communication for BOS, intelligent antenna systems and much more.

LTE is increasingly becoming the one radio system for all possible users and use cases.

This course includes an introduction to LTE basics, milestones and standardization, the LTE network and OFDMA-based radio transmission as well as the central LTE-Advanced (Pro) features. The most important evolutionary steps towards 5G, the current status, possibilities and limitations are explained. Finally, 5G is outlined: 5G requirements, 5G milestones, the 5G network and the basics of 5G radio transmission.

Course Contents

- LTE Standardization in 3GPP
- LTE Milestones
- LTE Network EPS
- Evolved Packet Core EPC
- LTE Radio Network E-UTRAN
- LTE Radio Interface E-UTRA
- OFDMA & SC-FDMA
- Resource Block & Resource Element
- QoS Concept with ARP & QCI
- LTE-Advanced & LTE-Advanced Pro
- 3GPP Release 10 - 16
- Heterogeneous Networks HetNets
- Self-Organizing Networks SON
- Optimized Cell Edge: ICIC, eICIC & CoMP
- Proximity Services ProSe with D2D communication
- LTE for Public Safety Networks / BOS
- Carrier Aggregation and Dual Connectivity
- Supplementary Downlink SDL
- TDD-FDD Joint Operation
- MIMO Evolution & Massive MIMO
- Higher Order Modulation HOM
- New Device Categories & Gigabit LTE
- Cellular Internet of Things CIoT: NB-IoT & LTE-M
- Embedded SIM (eSIM/eUICC)
- New Frequency Bands
- LTE in Unlicensed Bands: LTE-LAA
- 5G (IMT-2020) Requirements, Standardization & Milestones
- 5G Radio Transmission: New Radio NR
- 5G network: NG RAN & 5GC
- 5G Spectrum

E-Book The detailed digital documentation package, consisting of an e-book and PDF, is included in the price of the course.

Target Group

The course is aimed at anyone who wants to get to know and understand LTE and many of its facets, as well as the current evolutionary steps from LTE-Advanced and LTE-Advanced Pro to 5G.

Prerequisites

Basic knowledge of telecommunications. GSM and/or UMTS/HSPA knowledge is helpful.

This Course in the Web

You can find the up-to-date information and options for ordering under the following link:
www.experteach-training.com/go/**NGMO**

Reservation

On our Website, you can reserve a course seat for 7 days free of charge and in an non-committal manner. This can also be done by phone under +49 6074/4868-0.

Guaranteed Course Dates

To ensure reliable planning, we are continuously offering a wide range of guaranteed course dates.

Your Tailor-Made Course!

We can precisely customize this course to your project and the corresponding requirements.

Training		Prices, excl. of V.A.T.
Classes in Germany	**5 Days**	**€ 2,995**
Online Training	**5 Days**	**€ 2,995**
Date/course venue		Course language German
13/10-17/10/25 München	13/10-17/10/25 Online	

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ExperTeach Benelux B.V.
Ceresstraat 1· 4811 CA Breda· Phone: +49 6074 4868-0 · Fax: +49 6074 4868-109 · info@experteach.de · www.experteach-training.com