

LTE Expert

COURSE OUTLINE



Course Details

4G LTE classes are available at Premcell. Premcell 4G LTE institute provides best LTE training classes with LTE Certification LTE course is for those who wish to acquire knowledge on LTE Air Interface aspects, including Radio Planning.

Target Professionals

This training is targeting engineers who wish to acquire knowledge on LTE Air Interface aspects, including Radio Planning.

This training is theoretical, thus it is also useful for engineers working other areas such as core network, transport, etc as a way to get a first overview on LTE networks.

Training Objective

- Introduction to LTE and LTE architecture
- Understand how the LTE air Interface works
- Understand different LTE physical procedures
- Understand the basic aspects of the LTE Radio Planning

Duration of Training: 5 Days

Max Number of Participants: 15

Prerequisite: General knowledge of mobile communication networks, specifically their Air Interface.

List of Modules

- LTE Overview
- LTE Network Architecture

- LTE Air Interface Radio Aspects
- LTE Air Interface Protocols and Radio Channels
- MIMO
- LTE Advanced
- LTE Physical Procedures
- Session Management
- Introduction to LTE Radio Planning

Module List Detailed

Module 1: LTE Overview

Topics discussed in this module are listed below:

- Motivation to develop LTE/SAE.
- LTE/SAE requirements and key features.
- LTE comparison with other mobile communication technologies

Module 2: LTE Network Architecture

Topics discussed in this module are listed below:

- Evolution from GSM to LTE/SAE architecture
- Description of the Network Elements in a SAE/LTE network
- Description of the SAE/LTE interfaces

Module 3: LTE Air Interface Radio Aspects

Topics discussed in this module are listed below:

- OFDM basics
- OFDM Multiple Access
- Radio Access Principles

Module 4: LTE Air Interface Protocols and Radio Channels

Topics discussed in this module are listed below:

- Introduction to Air Interface Protocols
- Physical layer Aspects
- LTE Air Interface Layer 2
- Radio Resource Control (RRC)
- LTE Radio Channels
- Physical Channels Resource Allocation

Module 5: MIMO

Topics discussed in this module are listed below:

- Introduction to Multiple Antenna Systems
- MIMO Physical Channel Processing
- LTE Transmission Modes

Module 6: LTE Advanced

Topics discussed in this module are listed below:

- LTE Advanced Introduction
- LTE Advanced Requirements
- Architecture changes
- UE Categories
- Carrier aggregation
- Enhanced Multiple Antenna Systems
- Relays
- Heterogeneous Networks (HetNets)

Module 7: LTE Physical Procedures

Topics discussed in this module are listed below:

- Introduction to Air Interface Procedures
- Air Interface Measurements
- Cell Search
- Timing Advance
- Power Control
- Random Access
- HARQ Procedures
- Radio Resource Management
- Mobility Procedures in Idle State
- Handover control

Module 8: Introduction to LTE Radio Planning

Topics discussed in this module are listed below:

- Radio Planning Process
- Coverage Dimensioning
- Link Budget and Exercise

- Capacity Dimensioning

Module 9: LTE Session Management

Topics discussed in this module are listed below:

- LTE/SAE Mobility Areas
- UE Identifications
- LTE/SAE Mobility Management
- LTE/SAE Bearers