LTE Essentials (1 day)

LTE (Long Term Evolution) is initiated by 3GPP to improve the mobile phone standard to cope with future technology evolutions and needs. This course provides a high level overview of LTE technology including its architectural and requirement details. Further it explains functional and protocol details of LTE nodes. A good knowledge of 3GPP technologies like UMTS would be beneficial for anyone attending this course.

Who Should Attend

This is beginner level course and suitable for telecom professionals & students who have little or no understanding of LTE.

Objective

After completing this course, the audience will be able to:
- Understand history & overview of LTE
- Define LTE Architecture
- Explain LTE network elements
- Describe LTE Interfaces
- Explain basic signaling procedures

Course Contents

LTE Overview
- Evolution
- Need of LTE
- High Level Requirements
- High level architecture for the evolved system
- LTE-SAE Nodes
- Functional Architecture E-UTRAN EPC
- LTE-SAE Interfaces

Evolved UTRAN
- EUTRAN Architecture
- eNode B Functions
- Radio Interface Control /User Plane
- Frame Structure
- OFDM/SC-FDMA/MIMO
- Physical channels/ Transport Channels
- MAC / RLC/PDCP / RRC Overview
- X2 Interface
- X2AP Protocol

Evolved Packet Core
- MME
- Serving Gateway (S-GW)
- PDN Gateway (P-GW)
- S1 Interface
- S1AP Protocol
- Security

LTE Signaling
- Random Access Procedure
- Attach/Detach Procedure
- Handover
- Voice over LTE