5G Essentials

Price: 2595

Duration: 3 days

Delivery Methods: Virtual

Overview

About this Course

This course features a mixture of lecture and hands-on training, making it possible to understand essential 5G concepts by allowing you to work directly with your own 5G network. You will follow a step by step approach to analyze the key components in a working 5G network. You will work directly with the UE, RAN and core services. You will perform basic call flow analysis through demonstration and optional wireshark downloads. A hands-on approach to learning 5G is the best way to learn this new technology! When you successfully complete this course, you will possess a well rounded, vendor neutral, understanding of key components within the 5G network architecture and become fully empowered to take an active role in working with your 5G engineers.

If you are an engineer and need a complete understanding of the 5G network, then strongly consider following up with an additional 2-Days of Deploying 5G.

Audience Profile

• Professionals planning to use 5G Access
• Professionals looking to merge 5G and Wifi6 radio technology

At Course Completion

• 5G EN-DC architecture
• 5G Stand alone architecture
• Beamforming, mm-wave, massive-mimo
• 5G Access technology, O-RAN, and v-RAN

- New Radio technology, numerology
- Narrowband IoT support technology
- IMS in the 5G Network
- Network Slicing
- 5G call trace analysis

Outline

5G Overview
- Lecture: The Generations
- Lecture: Service Types
- Lecture: New Radio
- Lecture: Slicing and 5G Edge

5G Stand Alone
- Lecture: 5G SA
- Lecture + Lab: Start the 5G core
- Lecture + Lab: Start the gNB RAN
- Lecture + Lab: Start Web Console

Adding Subscribers
- Lecture + Lab: Configuring the UE SIM Card
- Lecture + Lab: UE 5G Core Configuration
- Lecture + Lab: Start UE plus Network Slicing Analysis
- Lecture + Lab: Analyzing UE Status

Understanding Mobility
- Lecture: Introduction to mobility
- Lecture: Registration Areas
- Lecture: 5G Handoff
- Lecture + Lab: Show Tracking areas

AI and ML in 5G
- Lecture: NWDAF Introduction
- Lecture: NWDAF Use Cases

Understanding the RAN
- Lecture: Introduction to New Radio
- Lecture: The New Radio Stack
- Lecture: EN-DC RAN
- Lecture + Lab: WORKSHEET EN-DC

- Lecture: O-RAN
- Lecture + Lab: WORKSHEET RAN
- Lecture + Lab: show gnb configuration

Analyze the gNB RAN

- Lecture + Lab: Analyzing gNB Status

The IP Multimedia Subsystem

- Lecture: IMS
- Lecture + Lab: WORKSHEET IMS

5G SA Microservices

- Lecture: AMF
- Lecture + Lab: show AMF configuration
- Lecture: NRF
- Lecture + Lab: show NRF configuration
- Lecture: UDM
- Lecture + Lab: show UDM configuration
- Lecture: UDR
- Lecture + Lab: show UDR configuration
- Lecture: AUSF, SUPI and SUCI
- Lecture + Lab: show AUSF configuration
- Lecture: PCF
- Lecture + Lab: show PCF configuration
- Lecture: SMF
- Lecture + Lab: show SMF configuration
- Lecture + Lab: show UPF configuration
- Lecture + Lab: WORKSHEET Stand Alone

5G Stacks

- Lecture: 5G Stacks
- Lecture + Lab: How to capture 5G traffic
- Lecture + Lab: Termshark http2
- Lecture + Lab: Termshark 5G-NAS
- Lecture + Lab: Termshark NGAP

5G Infrastructure

- Lecture: Infrastucture

Slicing

- Lecture: Slicing

- Lecture: Practical Slicing example

- Lecture: NSSF

- Lecture + Lab: show NSSF configuration

Sharing Spectrum

- Lecture: Unlicensed Spectrum

- Lecture: US Unlicensed Spectrum

- Lecture: MOCN

The 5G Edge

- Lecture: MEC

5G Call flow review and analysis

- Lecture: Lecture-LAB 5G Reg Capture

- Lecture: Lecture-LAB 5G Reg Analysis

- Lecture + Lab: 5G PDU Session Capture

- Lecture: Lecture-LAB 5G PDU Session

Prerequisites

None

Course Schedule

Date	Time	Price	Options
06/01/2026	09:00 AM - 05:00 PM CT	2,595.00	[Buy Now](#) [Enroll](#)
09/30/2026	09:00 AM - 05:00 PM CT	2,595.00	[Buy Now](#) [Enroll](#)

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