XCELERATE TRAINING INSTITUTE

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TELECOMMUNICATION

5G NR Physical Layer Overview and Simulations

DURATION	LANGUAGE	FORMAT
5 days	English	Classroom / Online

Upcoming dates

Dates	Venue	Format	Fee
4 – 8 Jan 2027	Live online	Online (live)	€1,200
8 – 12 Feb 2027	London	Classroom	€3,600
12 – 16 Jul 2027	Live online	Online (live)	€1,200

Register or ask a question

Online: staging.x8ti.com/course/5g-nr-physical-layer-overview-and-simulations/

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5G NR Physical Layer Overview and Simulations

Introduction

This course by Xcelerate Training Institute provides a comprehensive understanding of 5G New Radio (NR) technology. It covers the fundamentals of 5G NR, its architecture, and key components. The course aims to equip learners with the skills and knowledge needed to implement and manage 5G NR networks effectively.

Learning Objectives

The primary goal of this course is to develop professionals with in-depth knowledge of 5G NR technology. Upon completion, participants will be able to implement, manage, and teach others about 5G NR, ultimately gaining a competitive advantage in the 5G market.

Training Methodology

The course employs a combination of lectures, group discussions, assignments, and case studies to deliver the content. The learning approach emphasizes hands-on experience and practical application.

Benefits for Your Organisation

Organizations that invest in this course will benefit from increased efficiency, improved competitiveness, and enhanced customer satisfaction. The course empowers employees to implement and manage 5G NR technology effectively, leading to cost reductions and increased revenue.

Benefits for You

Participants will gain a deep understanding of 5G NR technology, develop advanced skills, and enhance their career prospects. The course equips individuals with the knowledge and confidence to take on leadership roles in the 5G domain.

Who Should Attend

This course is designed for senior management, technical advisors, end-users, and other professionals interested in understanding 5G NR technology.

Course Outline

The course covers the following modules:

Introduction to 5G Technology:

- Overview of 5G evolution,
- architecture
- key differences compared to LTE.

Radio Protocols:

- In-depth exploration of RRC sublayer

- Initial access procedures
- Network procedures
- RLC and PDCP protocols.

5G Architecture:

- End-to-end architecture
- Including NSA and SA modes
- Interface with Wi-Fi
- 5G core network
- Service-based architecture.

Network Virtualization:

- Overview of NFV architecture
- Use cases
- Its role in 5G core and access networks.

Network Slicing:

- Understanding network slicing concepts
- Data models
- Implementation for various use cases.

5G System QoS:

- QoS flows, parameters
- Handling
- Differences between network slicing and QoS.

5G NR Radio Designing and Planning:

- Spectrum
- Performance targets
- RF planning
- Propagation models
- Link budget, MIMO
- Beamforming techniques.

C-RAN:

- Introduction to disaggregated RAN
- C-RAN architecture, and its benefits.

5G NR Optimization:

- Call flows
- Accessibility
- Retainability
- Throughput
- Latency
- Mobility

- Troubleshooting techniques.

5G System Security:

- 5G security architecture
- Requirements
- Procedures
- Key management.

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Registration Form

5G NR Physical Layer Overview and Simulations

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

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