ENTERPRISE LEARNING PLATFORM





REGION AUTHORITY CORP:

YOUR INTELLIGENT ALTERNATIVE

Leveraging over 20 years' experience in the telecommunications industry, Region Authority provides comprehensive infrastructure engineering services, IT solutions, training, and management services. Tailored to meet the needs of various industries, our out-of-the-box thinking and innovative capabilities enable our clients to reinvent and rebrand themselves in the global marketplace.

RAC SERVICES

Our management consulting services fall into four broad areas:

- Network Design & Planning
- Network Integration & Testing
- Network Maintenance, Modernization & Optimization
- Enterprise Learning Platform

WHY RAC?

Based on extensive experience and a deep understanding of the industry, Region Authority Corp provides expert telecommunications infrastructure consulting, project planning, training, and management services. Using advanced, data-driven analytics and innovative software platforms, our highly skilled team offers the optimal technological solutions and knowledge sharing to help you realize your vision, drive competitive differentiation, and protect your business.

To learn more, visit us at regionauthority.com.



ENTERPRISE LEARNING PLATFORM

In the world of technology, the pace of change is ever-increasing. Today's skillsets are rapidly outdated as new technologies drive fresh opportunities for those committed to nurturing their talents through ongoing learning.

Committed to sharing best practices and technical awareness with clients and partners, we've pooled a wealth of collective knowledge over the years. Developed by expert instructors, our professional courses enable you to embrace new technologies and tools, accelerate innovation, and empower team members to deliver better solutions - faster.

Our telecom training portfolio consists of the following courses:

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technology		
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CERTIFIED LEARNING PLANS

Courses may be taken either individually or as part of a certified learning plan, each with certificates issued upon completion of the relevant exams and tests.

COURSE CODE	TITLE	
CERTIFICATION: 5G CORE FUNDAMENTALS SPECIALIST		
RAC-TR101	2G, 3G, 4G, AND 5G MOBILE COMMUNICATIONS (REFRESHER)	
RAC-TR102	4G-LTE AND 5G TELECOM TRAINING (REFRESHER)	
CERTIFICATION: 5G DESIGN SPECIALIST		
RAC-TR101	2G, 3G, 4G, AND 5G MOBILE COMMUNICATIONS (REFRESHER)	
RAC-TR102	4G-LTE AND 5G TELECOM TRAINING (REFRESHER)	
RAC-TR103	5G PLANNING	
RAC-TR104	5G SPECTRUM CALCULATION	
CERTIFICATION: 50	9 TECHNOLOGY SPECIALIST	
RAC-TR201	FTTx NETWORKS	
RAC-TR105	5G DEPLOYMENT AND TRANSPORT NETWORK	
CERTIFICATION: MIDBAND ARCHITECT		
RAC-TR104	5G SPECTRUM CALCULATION	
RAC-TR204	CITIZENS BROADBAND RADIO SERVICE (CBRS)	
CERTIFICATION: LA	nd mobile radio specialist	
RAC-TR106	5G RADIO ACCESS TECHNOLOGIES	
RAC-TR202	DISTRIBUTED ANTENNA SYSTEM (DAS)	
RAC-TR203	UAVS (DRONES) FOR WIRELESS NETWORKS	
CERTIFICATION: M	ICROSOFT EXCEL EXPERT	
RAC-TR301	MICROSOFT EXCEL	
Certification: safety expert		
RAC-TR401	BASIC FIRST AID	
RAC-TR402	OSHA 10-HOUR	
RAC-TR403	OSHA 30-HOUR	
RAC-TR404	RF AWARENESS	

For more information, visit our state-of-the-art learning portal at regionauthoritylearning.com.





2G, 3G, 4G, AND 5G MOBILE COMMUNICATIONS (REFRESHER)

COURSE DESCRIPTION

Covering all the generations of cellular mobile communications i.e. 2G, 3G, 4G and 5G in terms of technology, speed, bandwidth, and application. This course brings you up to speed on the rapid evolution of mobile communications and introduces you to the potential of 5G to drive innovation touching every area of our lives.

WHO SHOULD ATTEND

- Anyone who wants to refresh their knowledge of wireless communication.
- Non-engineering professionals involved in designing, managing, or supporting wireless networks.

COURSE PREREQUISITES

None

CERTIFICATION

This is a refresher course and carries no certification.

- Introduction of Technologies
- GSM
- GSM Architecture Description
- GSM Bands Part 1
- GSM Bands Part 2
- GSM Channels
- GSM Basic Call Flow
- GSM Cells
- GSM Identifiers Part 1
- GSM Identifiers Part 2
- GPRS Introduction
- GPRS Architecture

- GPRS Channels
- EDGE Technology
- 3G Architecture
- 3G Identifiers
- 3G WCDMA Concepts
- 3G Codes
- Handovers
- LTE Frequency Bands
- 4G Network Part 1
- 4G Network Part 2
- LTE Resource Block
- LTE Key Points

- LTE Voice Solution
- LTE Optimization
- LTE Drive Test
- LTE DT Parameters
- LTE Optimization
- LTE Coverage Factors
- LTE Cell Planning
- Volte & Vilte
- 5G Intro
- 5G Air Interface
- Massive MIMO
- 5G Small Cell



4G-LTE AND 5G TELECOM TRAINING (REFRESHER)

COURSE DESCRIPTION

This course covers 4G-LTE and 5G, the latest generations of mobile communication technologies delivering faster, more reliable connections. Ten times faster than 4G, 5G heralds a new era of innovation, enabling the internet of things (IoT), the industrial internet of things (IIoT), pervasive edge computing, and increased automation. Topics covered in the course include LTE optimization, LTE Drive Test (DT) parameters, and an introduction to Voice over LTE (VoLTE) and Video over LTE (ViLTE) 5G.

WHO SHOULD ATTEND

- Anyone who wants to refresh their knowledge of 4G-LTE and 5G concepts.
- Non-engineering professionals involved in designing, managing, or supporting 4G-LTE or 5G networks.

COURSE PREREQUISITES

None

CERTIFICATION

This is a refresher course and carries no certification.

- 4G Network
- 4G Network 2
- LTE Key Points
- LTE Frequency Bands
- LTE Resource Block
- LTE Voice Solution
- LTE Drive Test (DT)
- LTE DT Parameters

- LTE Optimization
- LTE Coverage Factors
- LTE Cell Planning
- Voice over LTE (VoLTE) and Video over LTE (ViLTE) 5G Intro
- 5G Air Interface
- Massive MIMO
- 5G Small Cells



5G PLANNING

COURSE DESCRIPTION

The number of cells deployed in 5G networks is much higher than previous wireless technologies, requiring automated site selection and configuration. This course covers planning of 5G networks using 5G NR (New Radio), the new radio access technology (RAT) developed by the 3rd Generation Partnership Project (3GPP).

WHO SHOULD ATTEND

- Anyone who wants to learn about planning 5G technology deployments, including radio planning engineers.
- Non-engineering professionals desiring to understand the 5G planning process.

COURSE PREREQUISITES

RAC-TR102: 4G-LTE and 5G Telecom Training

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- Planning 5G NR
- Automatic cell planning
- Accurate site planning
- Integrating GIS and building models
- Scheduling parameters and Radio Resource Management (RRM)
- 5G NR system and traffic modelling
- 5G coverage and predicting pathloss
 - o 3D coverage prediction

- 5G frame structure and carriers
- 5G use cases:
 - o eMBB (enhanced Mobile Broadband)
 - o URLLC (Ultra-Reliable Low-Latency Communications)
 - o mMTC (massive Machine Type Communications)
- 5G interference table and simulation parameters
- 5G pathloss arrays
- 5G propagation models



5G SPECTRUM CALCULATION

COURSE DESCRIPTION

With the C-band (3300-4200 and 4400-5000 MHz) emerging as the primary frequency bands for 5G, the multi-layer spectrum approach addresses a wide range of usage scenarios and requirements. This course covers 5G spectrum requirements calculations, how to address requirements for diversified 5G use cases using high, medium, and low frequencies, and how to utilize the specific characteristics of each portion of the spectrum.

WHO SHOULD ATTEND

- Anyone who wants to learn about advanced 5G technology, including telecom and IT engineers.
- Non-engineering professionals desiring to upgrade their skills from 3G/4G technologies to 5G.

COURSE PREREQUISITES

RAC-TR102: 4G-LTE and 5G Telecom Training

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- Overview of 5G NR (New Radio) frequency bands
- Description of FR1 and FR2 ranges
- Overview of the mmWave (millimeter wave) spectrum
- Requirements of the 5G spectrum for different use cases
- Distribution of bands across the globe

- Overview of radio parameters for RATG-1, 2, 3, and 4
- Market data analysis and offered traffic calculations
- Capacity calculations of circuit switched (CS) traffic
- Calculations of aggregated spectrum requirements



5G DEPLOYMENT AND TRANSPORT NETWORK

COURSE DESCRIPTION

Based on the number of users, spectrum availability, network equipment, and TCO goals, the deployment of 5G technology should be smooth, fast, and efficient. This course covers the deployment of 5G networks, including deployment use cases, roll out options, migration paths, and the 5G transport network.

WHO SHOULD ATTEND

- Anyone who wants to learn about advanced
 5G technology, including telecom engineers.
- Non-engineering professionals desiring to upgrade their skills from 3G/4G technologies to 5G.

COURSE PREREQUISITES

RAC-TR102: 4G-LTE and 5G Telecom Training

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- 5G Deployment
- 5G Deployment Entities
- 5G Deployment Use Cases
- 5G NR (New Radio) Deployment Scenarios
- 5G Spectrum and Deployment
- 5G Transport Networks

- 5G Transport Network Requirements
- Detailed Consideration of 5G Deployment Options
- Key Challenges to Rolling Out 5G
- 5G Network and Migration Paths
- EPS (Evolved Packet System) to NSA (Non-Standalone) Option 3



5G RADIO ACCESS TECHNOLOGIES

COURSE DESCRIPTION

Radio access technologies play a fundamental role in 5G networks. Designed for ultra-high capacity, availability, and reliability, they support vast numbers of connected devices to meet the real-time needs of mission-critical applications, increasing and accelerating data throughput. Beamforming utilizes massive MIMO (multiple input, multiple output) advanced antenna arrays to increase radio transmissions capacity and effectiveness.

This course covers the radio access technologies of 5G networks, including massive MIMO and millimeter (extremely high frequency—or EHF) wave communications.

WHO SHOULD ATTEND

- Anyone who wants to learn about advanced 5G technology, including telecom engineers.
- Non-engineering professionals desiring to upgrade their skills from 3G/4G technologies to 5G.

COURSE PREREQUISITES

RAC-TR102: 4G-LTE and 5G Telecom Training

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- 5G Radio Access Technologies
- Massive MIMO
- Millimeter Wave Communications
- 5G Physical Layer Design Part 1

- 5G Physical Layer Design Part 2
- 5G Physical Layer Design Part 3
- MIMO Beam Steering



FTT_x NETWORKS

COURSE DESCRIPTION

A generic term for any broadband network architecture using fiber cables to provide last-mile communications, Fiber to the x (FTTx) encompasses FTTB (fiber to the building), FTTC (fiber to the curb), FTTH (fiber to the home), and FTTN (fiber to the neighborhood). Playing an essential role in the global provision of broadband communications, FTTx is used to deliver data, video, and voice services.

This course covers the concepts, architecture, implementation, and management of FTTx networks, including Gigabit Passive Optical Network (GPON) and Gigabit Ethernet Passive Optical Network (GEPON) networks.

WHO SHOULD ATTEND

- Anyone who wants to learn FTTx basics, including radiofrequency (RF), optical fiber cable (OFC), and telecom engineers.
- Non-engineering professionals involved in designing, managing, or supporting FTTx networks.

COURSE PREREQUISITES

Knowledge of basic fiber optics, components, installation practices, and testing.

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- Introduction to FTTx
- Gigabit Ethernet Passive Optical Network (GEPON) I
- Gigabit Ethernet Passive Optical Network (GEPON) II
- Gigabit Passive Optical Network (GPON) I
- Gigabit Passive Optical Network (GPON) II

- Other Network Standards I
- Other Network Standards II
- Planning the Network Implementation
- Building an FTTx Network
- Outside Plant
- Data Services Architecture
- Identifying Network Threats and Security Vulnerabilities



DISTRIBUTED ANTENNA SYSTEM (DAS)

COURSE DESCRIPTION

A network of spatially separated antenna nodes connected to a common source and distributed throughout a building—or an area—to increase network performance, DAS improves data and voice connectivity for end-users.

This course covers the basic concepts for understanding and designing a distributed antenna system (DAS).

WHO SHOULD ATTEND

- Anyone who wants to learn the features and design of DAS technology, including engineers with telecom and IT experience.
- Non-engineering professionals involved in designing, managing, or supporting DAS.

COURSE PREREQUISITES

Basic knowledge of telecoms.

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- Introduction to DAS
- DAS Basic Component
- Signal Distribution System
- Signal Sources
- Passive DAS Component
- Active DAS Components
- DAS Configuration
- In-building DAS

- DAS Design Consideration
- DAS Design Challenges
- DAS Design Part 1
- DAS Design Part 2
- DAS Antenna and Propagation
- Fiber DAS



UAVS (DRONES) FOR WIRELESS NETWORKS

COURSE DESCRIPTION

Unmanned Aerial Vehicles—known as UAVs or drones—are emerging as safe, cost-effective solutions for a variety of use cases ranging from agriculture conservation to building inspection, construction planning, disaster relief, disease control, mining, and waste management.

This course covers the basics of Unmanned Aircraft Systems (UAS), the ground control and communications units which depend on high-throughput, enhanced coverage, and elongated range, real-time transmission signals to operate UAVs.

WHO SHOULD ATTEND

- Anyone who wants to learn about advanced drone communication technologies, including telecom and IT engineers.
- Non-engineering professionals involved in designing, managing, or supporting UAV/UAS projects.

COURSE PREREQUISITES

Basic knowledge of telecoms and wireless communications.

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- Unmanned Aerial Vehicles (UAVs)/ Drones
- Drones in Telecommunication
- Vision for Drone Operation
- Unmanned Aircraft Systems (UAS)
- UAS Architecture
- The UAV Cellular Network
- UAV Network Deployment

- Enhanced Cellular UAV
- UAV Location Services
- Uses of Location Services
- UAV Unified Connectivity with 5G
- Qualcomm Leadership
- Policies and Future



RAC-TR204:

CITIZENS BROADBAND RADIO SERVICE (CBRS)

COURSE DESCRIPTION

After core infrastructure, the scarcity of spectrum makes it the most valuable resource in which carriers invest to deliver wireless capacity to subscribers. The Citizens Broadband Radio Service (CBRS) Appliance and its OnGo initiative are changing that, providing a platform for innovation with the capacity and coverage needed to meet inbuilding, public space, and Industrial IoT wireless data demands where spectrum is limited.

Reallocated from military radar applications, the CBRS 3.5 GHz band offers a flexible model for sharing the wireless spectrum. Under the General Authorized Access tier (GAA), CBRS helps level the playing field and open the way for massive innovation in the areas of education, hospitality, retail, manufacturing, and transportation.

This course covers the basics of CBRS, its technical specifications, how it complements 5G NR, and how it's enabling new business models and use cases to deliver seamless interoperability, authentication, and roaming of data and voice.

WHO SHOULD ATTEND

- Anyone who wants to learn about CBRS, including telecom and IT engineers.
- Non-engineering professionals involved in designing, managing, or supporting CBRS projects.

COURSE PREREQUISITES

Basic knowledge of telecoms and wireless communications.

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- CBRS: What is it? How does it work?
- CBRS & OnGo
- CBRS Use Cases, Business Models, & Solutions

- CBRS Architecture & Identifiers
- Spectrum Aggregation Environment
- CBRS Tiered Spectrum Sharing
- Spectrum Sharing & 5G NR



MICROSOFT EXCEL

COURSE DESCRIPTION

Used extensively in the telecoms sector, Microsoft Excel is a powerful tool for manipulating large datasets and automating various tasks. This course provides techniques for entering and managing data required for telecoms planning, implementation, and maintenance projects.

WHO SHOULD ATTEND

 Anyone who needs to use Microsoft Excel as part of their daily responsibilities of designing, managing, implementing, or supporting telecoms networks.

COURSE PREREQUISITES

Basic knowledge of Microsoft Windows, Microsoft Office, and Excel.

CERTIFICATION

You'll need to complete the course and score 60% or above in all individual assessments.

Note: The Certificate is issued by Region Authority Corp.

- Introduction to Excel
- How to use Excel
- Entering Data
- Formatting Data
- Arranging Data
- Using Formulas

- Manipulating Data
- Creating Dashboards
- Maintaining Multiple Worksheets
- Sharing Worksheets
- Excel for Engineers





BASIC FIRST AID

COURSE DESCRIPTION

This course provides participants with the skills and knowledge required to deliver first aid in the event of a casualty.

Note: Some industries and jobs require a valid First Aid Certificate as part of licensing or job requirements, renewed every three years. Contact your Work Health and Safety Regulatory Authority at National or State/Territory level to find about applicable your licensing/regulatory requirements.

WHO SHOULD ATTEND

 All individuals who may be required to provide first aid in their workplace of on the job site.

COURSE PREREQUISITES

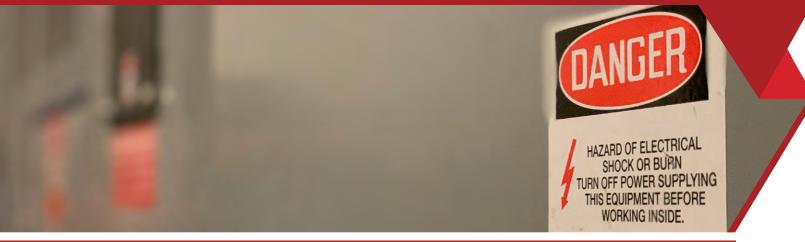
None

CERTIFICATION

A certificate of completion will be issued by Region Authority Corp.

- Why learn first aid?
- The aims of first aid
- Responding to an emergency
- Patient assessment and movement
- Emergencies
 - o Injuries and trauma
 - o Medical
 - o Environmental
- Scene assessment
- Incident management
- Personal protective equipment (PPE)
- Blood borne pathogens

- Infection control
- Legal issues and consent
- Treatments
 - o Cuts and scrapes
 - o Burns
 - o Sprains
 - o Fractures
 - o Heat exhaustion
 - o Hypothermia
- Allergic reactions
- Essential first aid kit



OSHA 10-HOUR

COURSE DESCRIPTION

This OSHA 10-Hour course provides essential training designed to educate entry-level workers on common safety and health hazards in the workplace or on the job site. The objective of this training is for learners to recognize hazards and avoid, prevent, or stop injuries. The course also provides an overview of workers' rights, employer responsibilities, and filing a complaint.

WHO SHOULD ATTEND

 Entry level workers either working on or regularly visiting active job sites.

COURSE PREREQUISITES

None

CERTIFICATION

For those who need proof of completion following the successfully completion of the course, RAC will provide a certificate of completion. It will provide provisional proof of completion the OSHA 10-Hour training until you receive your OSHA 10 Card in the mail.

- Introduction to OSHA
- Fall, slip, and trip hazard protection
- Fire prevention and protection, emergency action plans, and egress safety
- Dangers of electrical hazards
- Choosing and using personal protective equipment (PPE)

- Hazard communication
- Machine guarding safety
- Ergonomics preventing MSD and RMD Injuries
- Recordkeeping & reporting
- HAZWOPER (Hazardous Waste Operations and Emergency Response Standard)



OSHA 30-HOUR

COURSE DESCRIPTION

This OSHA 30-Hour course provides more indepth training designed to educate responsible individuals on common safety and health hazards in the workplace or on the job site. The objective of this specialized training is for supervisors and workers to recognize hazards and avoid, prevent, or stop injury to personnel. The course also provides an overview of workers' rights, employer responsibilities, and filing a complaint.

WHO SHOULD ATTEND

 Supervisors and workers responsible for ensuring safety by identifying and reducing the risk of workplace or job site hazards.

COURSE PREREQUISITES

None

CERTIFICATION

For those who need proof of completion following the successfully completion of the course, RAC will provide a certificate of completion. It will provide provisional proof of completion the OSHA 30-Hour training until you receive your OSHA 30 Card in the mail.

- Introduction to OSHA
- Managing health and safety
- Emergency action plan
- Choosing and using personal protective equipment (PPE)
- Walking & working surfaces, including fall protection
- Electrical hazards & safety
- Scaffolds & fall protection
- Hazardous materials handling
- Asbestos in the workplace
- Permit-required confined space

- Lockout / Tagout
- Machine guarding
- Welding and cutting
- Hazardous substances & industrial hygiene
- Ergonomics preventing MSD and RMD injuries
- Blood borne pathogens
- Safety and health programs
- Process safety management
- Recordkeeping & reporting
- Hazard communication
- HAZWOPER (Hazardous Waste Operations and Emergency Response Standard)



RF AWARENESS

COURSE DESCRIPTION

This course is intended for tower workers that need to demonstrate that they have been trained in basic RF Safety Awareness. This course is also relevant for any worker that may need to enter a workplace where RF energy is present.

WHO SHOULD ATTEND

 Anyone who may be engaged in activities near cell towers, rooftop antennas, in-building antennas, or other sources of RF energy.

COURSE PREREQUISITES

None

CERTIFICATION

A certificate of completion will be issued by Region Authority Corp.

- History of wireless and radio frequency
- What is radio frequency radiation?
- How RF (radio frequency) is generated
- The potential health effects of exposure to RF electromagnetic energy (EME)
- Safe working procedures at RF transmitter sites
- Identifying potential RF hazards on site
- Choosing and using personal protective equipment (PPE) incl. RF personal monitors and RF suits

- RF site safety information for mobile telecommunications industry
- FCC, IEEE, and OSHA standards and industry RF compliance
- FCC's maximum permissible exposure (MPE) standards
- Procedures to take if exposure is suspected

WHY REGION AUTHORITY CORP?

Maximum Network Uptime: We excel at managing the provision of end-to-end solutions aimed at achieving maximum network uptime— one of the main concerns of most telecom service providers.

Increased Performance: Our innovative, proven tools help our clients increase productivity and optimize performances with highly-effective EPIT (engineer, provision, install, and test) Services.

Expertise & Experience: We're proud to count on a team of highly-skilled professionals with decades of training and experience handling all types of network equipment and communication systems.

Vendor Network: We work hard to maintain stable relationships with our equipment manufacturer and software vendor partners, enabling us to serve our global customers in the most efficiently and cost-effectively.

Attention to Detail: All of our customers receive detailed closeout documentation for every project we deliver, with full proof of compliance as required by the relevant authorities.

For any of the following management services, call us on 215.278.6955 or email us at director@regionauthority.com

- Document and Data Management Services
- Land Mobile Radio & BTS Systems
- Broadband Network Systems
- Wireline Access & Switching
- Optical Transport & Switching Systems
- DC Power & Infrastructure
- Rack & Stack

To learn more, visit us at regionauthority.com.





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