

Postgraduate Certificate Radio Networks and Services





Postgraduate Certificate Radio Networks and Services

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/information-technology/postgraduate-certificate/radio-networks-services

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Structure and Content

p. 12

04

Methodology

p. 18

05

Certificate

p. 26

01

Introduction

This Radio Networks and Services program aims to prepare students in this field related to communications, which is an essential sector in society. This program brings students closer to this field, with an up-to-date and quality program. It is a comprehensive educational program that seeks to prepare students for success in their profession.





WiFi zone

“

If you are looking for a quality Postgraduate Certificate that will help you specialize in one of the most promising professional fields, this is your best option”

Advances in telecommunications are happening all the time, as this is one of the fastest evolving areas. It is therefore necessary to have IT experts who can adapt to these changes and have first-hand knowledge of the new tools and techniques that are emerging in this field.

This Postgraduate Certificate in Radio Networks and Services addresses the complete range of topics involved in this field. Its study has a clear advantage over other programs that focus on specific blocks, which prevents students from knowing the interrelation with other areas included in the multidisciplinary field of telecommunications. In addition, the teaching team of this educational program has made a careful selection of each of the topics of this program in order to offer students the most complete study opportunity possible and always linked to current events.

This educational program offers a comprehensive study of the basic techniques of radio networks, the radio spectrum, radio communications systems and services, local, metropolitan and wide area wireless networks, terrestrial radio access networks and satellite communications, among other aspects related to this field.

This Postgraduate Certificate is aimed at those interested in attaining expert knowledge of Radio Networks and Services. The main objective is to enable students to apply the knowledge acquired in this Postgraduate Certificate in the real world, in a work environment that reproduces the conditions that may be found in their future, in a rigorous and realistic way, user identification and biometric systems, cryptography, or security in Internet services, among other aspects.

Additionally, as it is a 100% online program, the student is not constrained by fixed timetables or the need to move to another physical location, but can access the contents at any time of the day, balancing their professional or personal life with their academic life.

This **Postgraduate Certificate in Radio Networks and Services** contains the most complete and up-to-date program on the market. Its most notable features are:

- ◆ Development of practical cases presented by experts in Radio Networks and Services
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Special emphasis on innovative methodologies in Radio Networks and Services
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



Don't miss the opportunity to study this Postgraduate Certificate in Radio Networks and Services with TECH. It's the perfect opportunity to advance your career"

“ *This Postgraduate Certificate is the best investment you can make when selecting a refresher program to update your knowledge of and Radio Networks and Services”*

This program comes with the best educational material, providing you with a contextual approach that will facilitate your learning.

This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work.

The teaching staff includes professionals from the field of information technology, who bring their experience to this specialization program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, professionals will be assisted by an innovative interactive video system developed by renowned and experienced experts in Radio Networks and Services.



02 Objectives

The Postgraduate Certificate in Radio Networks and Services is designed to facilitate professional performance in the field to acquire knowledge of the main developments in the sector.



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Our goal is to make you the best professional in your sector. And for this we have the best methodology and content"



General Objectives

- ◆ Prepare students to be able to develop their work with total confidence and quality in the field of telecommunications, focused on Radio Networks and Services



Specialize at the one of the world's leading private online universities"





Specific Objectives

- ◆ Know the access, link control and radio resource control mechanisms of an LTE system
- ◆ Understand the fundamental concepts of radio spectrum
- ◆ Know the specific services for radio networks
- ◆ Know the IP multicast techniques that are best suited to the connectivity provided by radio networks Understand the impact of radio networks on end-to-end quality of service and know the existing mechanisms to mitigate them
- ◆ Master WLAN, WPAN, WMAN wireless networks
- ◆ Analyze the different architectures of satellite networks and know the different services supported by a satellite network

03

Structure and Content

The structure of the contents has been designed by the best professionals in the from the engineering sector, with extensive experience and recognized prestige in the profession.



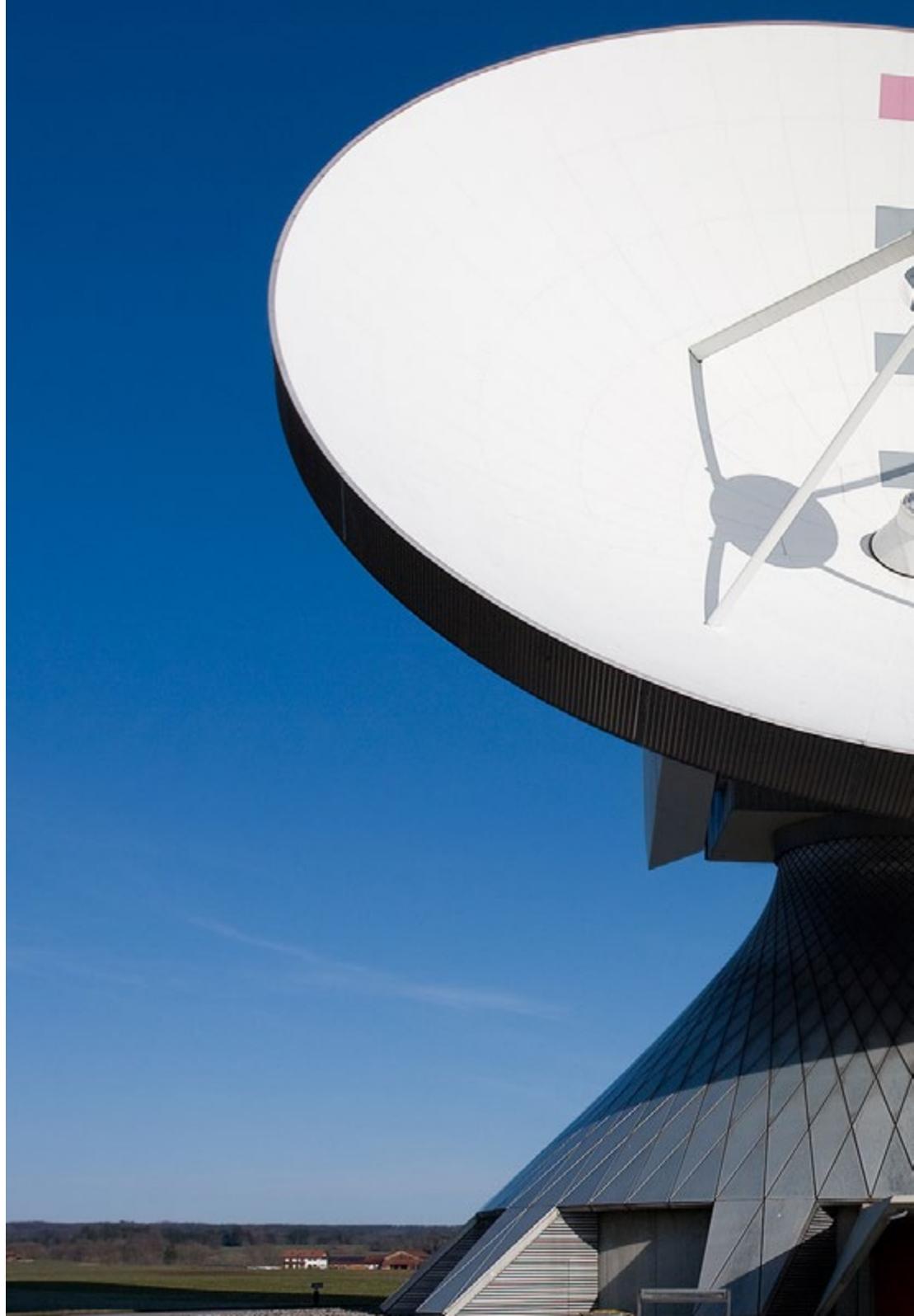


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We have the most complete and up-to-date educational program on the market. We strive for excellence and for you to achieve it too”

Module 1. Radio Networks and Services

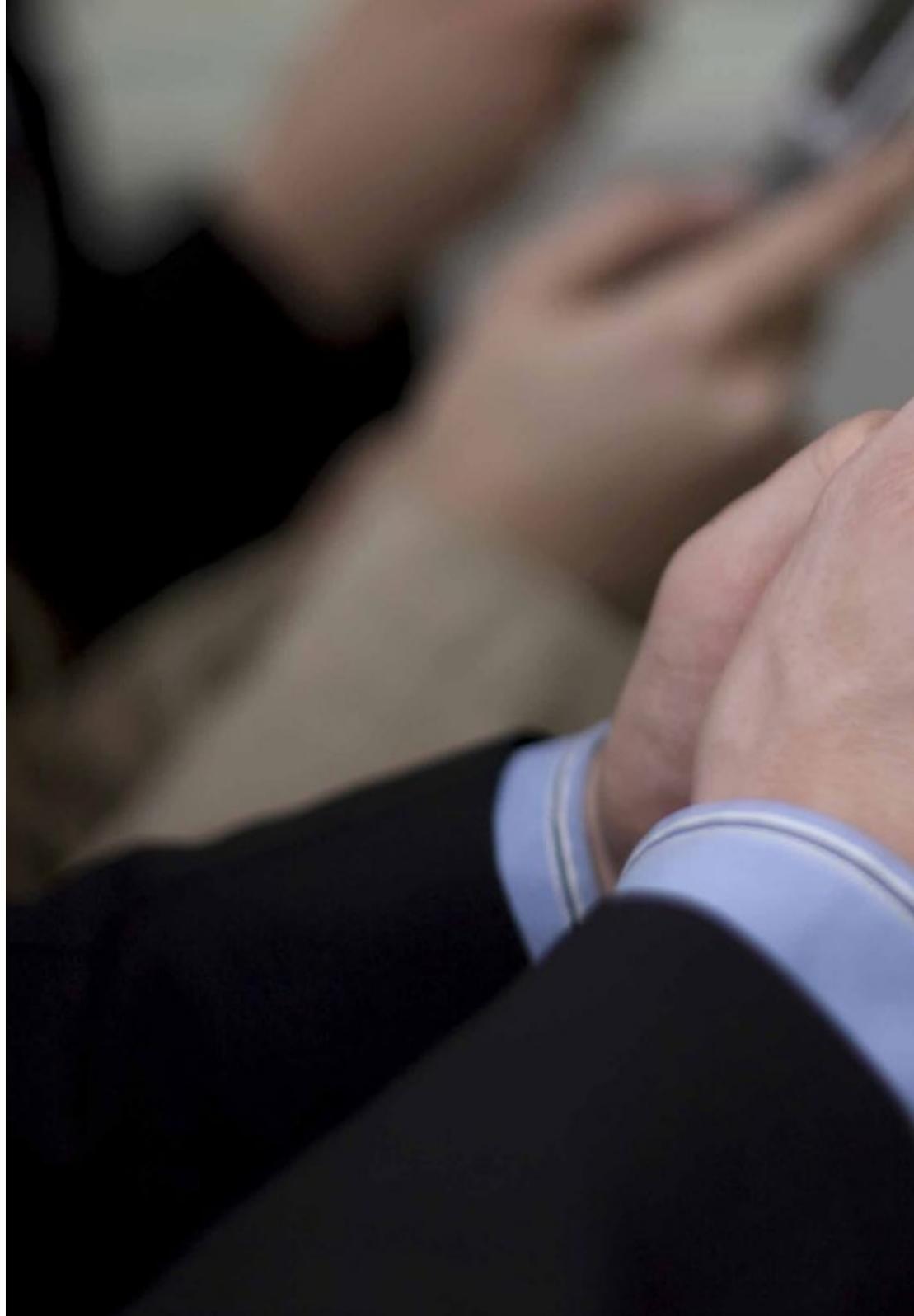
- 1.1. Basic Techniques in Radio Networks
 - 1.1.1. Introduction to Radio Networks
 - 1.1.2. Fundamentals
 - 1.1.3. Multiple Access Techniques (MAC): Random Access (RA). MF-TDMA, CDMA, OFDMA
 - 1.1.4. Optimization of the Radio Link: Fundamentals of Link Control Techniques (LCT) HARQ. MIMO
- 1.2. Radioelectric Spectrum
 - 1.2.1. Definition
 - 1.2.2. Nomenclature of Frequency Bands According to ITU-R
 - 1.2.3. Other Nomenclature for Frequency Bands
 - 1.2.4. Division of the Radio Spectrum
 - 1.2.5. Types of Electromagnetic Radiation
- 1.3. Radio Communication Systems and Services
 - 1.3.2. Conversion and Treatment of Signals: Analog and Digital Modulations
 - 1.3.3. Digital Signal Transmission
 - 1.3.4. DAB, IBOC, DRM and DRM+ Digital Radio Systems
 - 1.3.5. Radiofrequency Communication Networks
 - 1.3.6. Configuration of Fixed Installations and Mobile Units
 - 1.3.7. Structure of a Fixed and Mobile Radiofrequency Transmitting Center
 - 1.3.8. Installation of Radio and Television Signal Transmission Systems
 - 1.3.9. Verification of the Operation of Emission and Transmission Systems
 - 1.3.10. Transmission Systems Maintenance
- 1.4. Multicast and QoS End-to-End
 - 1.4.1. Introduction
 - 1.4.2. IP Multicast in Radio Networks
 - 1.4.3. Delay/Disruption Tolerant Networking (DTN). 6
 - 1.4.4. E-to-E Service Quality
 - 1.4.4.1. Impact of Radio Networks on E-to-E QoS
 - 1.4.4.2. TCP in Radio Networks





- 1.5. Local WLAN Wireless Networks
 - 1.5.1. Introduction to WLAN
 - 1.5.1.1. Principles of WLAN
 - 1.5.1.1.1. How They Work
 - 1.5.1.1.2. Frequency Band
 - 1.5.1.1.3. Security
 - 1.5.1.2. Applications
 - 1.5.1.3. Comparison between WLAN and Cabled LAN
 - 1.5.1.4. Effects of Radiation on Health
 - 1.5.1.5. Standardization and Normalization of WLAN Technology
 - 1.5.1.6. Topology and Configurations
 - 1.5.1.6.1. Peer-to-Peer (Ad-Hoc) Configuration
 - 1.5.1.6.2. Configuration in Access Point Mode
 - 1.5.1.6.3. Other Settings: Network Interconnection
 - 1.5.2. The IEEE 802.11 Standard– Wi-Fi
 - 1.5.2.1. Architecture
 - 1.5.2.2. IEEE 802.11 Layers
 - 1.5.2.2.1. Physical Layer
 - 1.5.2.2.2. The Link Layer (MAC)
 - 1.5.2.3. Basic Operation of a WLAN
 - 1.5.2.4. Assigning the Radio Spectrum
 - 1.5.2.5. IEEE 802.11 Variants
 - 1.5.3. The HiperLAN Standard
 - 1.5.3.1. Reference Model
 - 1.5.3.2. HiperLAN/1
 - 1.5.3.3. HiperLAN/2
 - 1.5.3.4. Comparison of HiperLAN with 802.11a
- 1.6. Wireless Metropolitan Area Networks (WMAN) and Wireless Wide Area Networks (WWAN)
 - 1.6.1. Introduction to WMAN. Features
 - 1.6.2. WiMAX. Characteristics and Diagram
 - 1.6.3. Wide Area Wireless Networks (WWAN) Introduction
 - 1.6.4. Satellite and Mobile Telephony Network

- 1.7. Personal WPAN Wireless Networks
 - 1.7.1. Technology and Evolution
 - 1.7.2. Bluetooth
 - 1.7.3. Personal and Sensor Networks
 - 1.7.4. Profiles and Applications
- 1.8. Terrestrial Radio Access Networks
 - 1.8.1. Evolution of Terrestrial Radio Access: WiMAX, 3GPP
 - 1.8.2. 4th Generation Accesses Introduction
 - 1.8.3. Radio Resources and Capacity
 - 1.8.4. LTE Radio Carriers. MAC, RLC and RRC
- 1.9. Satellite Communications
 - 1.9.1. Introduction
 - 1.9.2. History of Satellite Communications
 - 1.9.3. Structure of a Satellite Communications System
 - 1.9.3.1. Special Segment
 - 1.9.3.2. The Control Center
 - 1.9.3.3. The Ground Segment
 - 1.9.4. Types of Satellite
 - 1.9.4.1. By Purpose
 - 1.9.4.2. According to its Orbit
 - 1.9.5. Frequency Band
- 1.10. Planning and Regulations of Radio Systems and Services
 - 1.10.1. Terminology and Technical Characteristics
 - 1.10.2. Frequencies
 - 1.10.3. Coordination, Notification and Registration of Frequency Assignments and Plan Modifications
 - 1.10.4. Interferences
 - 1.10.5. Administrative Provisions
 - 1.10.6. Provisions Related to Services and Stations





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*This program will allow you to advance
in your career comfortably”*

04

Methodology

This academic program offers students a different way of learning. Our methodology follows a cyclical learning process: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.



“

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

“

At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”



You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.



A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

“*Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

In 2019, we obtained the best learning results of all online universities in the world.

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



This program offers the best educational material, prepared with professionals in mind:



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



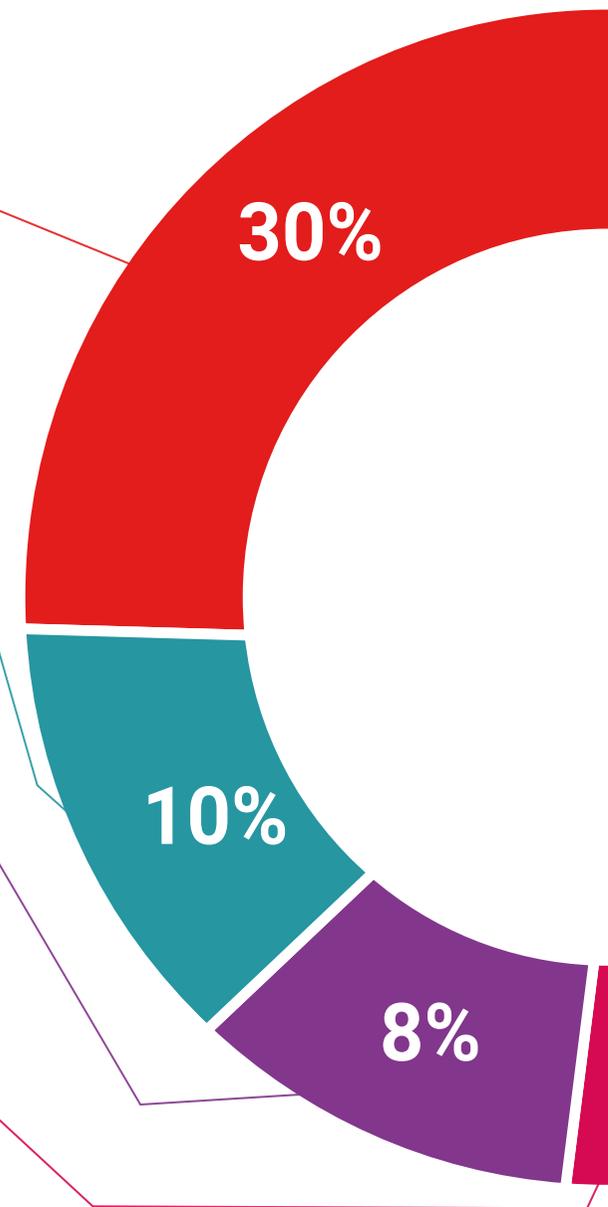
Practising Skills and Abilities

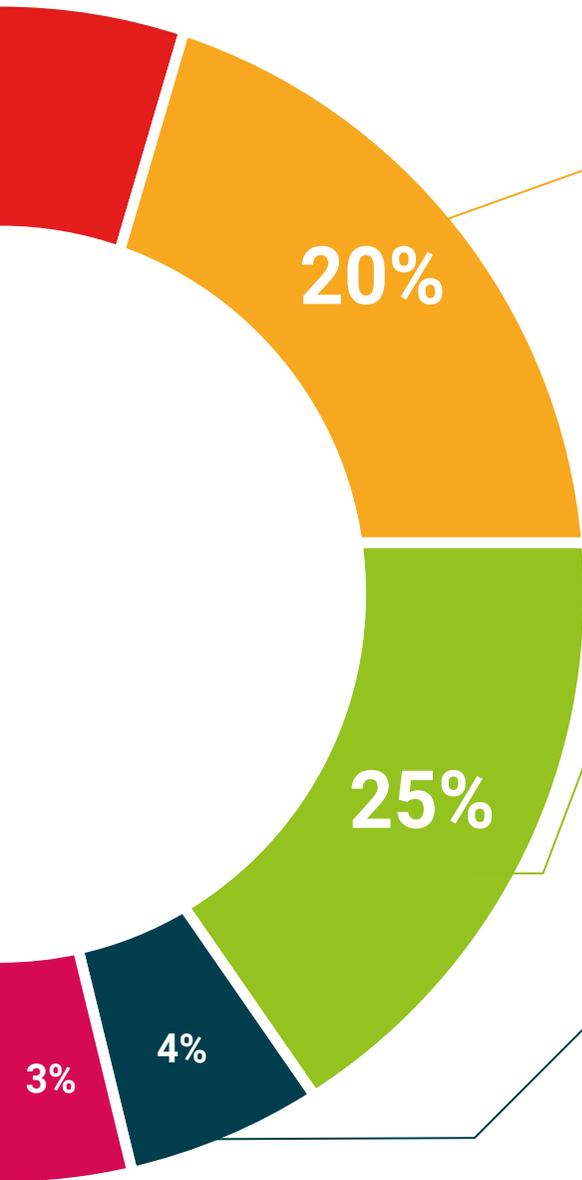
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



05

Certificate

The Postgraduate Certificate in Radio Networks and Services guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This program will allow you to obtain your **Postgraduate Certificate in Radio Networks and Services** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

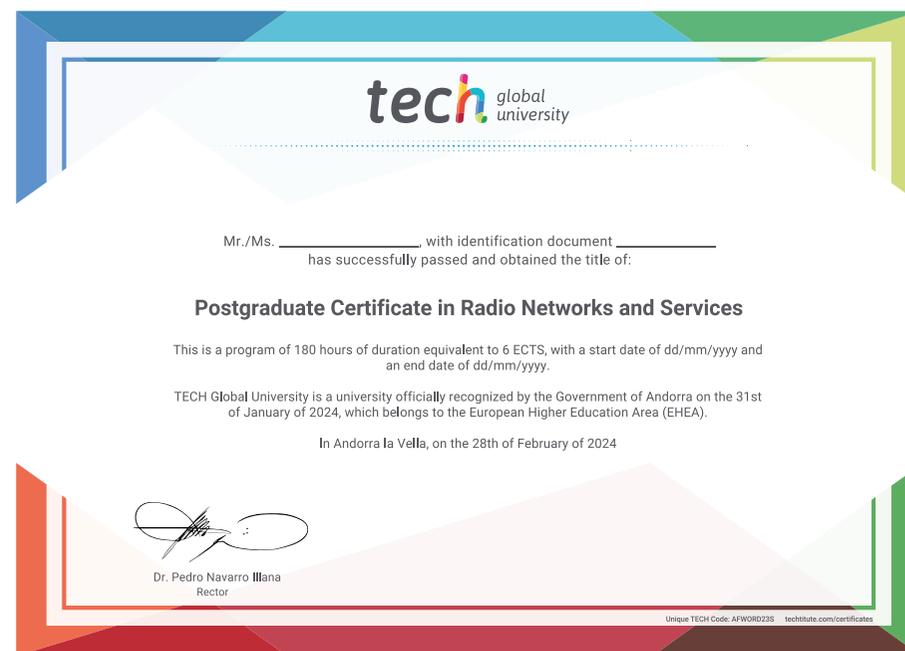
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Radio Networks and Services**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development language
virtual classroom



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