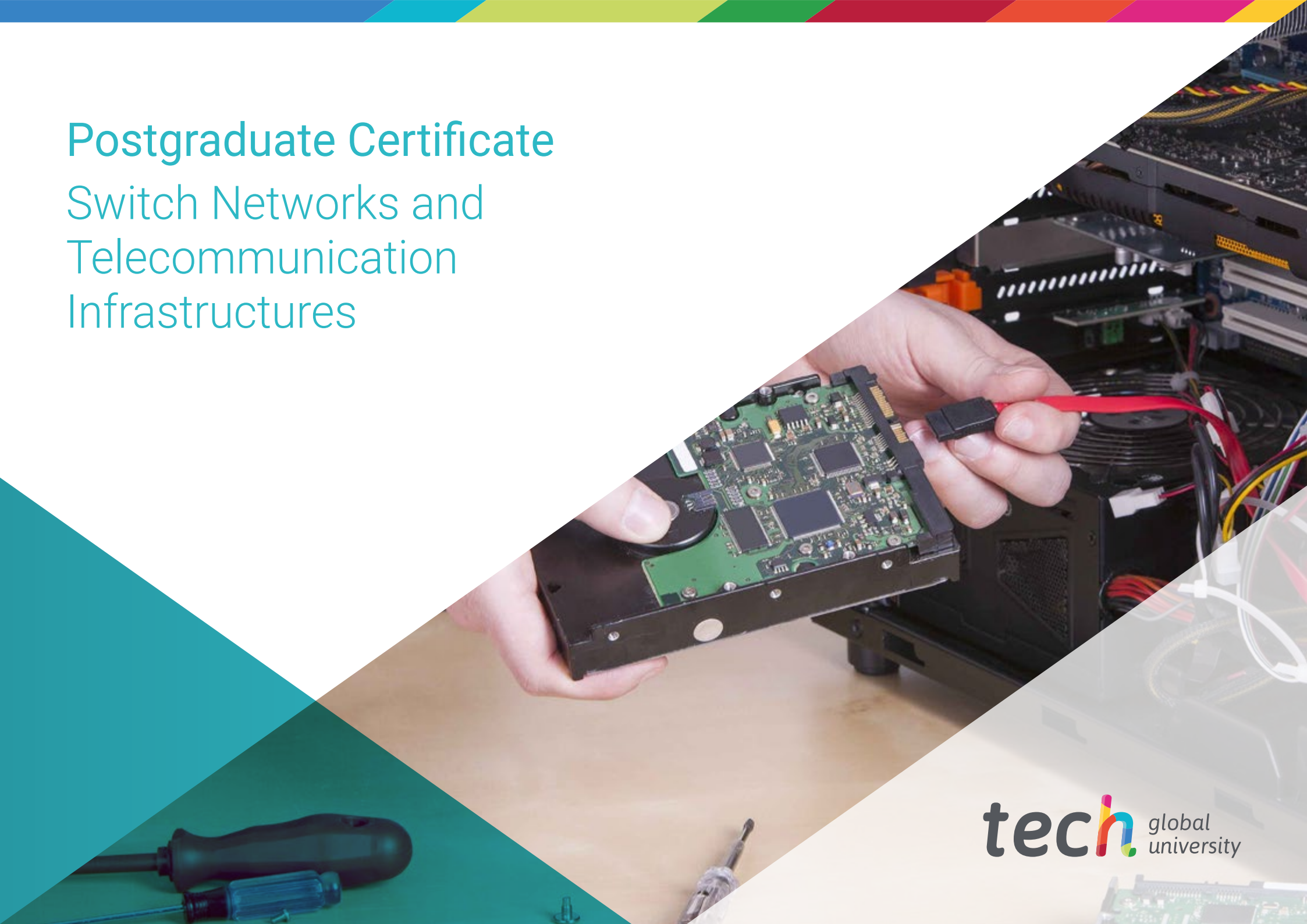


Postgraduate Certificate Switch Networks and Telecommunication Infrastructures





Postgraduate Certificate Switch Networks and Telecommunication Infrastructures

- » 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/switch-networks-telecommunication-infrastructures

Index

01

Introduction

p. 4

02

Objectives

p. 8

03

Structure and Content

p. 12

04

Methodology

p. 16

05

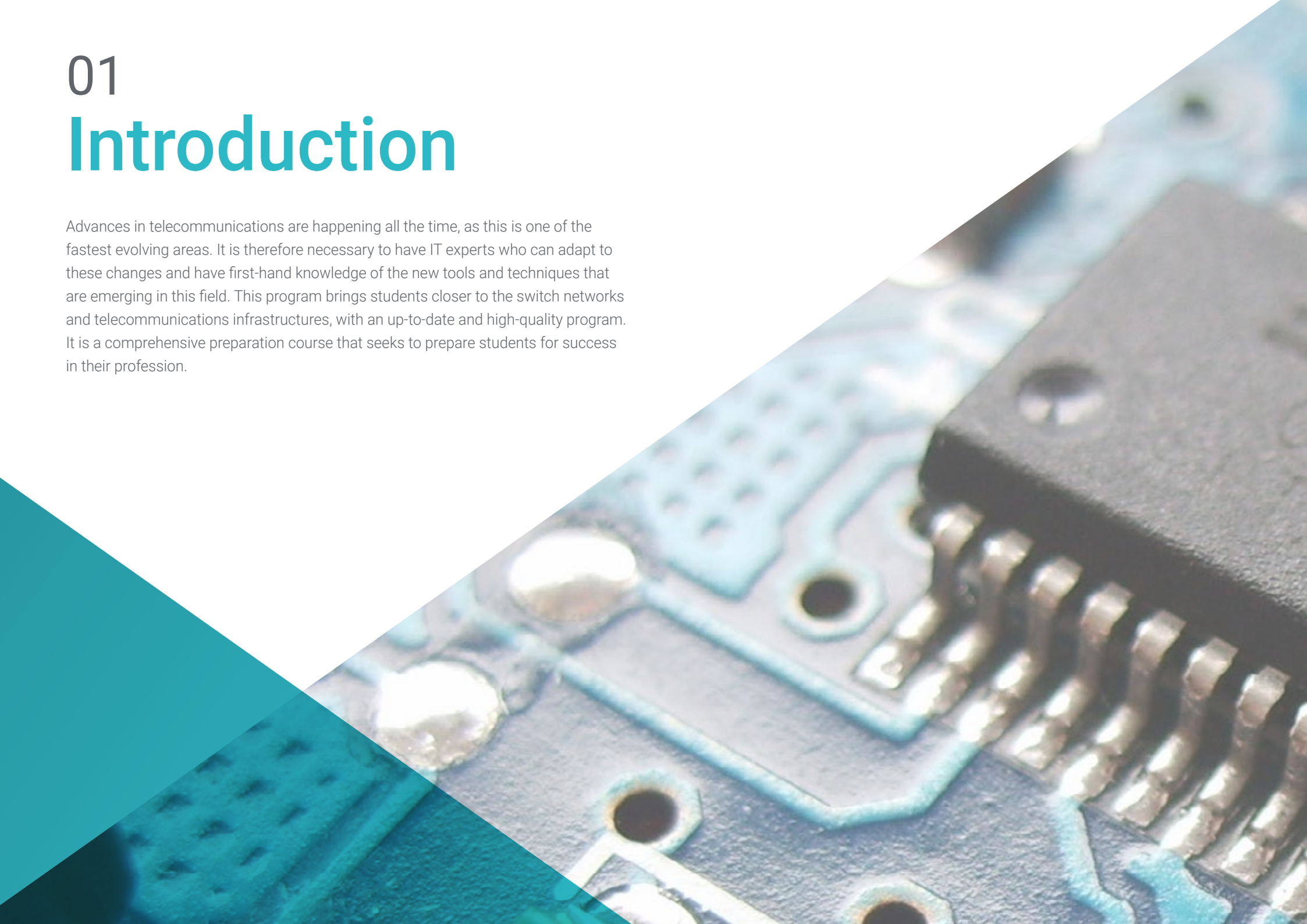
Certificate

p. 24

01

Introduction

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 program brings students closer to the switch networks and telecommunications infrastructures, with an up-to-date and high-quality program. It is a comprehensive preparation course that seeks to prepare students for success in their profession.





This program is the best option you can find to specialize in Switch Networks and Telecommunication Infrastructures"

This Postgraduate Certificate in Switch Networks and Telecommunication Infrastructures addresses the complete range of topics involved in this field. Its study has a clear advantage over other specializations that focus on specific blocks, which prevents students from becoming familiar with the interrelationship with other fields included in the multidisciplinary area 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 focuses on switch networks, their techniques and structures; traffic parameters and network sizing; quality of service and access networks; telematic network implementation projects; and common telecommunications infrastructure planning, among other aspects.

This Postgraduate Certificate is aimed at those interested in attaining expert knowledge of Switch Networks and Telecommunication Infrastructures. The main objective is for students to specialize their knowledge in simulated work environments and conditions in a rigorous and realistic manner so they can later apply it in the real world.

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 Switch Networks and Telecommunication Infrastructures** contains the most complete and up-to-date program on the market. Its most notable features are:

- ◆ The development of practical cases presented by experts in Switch Networks and Telecommunication Infrastructures
- ◆ 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
- ◆ Its special emphasis on innovative methodologies in Switch Networks and Telecommunication Infrastructure
- ◆ 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



Do not miss the opportunity to take this Postgraduate Certificate in Switch Networks and Telecommunication Infrastructure with us. 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 in Switch Networks and Telecommunication Infrastructures”

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. To do so, professionals will be assisted by an innovative interactive video system created by renowned and experienced experts in Switch Networks and Telecommunications Infrastructure.

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.



02 Objectives

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





“

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

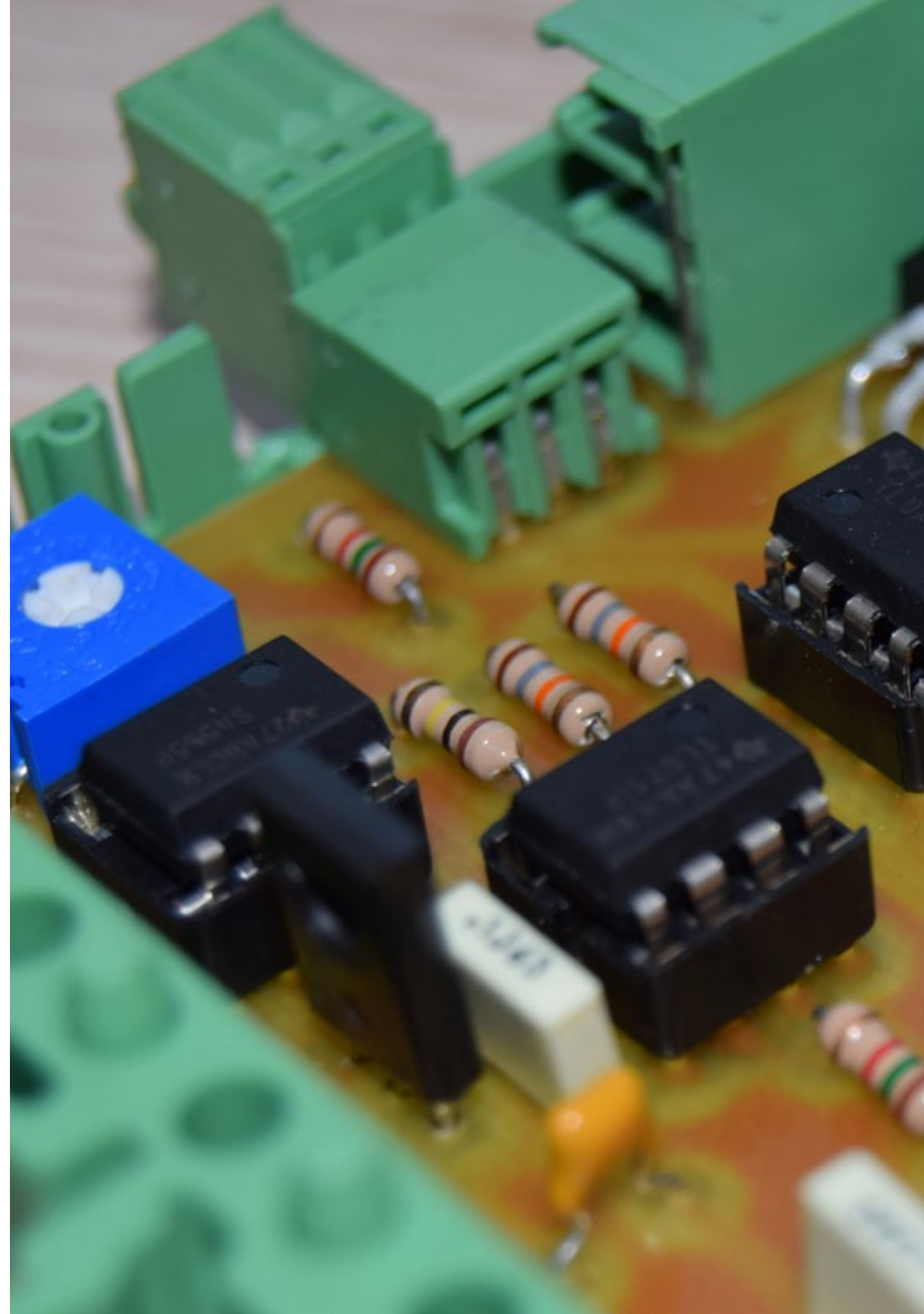


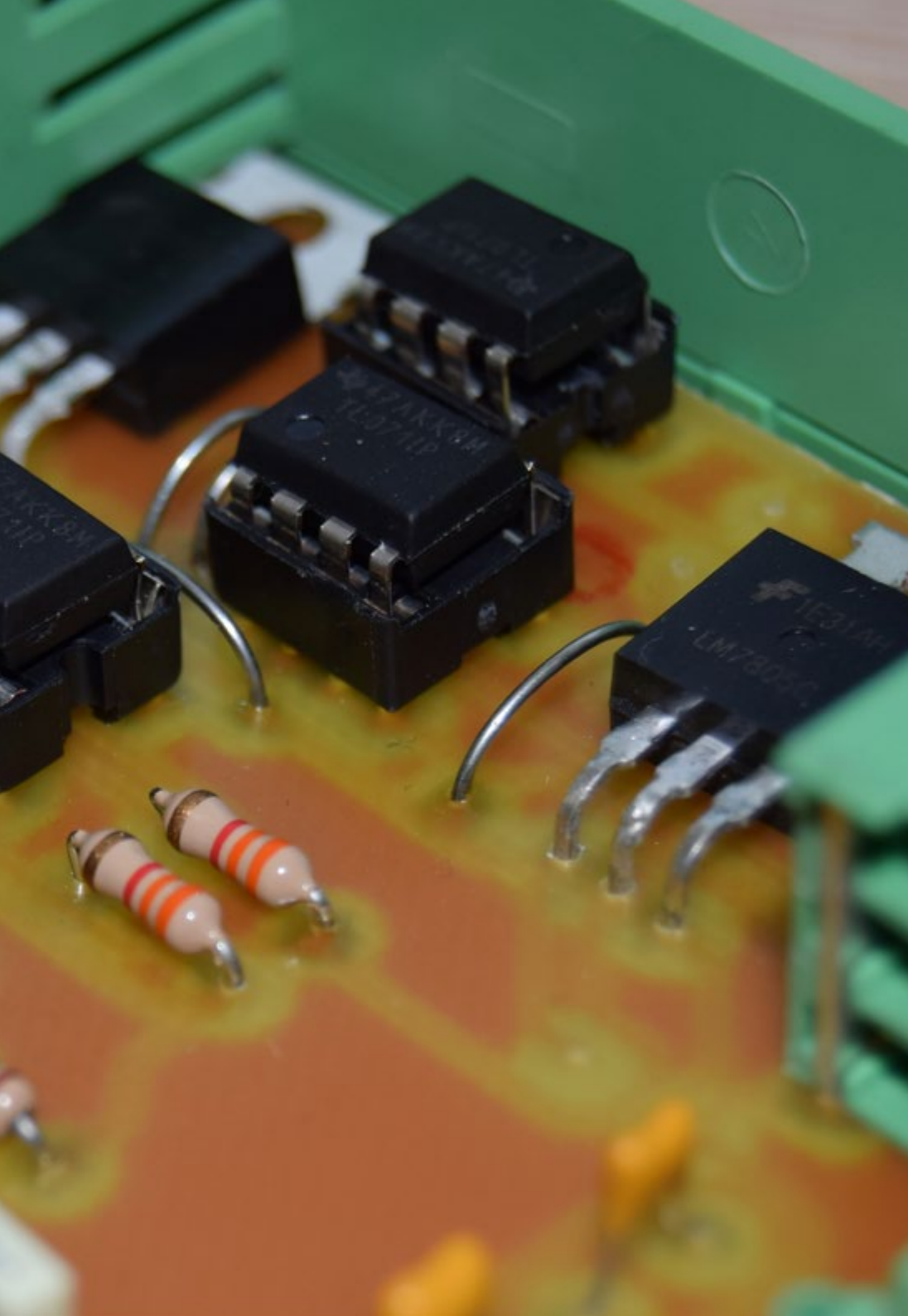
General Objective

- ◆ Prepare students to be able to develop their work with total confidence and quality in the field of telecommunications



Specialize in the world's leading private online university"





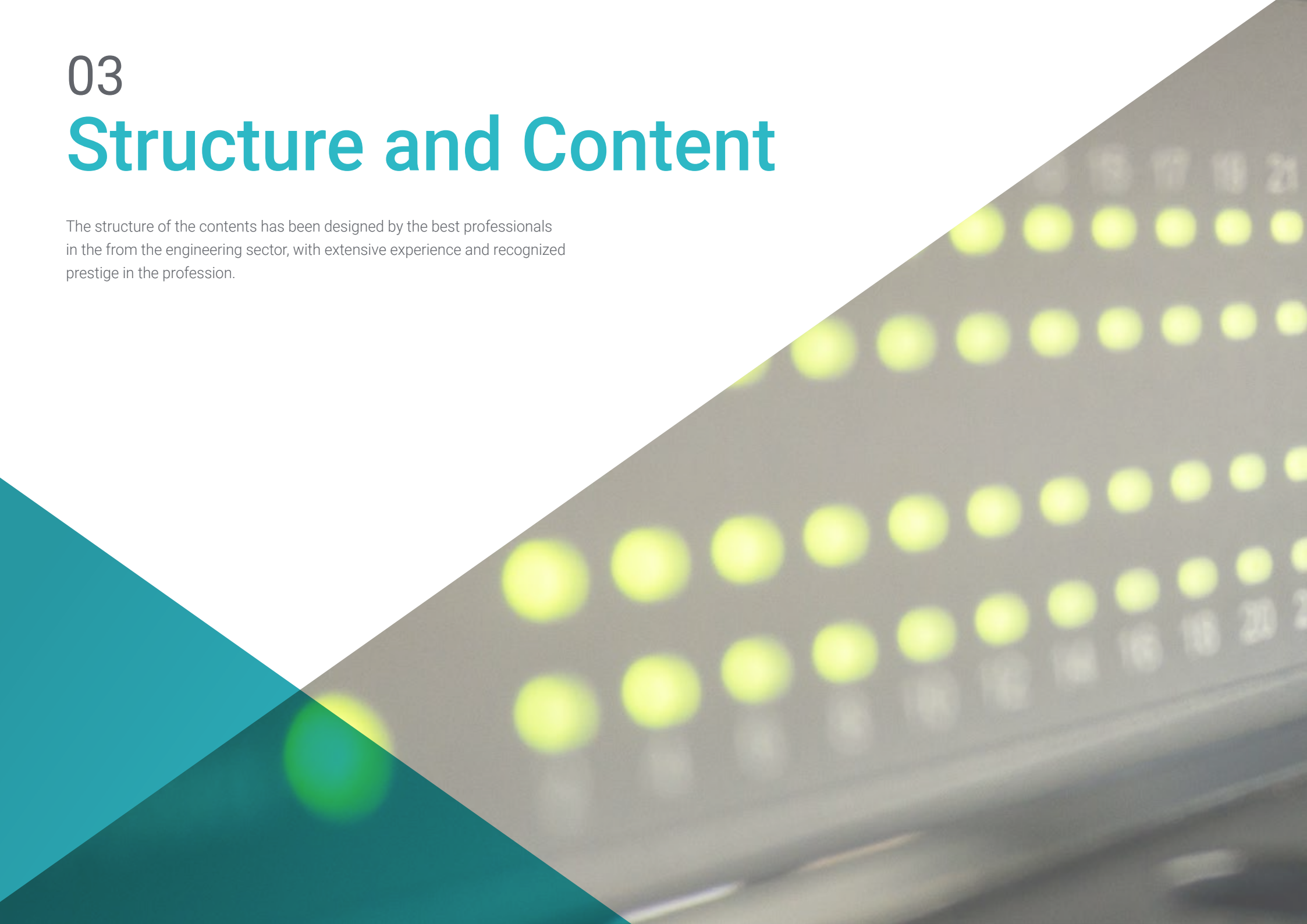
Specific Objectives

- ◆ Differentiate the concepts of access and transport networks, circuit-switched and packet-switched networks, fixed and mobile networks, as well as distributed network systems and applications, voice, data, audio and video services
- ◆ Know the methods of network interconnection and routing, as well as the basics of network planning and dimensioning based on traffic parameters
- ◆ Master the basic fundamentals of service quality
- ◆ Analyze the performance (delay, loss probability, blocking probability, etc.) of telecommunication networks
- ◆ Understand and apply the standards and regulations of protocols and networks of international standardization organizations
- ◆ Know the Common Telecommunication Infrastructure planning in residential contexts

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.





“

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. Switch Networks and Telecommunication Infrastructures

- 1.1. Introduction to Switch Networks
 - 1.1.1. Switch Techniques
 - 1.1.2. Local LAN Networks
 - 1.1.3. Topology and Transmission Media Review
 - 1.1.4. Basic Transfer Concepts
 - 1.1.5. Methods of Accessing the Media
 - 1.1.6. Network Interconnection Equipment
- 1.2. Switch Techniques and Switch Structure. ISDN and FR Networks
 - 1.2.1. Switch Networks
 - 1.2.2. Circuit-Switch Networks
 - 1.2.3. RDSI
 - 1.2.4. Packet-Switch Networks
 - 1.2.5. FR
- 1.3. Traffic Parameters and Network Dimensioning
 - 1.3.1. Fundamental Traffic Concepts
 - 1.3.2. Loss Systems
 - 1.3.3. Standby Systems
 - 1.3.4. Traffic Modeling System Examples
- 1.4. Quality of Service and Traffic Management Algorithms
 - 1.4.1. Quality of Service
 - 1.4.2. Congestion Effects
 - 1.4.3. Congestion Control
 - 1.4.4. Traffic Control
 - 1.4.5. Traffic Management Algorithms
- 1.5. Access Networks: WAN Access Technologies
 - 1.5.1. Wide Area Networks
 - 1.5.2. WAN Network Access Technologies
 - 1.5.3. xDSL Access
 - 1.5.4. FTTH Access
- 1.6. ATM: Asynchronous Transfer Mode
 - 1.6.1. ATM Service
 - 1.6.2. Protocol Architecture
 - 1.6.3. Logical ATM Connections
 - 1.6.4. ATM Cells
 - 1.6.5. ATM Cell Transmission
 - 1.6.6. Types of ATM Services
- 1.7. MPLS Multiprotocol Label Switching
 - 1.7.1. Introduction MPLS
 - 1.7.2. MPLS Operations
 - 1.7.3. Labels
 - 1.7.4. VPNs
- 1.8. Project for the Implementation of a Telematic Network
 - 1.8.1. Obtaining the information
 - 1.8.2. Planning
 - 1.8.2.1. System Dimensioning
 - 1.8.2.2. Installation Site Drawings and Schematics
 - 1.8.3. Technical Design Specifications
 - 1.8.4. Network Implementation and Deployment
- 1.9. Structured Cabling Case Study
 - 1.9.1. Introduction
 - 1.9.2. Structured Cabling Organizations and Standards
 - 1.9.3. Transmission Medium
 - 1.9.4. Structured Cabling
 - 1.9.5. Physical Interfaces
 - 1.9.6. Parts of Structured Cabling (Horizontal and Vertical)
 - 1.9.7. Identification System
 - 1.9.8. Case Study

- 1.10. Common Telecommunication Infrastructure Planning
 - 1.10.1. Introduction ICT
 - 1.10.1.1. ICT Standards
 - 1.10.2. Enclosures and Piping
 - 1.10.2.1. Exterior Area
 - 1.10.2.2. Common Area
 - 1.10.2.3. Private Area
 - 1.10.3. ICT Distribution Networks
 - 1.10.4. Technical Projects

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



04

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **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.



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

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 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.



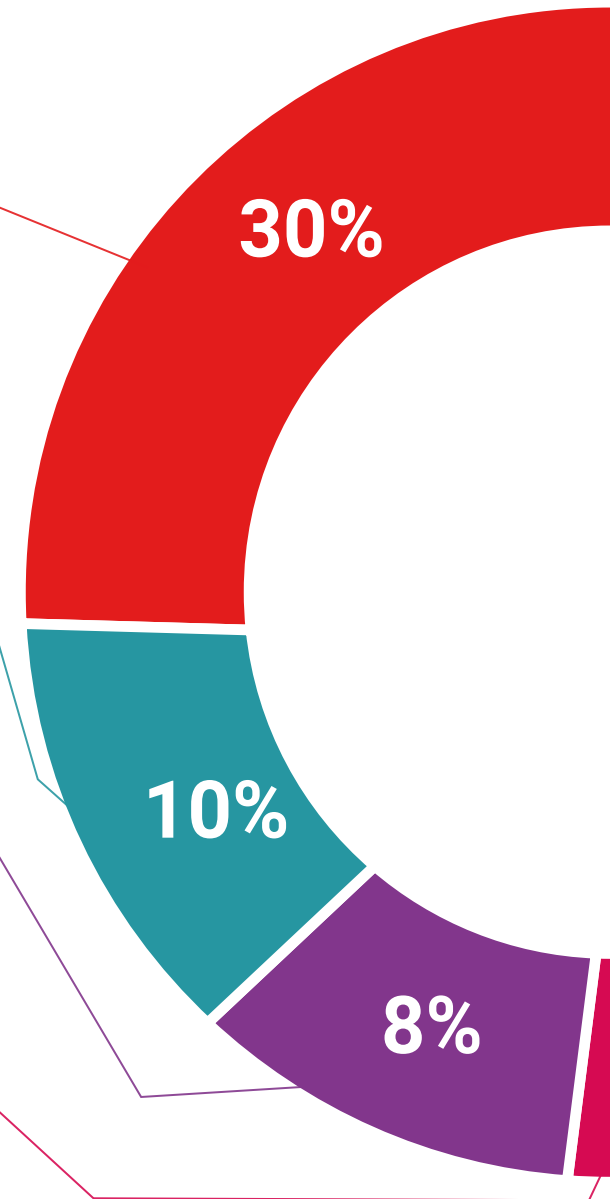
Practising Skills and Abilities

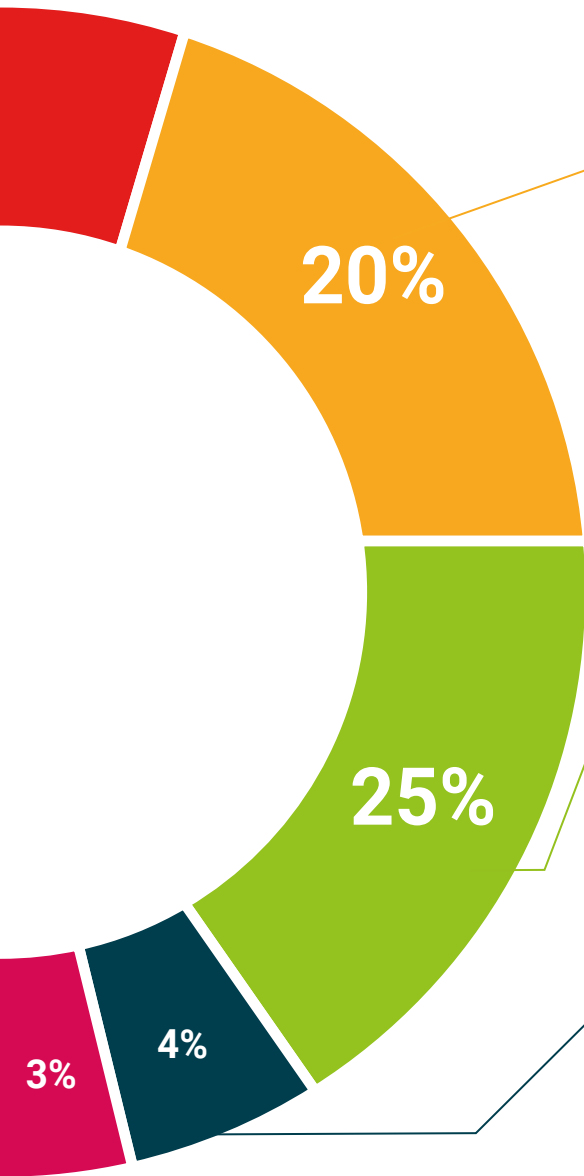
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



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



“

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 Switch Networks and Telecommunication Infrastructures** 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 Switch Networks and Telecommunication Infrastructures**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



Postgraduate Certificate Switch Networks and Telecommunication Infrastructures

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

Postgraduate Certificate Switch Networks and Telecommunication Infrastructures