

# Postgraduate Certificate Computer Technology



## Postgraduate Certificate Computer Technology

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/information-technology/postgraduate-certificate/computer-technology](http://www.techtute.com/us/information-technology/postgraduate-certificate/computer-technology)

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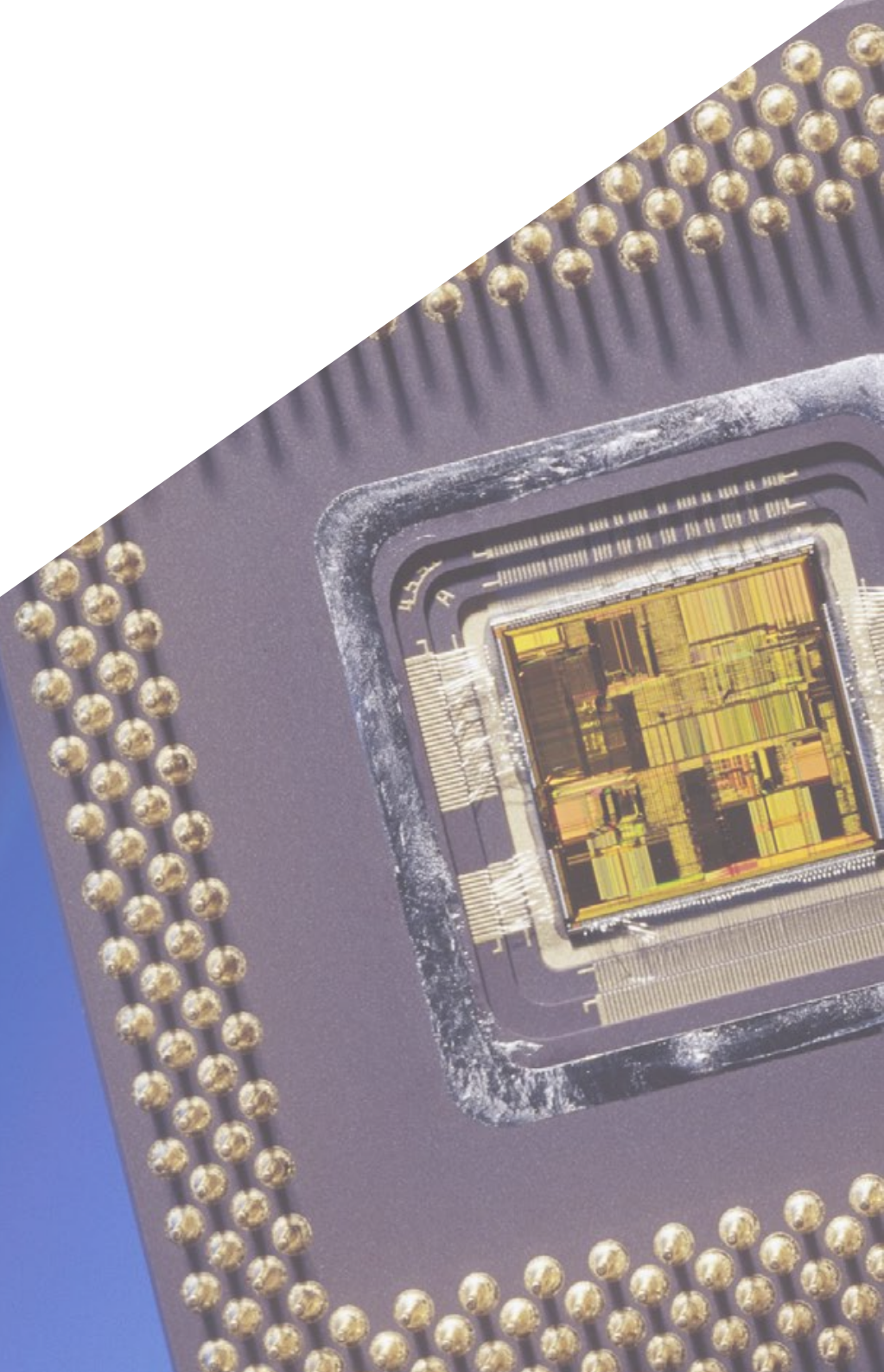
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# 01

# Introduction

The student will be able to get qualified in Computer Technology with this program designed by professionals with ample experience in the sector. You will learn in depth history of computers, as well as main types of existing organizations and architectures. This program will give you the boost your career needs.





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*This Postgraduate Certificate will allow you to update your knowledge in Computer Technology in a practical way, 100% online, without renouncing to the maximum academic rigor"*

This program is intended for those interested in achieving a higher level of knowledge in Computer Technology. 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.

This Postgraduate Certificate will prepare the student for professional practice of Computer Engineering, thanks to a transversal and versatile training adapted to new technologies and innovations in this field. You will obtain extensive knowledge in Computer Technology, from the hand of professionals in the sector.

The students will be able to take the opportunity and study this program in a 100% online format, without neglecting their obligations.

This **Postgraduate Certificate in Computer Technology** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Development of 100 simulated scenarios presented by experts in Computer Technology
- ◆ Its graphic, schematic and practical contents, with which they are created, provide scientific and practical information on Computer Technology
- ◆ News on the latest developments in Computer Technology
- ◆ Contains practical exercises where the self-assessment process can be performed to improve learning
- ◆ Interactive learning system based on the case method and its application to real practice
- ◆ All of this will be complemented by 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



*Learn the latest techniques and strategies with this program and achieve success as a computer engineer"*



*Get qualified in Computer Technology with this intensive program from the comfort of your home"*

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

The design of this program focuses on Problem-Based Learning, in which the professional will have to try to solve the different professional practice situations that will arise throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*Take advantage of the latest educational technology to get updated in Computer Technology without leaving home.*

*Learn about the latest techniques in Computer Technology from experts in the field.*



# 02 Objectives

The objective of this training is to provide IT professionals with necessary knowledge and skills to perform their activity using the most advanced protocols and techniques of the moment. Through a work approach that is totally adaptable to the student, this Postgraduate Certificate will progressively lead the students to acquire the competencies that will propel them to a Upper professional level.







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*Achieve your desired level of knowledge and master fundamental concepts in Computer Technology with this high-level education"*



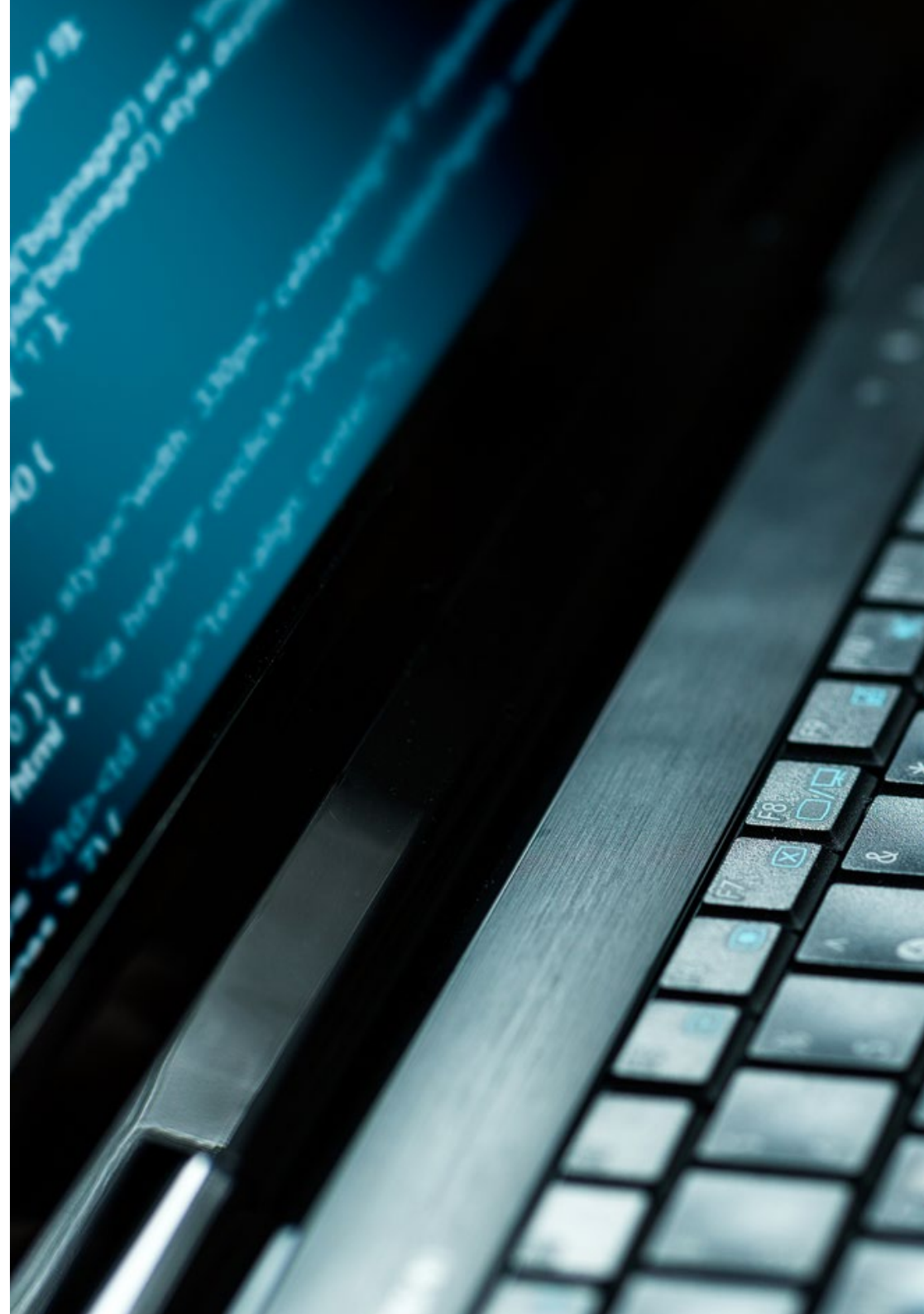
## General Objectives

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- ◆ To educate scientifically and technologically, as well as to prepare for professional practice of Computer Engineering, all this with a transversal and versatile academic experience adapted to new technologies and innovations in this field
- ◆ To obtain a wide knowledge in the computing field, computer structure and computer technology, including mathematical, statistical and physics basis essential in an engineering degree



*Achieve professional success as a computer engineer with this intensive program, developed by professionals with extensive experience in the sector"*





## Specific Objectives

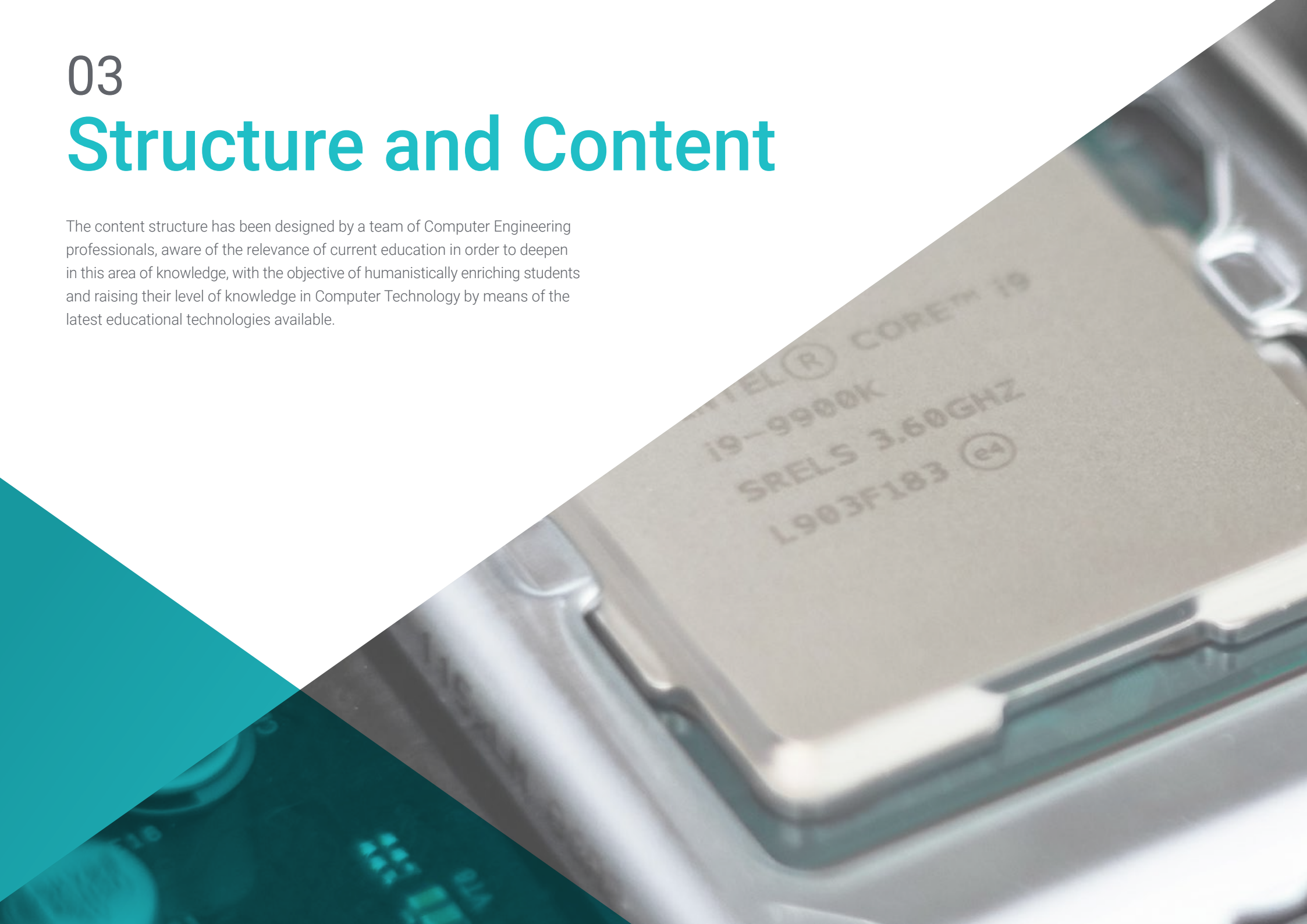
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- ◆ To know computer history, as well as main types of existing organizations and architectures
- ◆ To acquire necessary knowledge to understand computer arithmetic and basics of logic design
- ◆ To understand computer operation and composition, from different devices that integrate computer to interacting between and with each other
- ◆ To learn different types of memory: internal memory, cache memory and external memory, as well as the operation of input/output devices
- ◆ To understand processor structure and operation, as well as the control unit operation and micro-operations
- ◆ To learn basics of machine instructions, types, assembly language and addressing

# 03

# Structure and Content

The content structure has been designed by a team of Computer Engineering professionals, aware of the relevance of current education in order to deepen in this area of knowledge, with the objective of humanistically enriching students and raising their level of knowledge in Computer Technology by means of the latest educational technologies available.



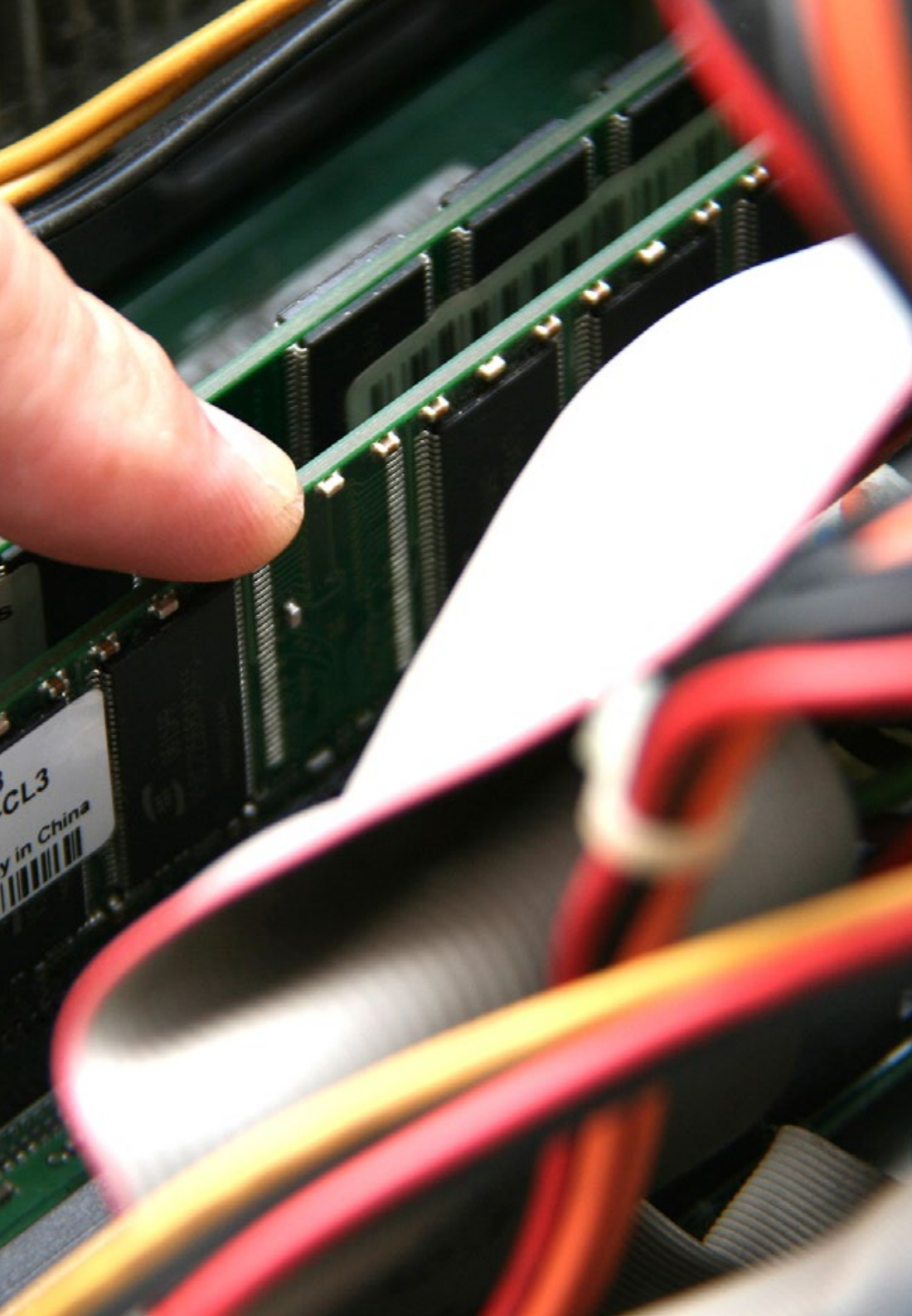
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*This Postgraduate Certificate in Computer Technology contains the most complete and updated learning program in the market"*

## Module 1. Computer Technology

- 1.1. General Information and a Brief History of Computers
  - 1.1.1. Organization and Architecture
  - 1.1.2. Brief History of Computers
- 1.2. Computer Arithmetic
  - 1.2.1. The Arithmetic-Logic Unit
  - 1.2.2. Numbering Systems
  - 1.2.3. Integer Representation
  - 1.2.4. Arithmetic with Integers
  - 1.2.5. Floating Point Representation
  - 1.2.6. Floating Point Arithmetic
- 1.3. Classic Concepts of Logic Design
  - 1.3.1. Boolean Algebra
  - 1.3.2. Logic Gates
  - 1.3.3. Logical Simplification
  - 1.3.4. Combinational Circuits
  - 1.3.5. Sequential Circuits
  - 1.3.6. Concept of Sequential Machine
  - 1.3.7. Memory Element
  - 1.3.8. Types of Memory Elements
  - 1.3.9. Synthesis of Sequential Circuits
  - 1.3.10 Synthesis of Sequential Circuits with PLA
- 1.4. Basic Computer Organization and Operation
  - 1.4.1. Introduction
  - 1.4.2. Components of a Computer
  - 1.4.3. Operation of a Computer
  - 1.4.4. Interconnection Structures
  - 1.4.5. Interconnection with Buses
  - 1.4.6. PCI Bus

- 1.5. Internal Memory
  - 1.5.1. Introduction to Memory Systems in Computers
  - 1.5.2. Semiconductor Main Memory
  - 1.5.3. Correction of Errors
  - 1.5.4. Advanced DRAM Memory Organization
- 1.6. Input/Output
  - 1.6.1. External Devices
  - 1.6.2. Input/Output Modules
  - 1.6.3. Programmed input/output
  - 1.6.4. Input/output by interrupts
  - 1.6.5. Direct Memory Access
  - 1.6.6. Input/Output Channels and Processors
- 1.7. Machine Instructions: Features and Functions
  - 1.7.1. Characteristics of Machine Instructions
  - 1.7.2. Types of Operands
  - 1.7.3. Types of Transactions
  - 1.7.4. Assembly Language
  - 1.7.5. Address
  - 1.7.6. Formats of Instructions
- 1.8. Processor Structure and Operation
  - 1.8.1. Processor Organization
  - 1.8.2. Record Organization
  - 1.8.3. Training Cycle
  - 1.8.4. Instruction Segmentation



- 1.9. Cache and External Memory
  - 1.9.1. Basic Principles of Cache Memories
  - 1.9.2. Cache Design Elements
  - 1.9.3. Magnetic Disks
  - 1.9.4. RAID
  - 1.9.5. Optical Memory
  - 1.9.6. Magnetic Tape
- 1.10. Introduction to the Operation of the Control Unit
  - 1.10.1. Microoperations
  - 1.10.2. Processor Control
  - 1.10.3. Wired Implementation

“ *A unique, key, and decisive educational experience to boost your professional development*”

# 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.



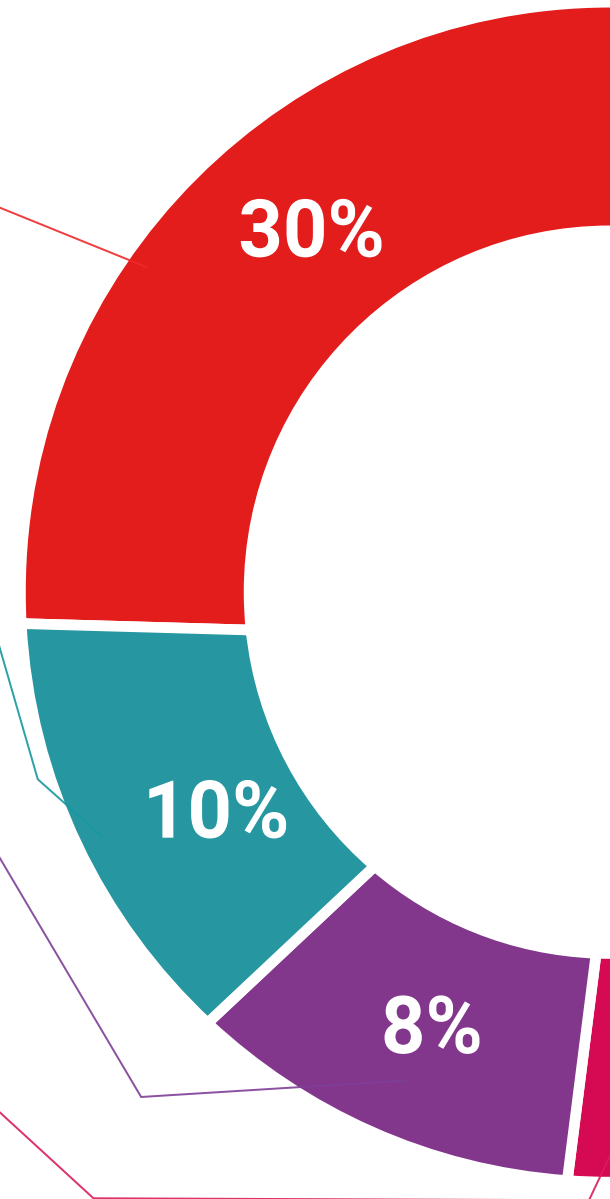
#### Practising Skills and Abilities

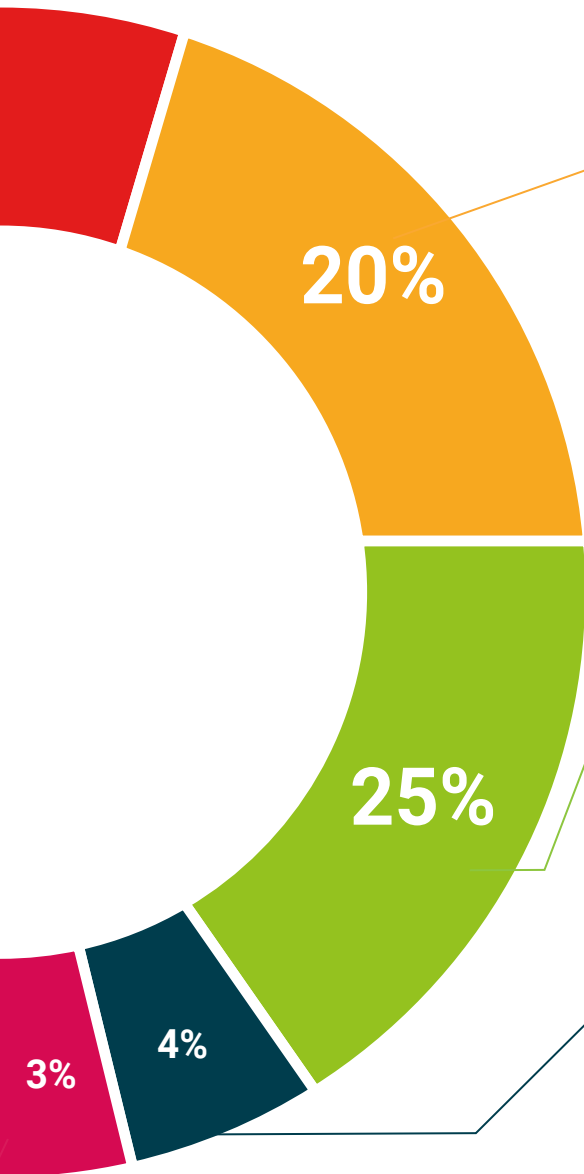
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



#### 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 Computer Technology guarantees, in addition to the most rigorous and updated education, access to a Postgraduate Certificate issued by TECH Technological University.





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

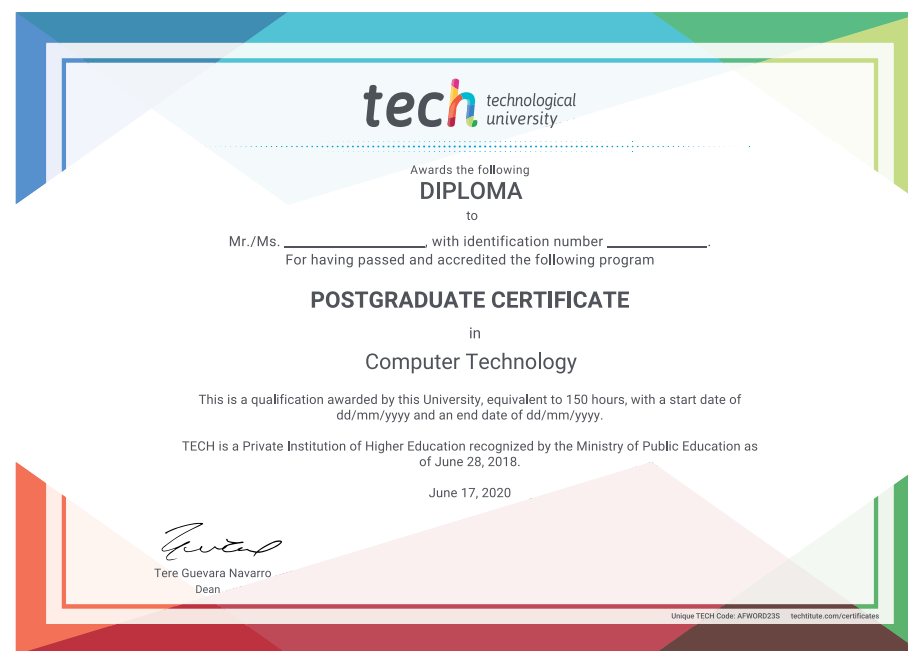
This **Postgraduate Certificate in Computer Technology** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Computer Technology**

Official N° of Hours: **150 h.**



\*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION 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



## Postgraduate Certificate Computer Technology

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- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

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