Postgraduate Certificate
Microelectronics

tech technological university

Postgraduate Certificate
Microelectronics

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

Website: **www.techtitute.com/in/information-technology/postgraduate-certificate/microelectronics**

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01
Introduction

The third industrial revolution occurred at the end of the 20th century with the emergence of Microelectronics. The creation of ever smaller, more powerful and more accessible electronic components has brought about a real revolution, not only in industry, but also in the way people live. Thus, mobility, communication and even teaching have definitely changed. For this reason, TECH has designed this specific program for computer scientists, with which they will be able to get up to date in a sector of great relevance for society.
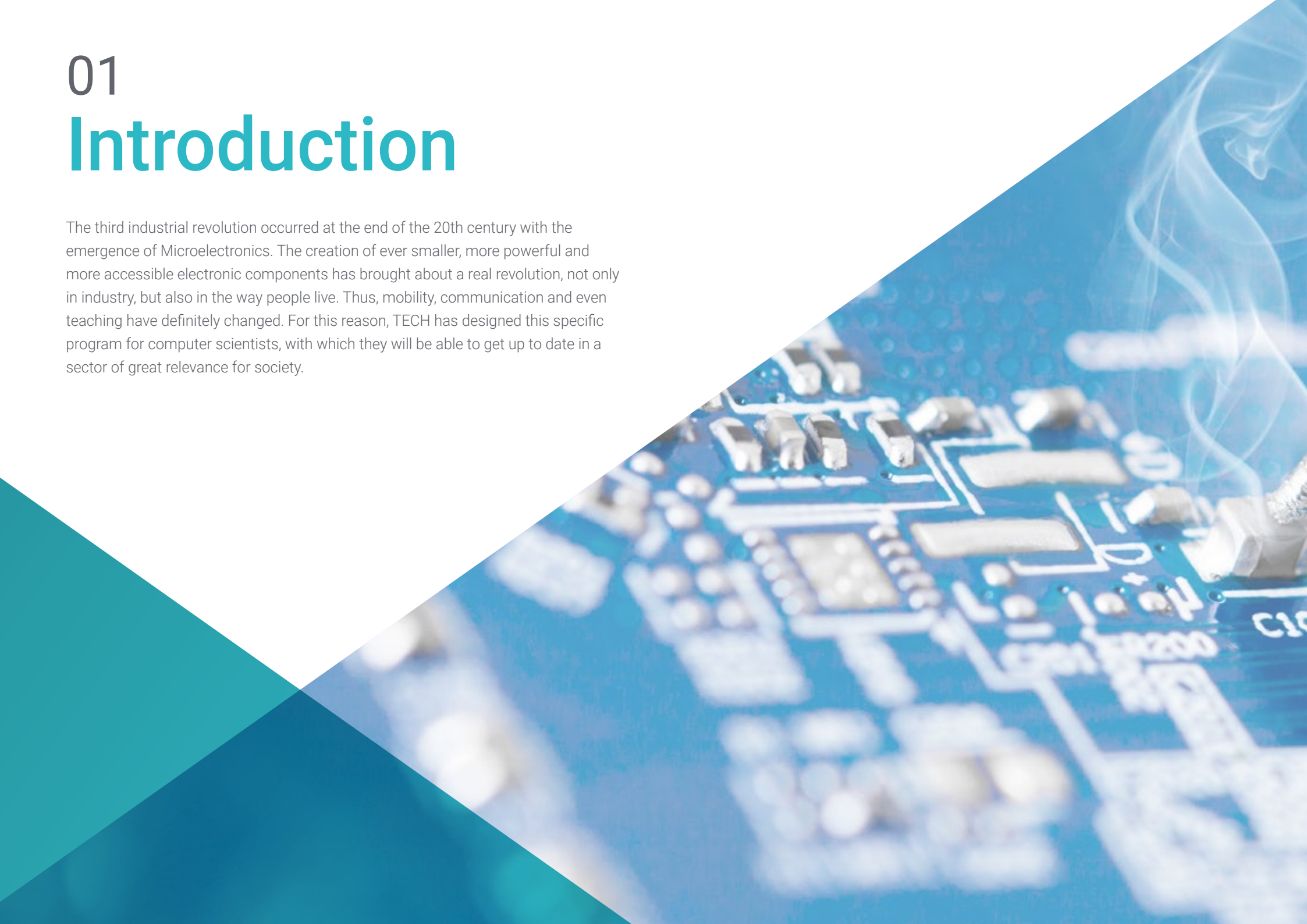
Miniature electronic circuits offer multiple advantages to new devices, so the qualification of computer scientists in this field is necessary to achieve innovation in a highly competitive sector"

Although electronic devices may appear complex and incomprehensible from the outside, they follow relatively simple physical and electromagnetic principles. Over the years, and thanks to the ingenuity of many men and women, creative and useful solutions have been developed, which are the heart and brain of the devices that are used every day: cell phones, cameras or computers. These are based on Microelectronics, but it is necessary to understand that Microelectronics is a link between several disciplines of science and engineering, such as electromagnetic field theory, materials science, electrical engineering or programming. These are some of the essential disciplines for the knowledge and development of Microelectronics.

This Postgraduate Certificate in Microelectronics at TECH analyzes the physical principles that govern the behavior of the fundamental elements of electronics. It delves into the most relevant characteristics and applications of transistors, diodes and amplifiers; it interprets signals and develops specialized knowledge so that the computer engineer can correct a system based on its frequency response. In addition, it analyzes the future of Microelectronics, reviewing the scientific state-of-the-art in this field.

A very complete program that will undoubtedly become fundamental in the training of IT professionals, providing them with the necessary knowledge to successfully work in this field and giving their CVs the necessary visibility to stand out in job selection processes. Undoubtedly, a first class syllabus that will serve as a basic working guide for those who develop professionally in the field of Microelectronics.

In short, this is a 100% online Postgraduate Diploma that will allow students to distribute their study time, not being restricted by fixed schedules or having to move to another physical location, being able to access all the contents at any time of the day, balancing their work and personal life with their academic life.

This **Postgraduate Certificate in Microelectronics** contains the most complete and up-to-date educational program on the market. The most outstanding characteristics of this program are:

- Practical cases presented by experts in information technology
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional development
- Practical exercises where the self-assessment process can be carried out to improve learning
- Special emphasis on innovative methodologies in Microelectronics
- 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

A 100% online program that will allow you to perfectly balance your family, professional and academic life"

" *Microelectronics emerged decades ago to revolutionize the industry, and now you can specialize in this complex field"*

Access a multitude of case studies that will help you to reinforce your theoretical knowledge.

We present the best academic program on the current scene.

Its teaching staff includes professionals from the field of IT, who bring to this program the experience of their work, 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 an immersive training experience designed to train students for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.
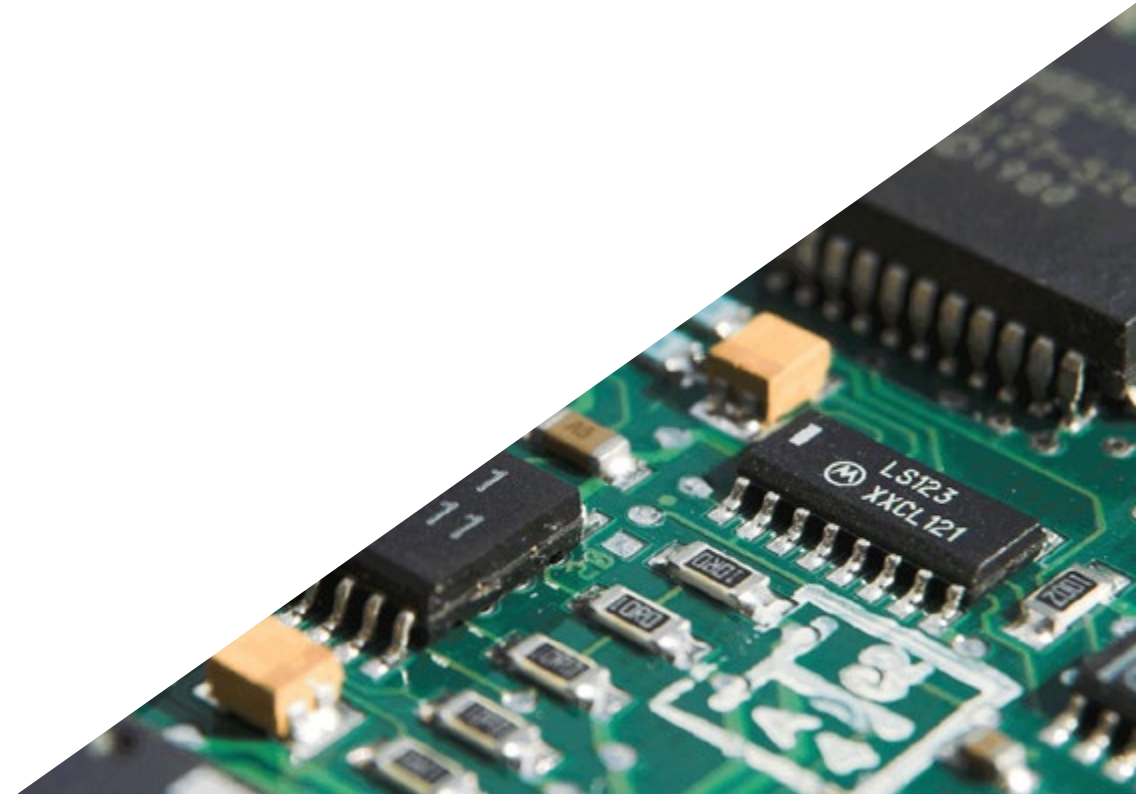
02
Objectives

Computer scientists working with electronic systems are increasingly interested in obtaining a more specific qualification in subjects of interest, that can open doors to new fields of work. This program on Microelectronics at TECH will become a golden opportunity to achieve that much needed specialization, which will allow students to work with greater confidence in an environment that demands professionals with high qualifications and experience, but, above all, who are methodical with their work.

"

A top-notch program designed to help you specialize in a vital area in the field of electronics"

General Objectives

- Gather the main materials involved in micro-electronics, their properties and applications
- Identify the functioning of the fundamental structures of microelectronic devices
- Gain in-depth knowledge of the mathematical principles governing microelectronics
- Analyze signals and modify them

Develop the skills you need to be successful in the field of organic Microelectronics"
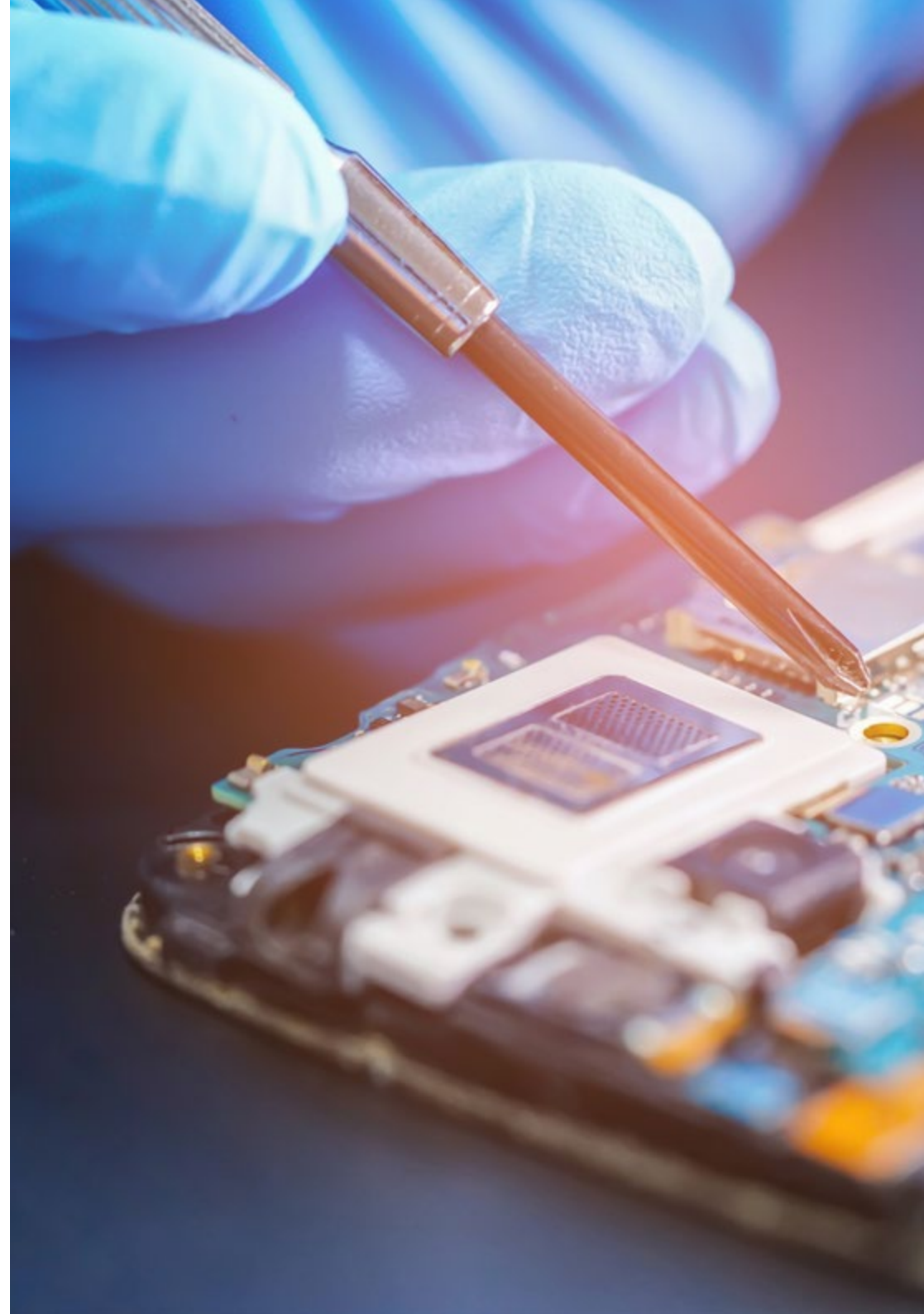
Specific Objectives

- Generate specialized knowledge of microelectronics
- Examine analog and digital circuits
- Determine the fundamental characteristics and uses of diodes
- Determine the functioning of an amplifier
- Develop autonomy in the design of transistors and amplifiers according to the desired use
- Demonstrate the math behind the most common components in electronics
- Analyze signals from their frequency response
- Evaluate the stability of a control
- Identify the main lines of technology development

03

Course Management

The TECH Postgraduate Certificate has been designed by a team of prestigious specialists in the field. They are teachers who have been trained in this area and who are aware of the educational needs in this field and the demands of the sector, so they have compiled the most complete information of the moment to offer students a training program that will be fundamental for their professional growth and that will open the doors to a highly competitive occupational field.

*Specialized teachers in Microelectronics will teach you the keys to the sector"*

Management

Ms. Casares Andrés, María Gregoria

- Associate professor at Carlos III University of Madrid
- Degree in IT from the Polytechnic University of Madrid
- Researcher at Polytechnic University of Madrid
- Researcher at Carlos III University of Madrid
- Evaluator and creator of OCW courses at Carlos III University of Madrid
- Tutor of courses at INTEF (National Agency for Educational Technology and Teacher Development)
- Support Technician at the Ministry of Education Directorate General of Bilingualism and Quality of Education of the Community of Madrid
- Middle and high school teacher specializing in IT
- Associate professor off the Pontificia de Cimillas University
- Teaching Expert in the Community of Madrid
- Analyst / Project Manager at Banco Urquijo Computer Systems
- ERIA Computer Analyst

Professors

Mr. Ruiz Díez, Carlos

- Researcher at the National Microelectronics Center of the CSIC.

- Director of Competitive Engineering Training at ISC

- Voluntary trainer in the Caritas Employment Workshops

- Researcher in practices in the Composting Research Group of the Department of Chemical, Biological and Environmental Engineering of the UAB.

- Founder and product development at NoTime Ecobrand, a fashion and recycling brand.

- Development cooperation project manager for the NGO Future Child Africa in Zimbabwe.

- ICAI Speed Club: motorcycle racing team

- Graduate in Industrial Technologies Engineering from Pontificia de Comillas University ICAI.

- Master's Degree in Biological and Environmental Engineering from the Autonomous University of Barcelona.

- Master's Degree in Environmental Management from the Universidad Española a Distancia (Spanish Open University)
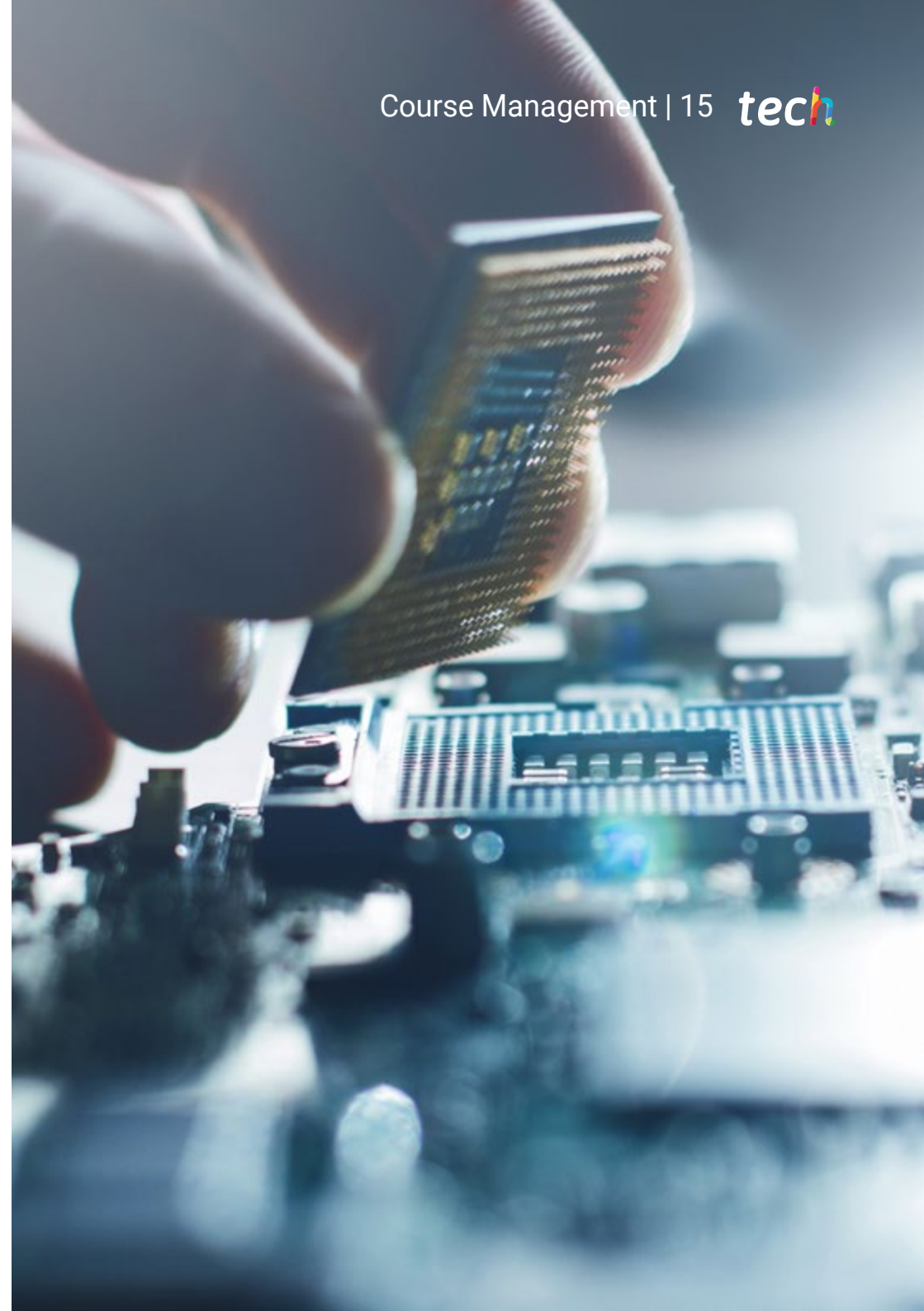
04

Structure and Content

TECH has structured this Postgraduate Certificate in Microelectronics in such a way that it facilitates the learning process for students. In this way, students will have access to a wide range of resources that will allow them to learn efficiently, acquiring knowledge that they will be able to apply in the workplace. A very complete syllabus that covers relevant issues such as analog and digital circuits, transistors, operational amplifiers or sustainable microelectronics.

"
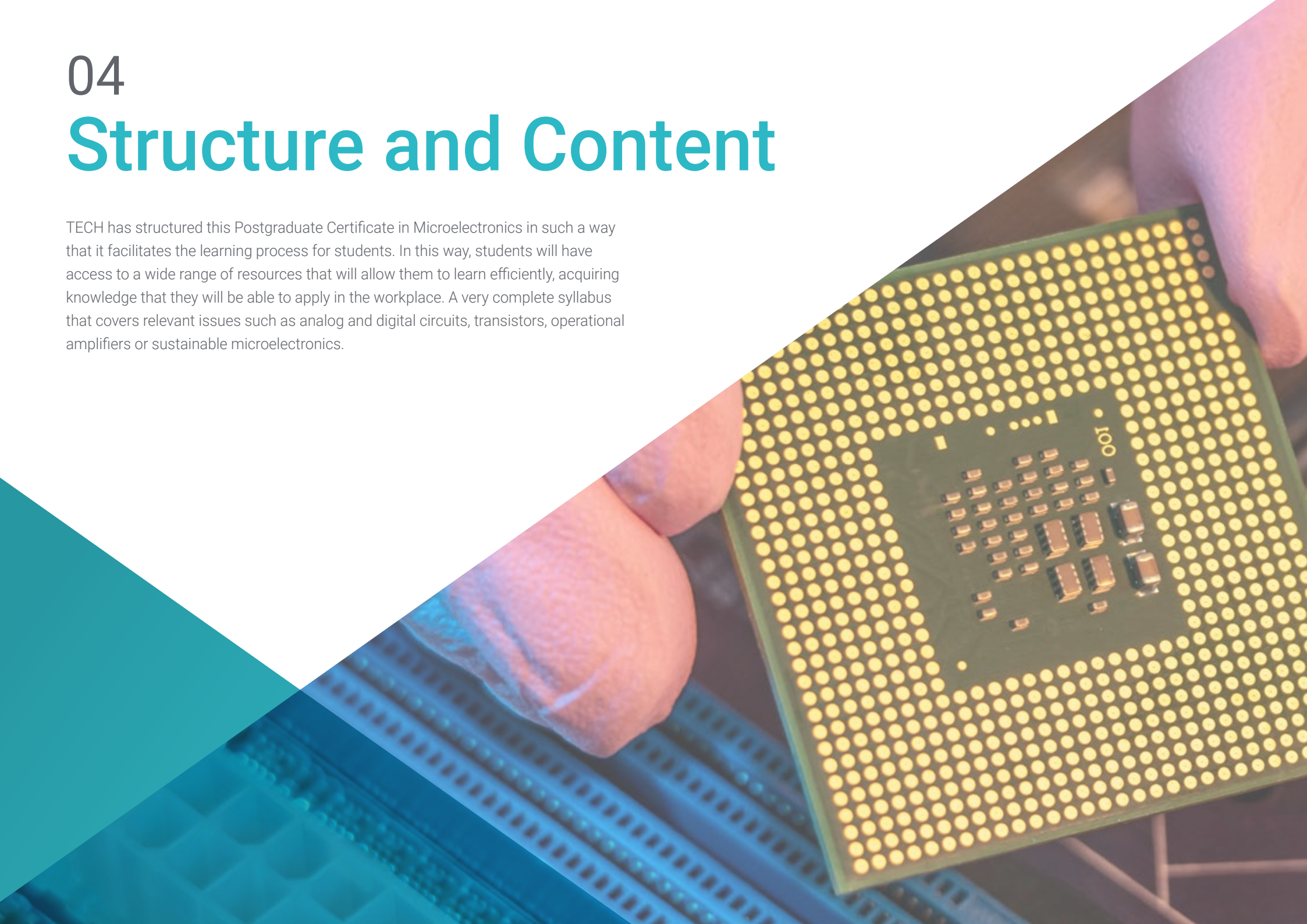
It provides a first class academic overview of the latest concepts in Microelectronics"

Module 1. Microelectronics

This is a very complete academic program in Microelectronics that will help you enter a sector of great interest for computer scientists"

05
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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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.

30%

10%

8%

20%

25%

4%

3%
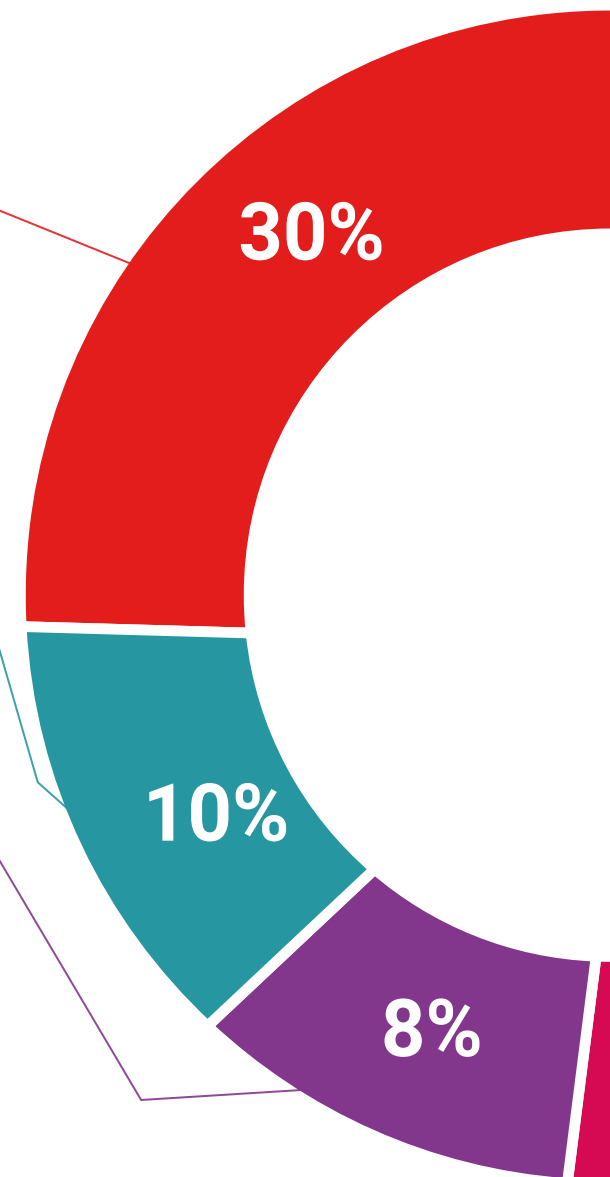
Case Studies

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.

06
Certificate

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

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

This **Postgraduate Certificate in Microelectronics** 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 certificate 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 Microelectronics**

Official Nº of Hours: **150 h.**

tech technological university

Awards the following
CERTIFICATE
to
Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE
in

Microelectronics

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.   Unique TECH Code: AFWORD23S   techtitute.com/certificates

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

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