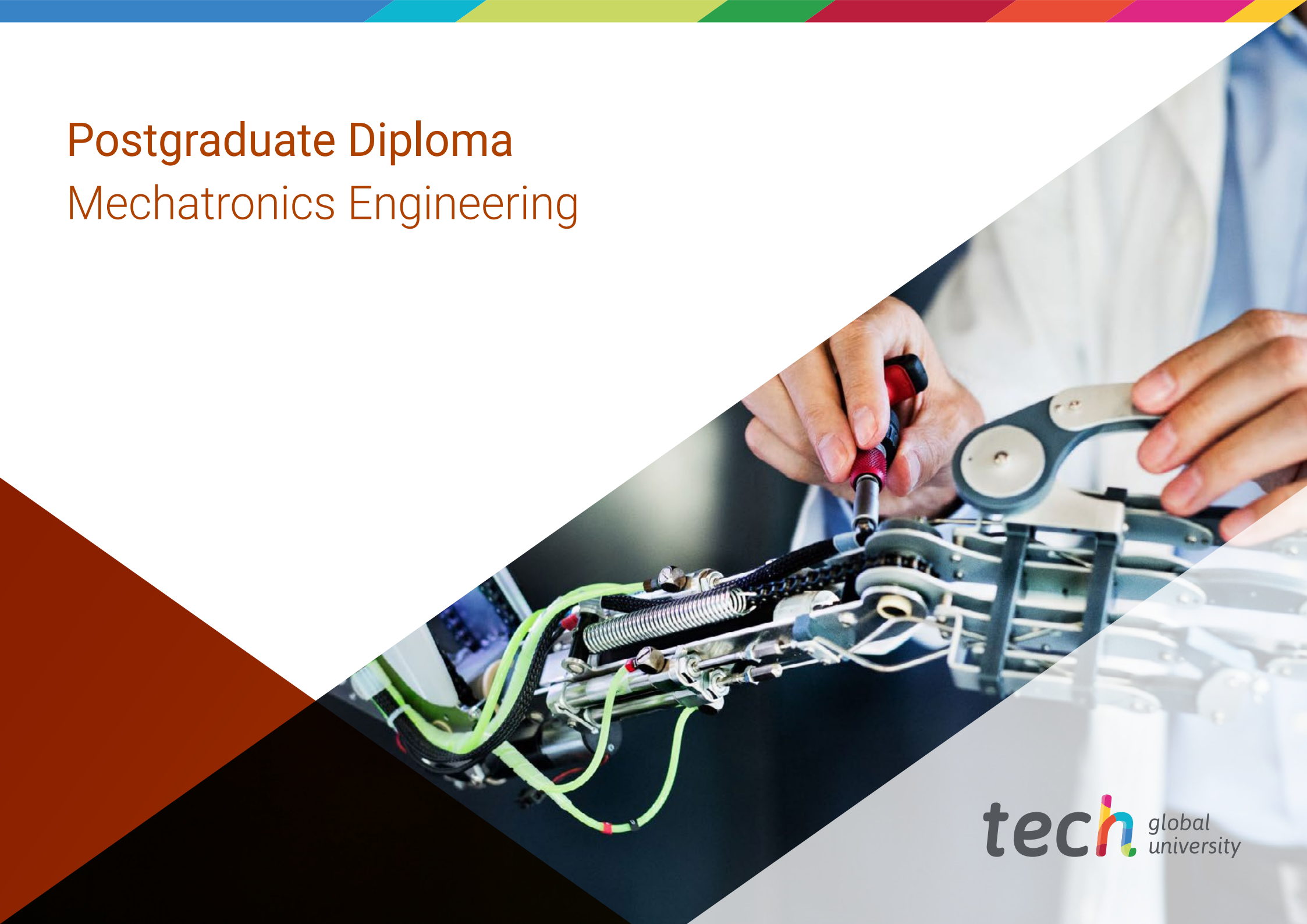
Postgraduate Diploma
Mechatronics Engineering



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Postgraduate Diploma
Mechatronics Engineering

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **18 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-mechatronics-engineering**

Index

01

Introduction

The technological advances that have taken place in areas such as digital electronics and communication interfaces have driven Mechatronics to play a key role in component manufacturing. This discipline brings numerous benefits such as driving technological progress and creating higher value-added solutions. Faced with this situation, institutions are demanding innovative professionals who combine mechanical and electrical skills. In this context, TECH has developed a program for engineers to delve into the creation of advanced systems that facilitate various productive tasks. In addition, the program has a teaching team of international prestige and implements an innovative 100% online methodology.

Thanks to this Postgraduate Diploma you will master the methods of transmission and transformation of mechanical motion and all in a convenient 100% online format"

Mechatronics Engineering has become an indispensable aspect for institutions. This is due to its interdisciplinary character: it fosters innovation in Mechanics, Computer Science and Electronics. To this end, it focuses on analyzing aspects such as the different sensors, the operation of manufacturing processes and the use of industrial machines. The truth is that, as industry moves towards the era of intelligent manufacturing, this field is consolidating, allowing better efficiency goals to be achieved.

In view of this, TECH has devised a study program that delves into the different components that regulate the operation of a machine or mechatronic system. Specifically, the program covers different types of sensors (presence, position, temperature and physical variables), as well as actuators (electric, pneumatic and hydraulic). In turn, it delves into those bearings, springs and connecting elements that are indispensable, paying special attention to the criteria for their selection and application in specific equipment.

Next, the academic itinerary describes the basics of automation required in this branch of engineering. Through its academic modules, emphasis is placed on PLC programming, continuous controls by means of regulators, axes, among others. Finally, students are provided with a comprehensive analysis of how these complex machines are inserted in industries and how to ensure their safe implementation.

To consolidate the mastery of all these contents, the Postgraduate Diploma applies the innovative *Relearning*system. TECH is a pioneer in the use of this teaching model that promotes the assimilation of complex concepts through the natural and progressive reiteration of them. Also, the program is nourished by materials in various formats such as explanatory videos and infographics. All this in a convenient 100% online modality that allows adjusting the schedules of each person to their responsibilities and availability.

This **Postgraduate Diploma in Mechatronics Engineering** contains the most complete and up-to-date program on the market. Its most notable features are:

- The development of case studies presented by experts in Mechatronics Engineering.
- The graphic, schematic and practical contents with which it is conceived provide cutting- Therapeutics and practical information on those disciplines that are essential for professional practice.
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- 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

Access the cutting-edge content of this program through multimedia resources such as how-to videos and interactive overviews and interactive summaries"

With TECH you will master integrated manufacturing systems and overcome the challenges of Industry 4.0"

Thanks to this 100% online TECH course, you will delve into the development of intelligent processes that facilitate human activities.

You will acquire advanced competencies in a comfortable and flexible way, without rigid schedules or pre-established evaluation chronograms.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

This Postgraduate Diploma enables students to acquire the knowledge and skills necessary to successfully overcome the current challenges of Mechatronics Engineering. To achieve this objective, the program will provide teaching materials in a variety of formats including explanatory videos and interactive summaries. At the same time, the program has a faculty with extensive experience in the sector. This unique combination of human and educational resources fosters professional excellence in each graduate and enables them to achieve all of their goals for self-improvement.

Complete the updating of your practical skills in Mechatronics Engineering in an efficient and flexible way through TECH"

General Objectives

- Identify and analyze the main types of industrial mechanisms
- Evaluate and analyze the stresses to which the main types of mechanical systems and elements are subjected
- Establish the main guidelines to be taken into account in the design of these systems
- Expand specific knowledge on evaluation criteria and selection of mechanical devices
- Identify the sensors and actuators of a process according to their functionality
- Select and configure the required type of sensor and actuator involved in a process depending on the parameter to be measured or controlled
- Design an industrial process and to establish its operating requirements
- Analyze the operation of a production system according to the components involved in it
- Identify the different equipment involved in the control of industrial processes
- Select and program the mechatronic equipment involved in a process according to the machine or process to be automated
- Understand machine automation
- Design an industrial process and to establish its operating requirements
- Determine the different models of embedded manufacturing present in the industrial world
- Fundamentals of the possibilities of system integration through industrial communications
- Examine the different possibilities of supervision in processes
- Analyze new integrated manufacturing systems
- Develop integrated manufacturing systems

Specific Objectives

Module 1. Machines and Mechatronic Systems

- Recognize the different methods of motion transmission and transformation
- Identify the main types of machines and mechanisms that allow the transmission and transformation of motion
- Define the bases for the study of static and dynamic stresses of mechanical systems
- Establish the basis for the study, design and evaluation of the following mechanical elements and systems: gears, shafts and shafts, bearings, springs, mechanical joints, flexible mechanical elements, brakes and clutches

Module 2. Sensors and Actuators

- Recognize and select the sensors and actuators involved in an industrial process according to their practical application
- Configure a sensor or an actuator according to the proposed technical requirements
- Design an industrial production process according to the proposed technical requirements

Module 3. Axis Control, Mechatronic Systems and Automation

- Identify the elements that make up the controllers of industrial systems, relating their function with the elements that make up the automation processes
- Be able to configure and program a controller according to the technical requirements proposed in the process
- Work with the special characteristics of machine automation
- Be able to design an industrial production process according to the proposed technical requirements

Module 4. Mechatronic Systems Integration

- Evaluate the possibilities of integrated manufacturing that exist today
- Analyze the different types of communication networks available and assess which type of communication network is the most suitable in given scenarios
- Examine human-machine interface systems that allow centralized control and monitoring of processes, verifying their operation
- Fundamentals of new manufacturing technologies based on Industry 4.0
- Integrate the different control equipment involved in mechatronic systems

You will delve deeper into SCADA packages and their functionalities with this comprehensive syllabus"

03

Course Management

The teaching staff of this Postgraduate Diploma has extensive experience in the integration of the latest mechatronic technologies in production processes. Throughout their professional careers, this team of specialists has continuously innovated, implementing the most cutting-edge 4.0 solutions in different industries. The knowledge and skills accumulated during their years of career have been reflected in this syllabus. Likewise, this faculty has meticulously elaborated and selected the complementary materials of the university program.

The professors of this program are well versed in the integration of Mechatronic Systems in Industry 4.0"

International Guest Director

With an extensive background in the Technology industry, Hassan Showkot is a renowned **Computer Engineer** highly specialized in the implementation of advanced **robotic solutions** in a variety of fields. He also stands out for his **strategic vision** to manage multidisciplinary work teams and lead projects oriented to the specific needs of clients.

In this way, he has worked in international reference companies such as **Huawei** or **Omron Robotics and Safety Technologies.** Among his main achievements, he has created **innovative techniques** to improve both the reliability and safety of robotic systems. In turn, this has enabled many companies to improve their operational processes and automate complex routine tasks ranging from **inventory management to component manufacturing**. As a result, institutions have managed to reduce human errors in their work chains and significantly increase their **productivity** .

In addition, it has led the **Digital Transformation** of numerous entities that needed to increase their competitiveness in the market and ensure their long-term sustainability in the market. Consequently, it has integrated emerging technological tools such as **Artificial Intelligence, Machine Learning, Big Data, Internet of Things or Blockchain**. Thanks to this, organizations have used **predictive analytics** systems to anticipate both trends and needs, something fundamental to adapt to a constantly changing business environment. This has also contributed to optimize **informed strategic decision** making, based on large volumes of data and even patterns.

In addition, its ability to manage initiatives with interdisciplinary groups has been essential to boost collaboration between different corporate departments. As a result, he has fostered an **institutional culture** based on **innovation**, excellence and continuous improvement. Undoubtedly, this has given businesses a substantial competitive advantage.

Mr. Hassan, Showkot

- Director of Omron Robotics and Safety Technologies in Illinois, United States
- Program Manager at Seminet, San Jose, San Jose
- Systems Analyst at Corporación Miriam INC, Lima
- Software Engineer at Huawei, Shenzhen
- M.S. in Engineering Technology at Purdue University
- Master in Business Administration with specialization in Project Management from the
- Bachelor's Degree in Computer Science and Engineering from Shahjalal University of Science and Technology

Thanks to TECH, you will be able to learn with the best professionals in the world"

Management

Dr. López Campos, José Ángel

- Specialist in design and numerical simulation of mechanical systems
- Calculation engineer at ITERA TÉCNICA S.L
- PhD in Industrial in Engineering from the University of Vigo
- Professional Master's Degree in Automotive Engineering from the University of Vigo
- Professional Master's Degree in Competition Vehicle Engineering, Antonio de Nebrija University
- University Specialist FEM by the Polytechnic University of Madrid
- Degree in Mechanical Engineering from the University of Vigo

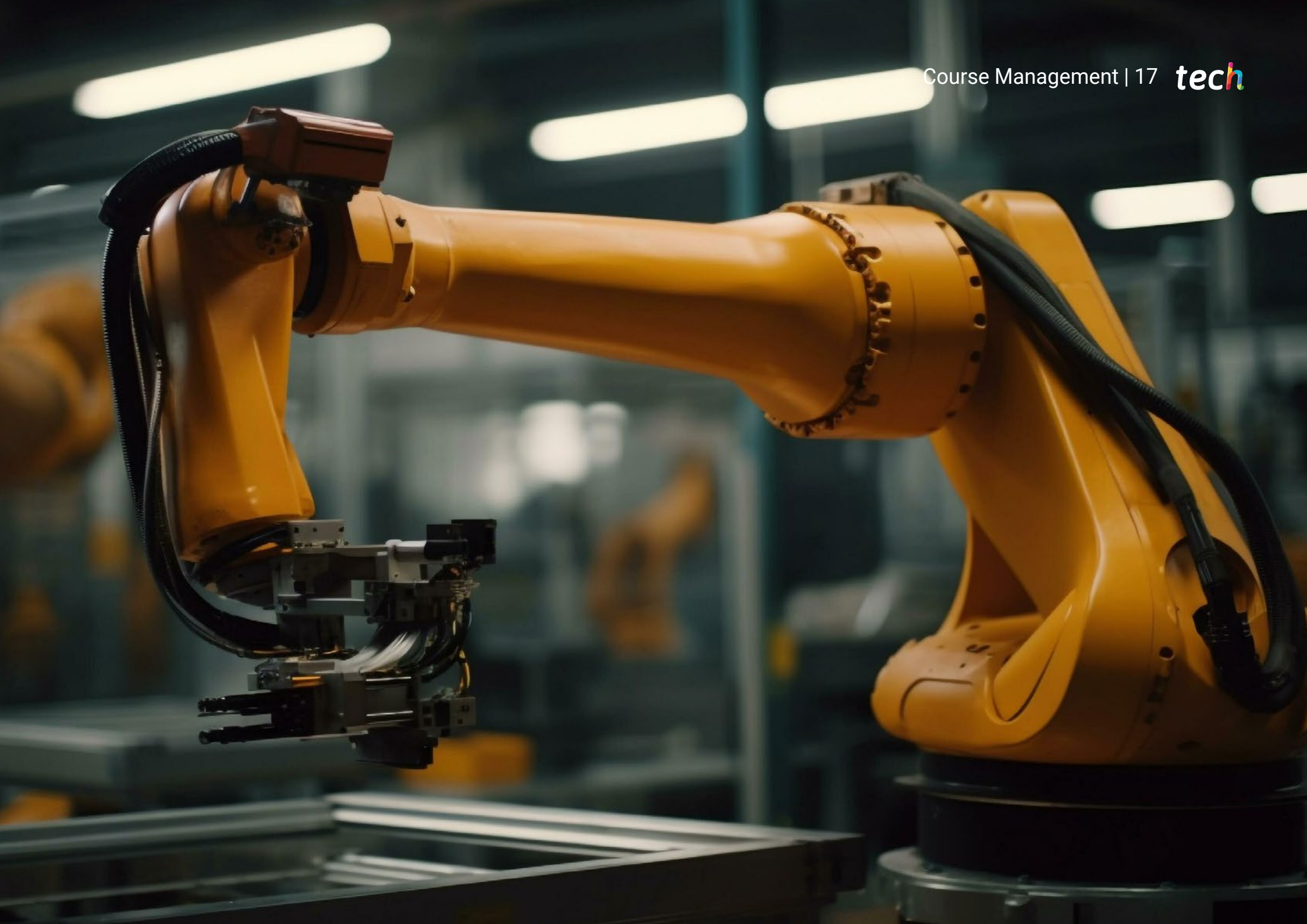
Professors

Mr. Bretón Rodríguez, Javier

- Industrial Engineering Specialist
- Industrial Technical Engineer at FLUNCK S.A
- Industrial Technical Engineer at the Ministry of Education and Science of the Government of Spain
- University teacher in the area of Systems and Automatic Engineering at the University of La Rioja
- Industrial Technical Engineer at the University of Zaragoza
- Industrial Engineer, University of La Rioja
- Postgraduate Certificate of Advanced Studies and Research Sufficiency in the Electronics Branch

Ms. Suárez García, Sofía

- Researcher and specialist in Industrial Engineering
- Mechanical engineer in preparation and calculation of models by the Finite Element Method at the University of Vigo
- University teaching assistant in several undergraduate courses
- Professional Master's Degree in in Industrial Engineering at the University of Vigo
- Degree in Mechanical Engineering from the University of Vigo



04

Structure and Content

This TECH Global University program has a disruptive syllabus that delves into the different particularities of mechatronic machines and systems. To delve into their operation, the syllabus describes the main sensors and actuators, among other control components. At the same time, it addresses the main industrial communication networks, automation and its practical applications. At the same time, these contents are available in a state-of-the-art Virtual Campus with theoretical contents, complementary readings, explanatory videos and various multimedia resources.

A syllabus where you will have at your disposal the innovative Relearning system in which TECH is a pioneer"

Module 1. Mechatronics Machines and Systems

1.1. Motion Transformation Systems
- 1.1.1. Complete Circular Transformation: Reciprocating Circular
- 1.1.2. Full Circular Transformation: Continuous Rectilinear
- 1.1.3. Intermittent Motion
- 1.1.4. Straight Line Mechanisms
- 1.1.5. Stopping Mechanisms

1.2. Machines and Mechanisms: Motion Transmission
- 1.2.1. Linear Motion Transmission
- 1.2.2. Circular Motion Transmission
- 1.2.3. Transmission of Flexible Elements: Belts and Chains

1.3. Machine Stresses
- 1.3.1. Static Stresses
- 1.3.2. Failure Criteria
- 1.3.3. Fatigue in Machines

1.4. Gears
- 1.4.1. Types of Gears and Manufacturing Methods
- 1.4.2. Geometry and Kinematics
- 1.4.3. Gear Trains
- 1.4.4. Force Analysis
- 1.4.5. Gear Strength

1.5. Shafts
- 1.5.1. Stresses in Shafts
- 1.5.2. Design of Shafts and Axles
- 1.5.3. Rotodynamics

1.6. Bearings
- 1.6.1. Types of Rolling Bearings
- 1.6.2. Bearing Calculation
- 1.6.3. Selection Criteria
- 1.6.4. Mounting, Lubrication and Maintenance Techniques

1.7. Springs
- 1.7.1. Types of Springs
- 1.7.2. Helical Springs
- 1.7.3. Energy Storage by Means of Springs

1.8. Mechanical Connecting Elements
- 1.8.1. Types of Joints
- 1.8.2. Design of Non-Permanent Joints
- 1.8.3. Design of Permanent Connections

1.9. Transmissions by Means of Flexible Elements
- 1.9.1. Straps
- 1.9.2. Roller Chains
- 1.9.3. Wire Ropes
- 1.9.4. Flexible Shafts

1.10. Brakes and Clutches
- 1.10.1. Types of Brakes/clutches
- 1.10.2. Friction Materials
- 1.10.3. Calculation and Sizing of Clutches
- 1.10.4. Brake Calculation and Sizing

Module 2. Sensors and Actuators

2.1. Sensors
- 2.1.1. Sensor Selection
- 2.1.2. Sensors in Mechatronic Systems
- 2.1.3. Application Examples

2.2. Presence or Proximity Sensors
- 2.2.1. Limit Switches: Principle of Operation and Technical Characteristics
- 2.2.2. Inductive Detectors: Principle of Operation and Technical Characteristics
- 2.2.3. Capacitive Detectors: Principle of Operation and Technical Characteristics
- 2.2.4. Optical Detectors: Principle of Operation and Technical Characteristics
- 2.2.5. Ultrasonic Detectors: Principle of Operation and Technical Characteristics
- 2.2.6. Selection Criteria
- 2.2.7. Application Examples

2.3. Position Sensors
- 2.3.1. Incremental Encoders: Principle of Operation and Technical Characteristics
- 2.3.2. Absolute Encoders: Principle of Operation and Technical Characteristics
- 2.3.3. Laser Sensors: Principle of Operation and Technical Characteristics
- 2.3.4. Magnetostrictive Sensors and Linear Potentiometers
- 2.3.5. Selection Criteria
- 2.3.6. Application Examples

2.4. Temperature Sensors
- 2.4.1. Thermostats: Principle of Operation and Technical Characteristics
- 2.4.2. Resistance Thermometers: Principle of Operation and Technical Characteristics
- 2.4.3. Thermocouples: Principle of Operation and Technical Characteristics
- 2.4.4. Radiation Pyrometers: Principle of Operation and Technical Characteristics
- 2.4.5. Selection Criteria
- 2.4.6. Application Examples

2.5. Sensors for the Measurement of Physical Variables in Processes and Machines
- 2.5.1. Pressure Operating Principle
- 2.5.2. Flow rate: Operating Principle
- 2.5.3. Level: Operating Principle
- 2.5.4. Sensors for Other Physical Variables
- 2.5.5. Selection Criteria
- 2.5.6. Application Examples

2.6. Actuators
- 2.6.1. Actuator Selection
- 2.6.2. Actuators in Mechatronic Systems
- 2.6.3. Application Examples

2.7. Electric Actuators
- 2.7.1. Relays and Contactors: Principle of Operation and Technical Characteristics
- 2.7.2. Rotary Motors: Principle of Operation and Technical Characteristics
- 2.7.3. Stepper Motors: Principle of Operation and Technical Characteristics
- 2.7.4. Servomotors: Principle of Operation and Technical Characteristics
- 2.7.5. Selection Criteria
- 2.7.6. Application Examples

2.8. Pneumatic Actuators
- 2.8.1. Valves and Servovalves Principle of Operation and Technical Characteristics
- 2.8.2. Pneumatic Cylinders: Principle of Operation and Technical Characteristics
- 2.8.3. Pneumatic Motors: Principle of Operation and Technical Characteristics
- 2.8.4. Vacuum Clamping: Principle of Operation and Technical Characteristics
- 2.8.5. Selection Criteria
- 2.8.6. Application Examples

2.9. Hydraulic Actuators
- 2.9.1. Valves and Servovalves Principle of Operation and Technical Characteristics
- 2.9.2. Hydraulic Cylinders: Principle of Operation and Technical Characteristics
- 2.9.3. Hydraulic Motors: Principle of Operation and Technical Characteristics
- 2.9.4. Selection Criteria
- 2.9.5. Application Examples

2.10. Example of Application of Sensor and Actuator Selection in Machine Design
- 2.10.1. Description of the Machine to be Designed
- 2.10.2. Sensor Selection
- 2.10.3. Actuator Selection

Module 3. Axis Control, Mechatronic Systems and Automation

3.1. Automation of Production Processes
- 3.1.1. Automation of production processes
- 3.1.2. Classification of Control Systems
- 3.1.3. Technologies Used
- 3.1.4. Machine Automation and/or Process Automation

3.2. Mechatronic Systems: Elements
- 3.2.1. Mechatronic Systems
- 3.2.2. The Programmable Logic Controller as a Discrete Process Control Element
- 3.2.3. The Controller as a Control Element for Continuous Process Control
- 3.2.4. Axis and Robot Controllers as Position Control Elements

3.3. Discrete Control with Programmable Logic Controllers (PLC's)
- 3.3.1. Hardwired Logic vs. Programmed Logic
- 3.3.2. Control with PLC's
- 3.3.3. Field of Application of PLCs
- 3.3.4. Classification of PLCs
- 3.3.5. Selection Criteria
- 3.3.6. Application Examples

3.4. PLC Programming
- 3.4.1. Representation of Control Systems
- 3.4.2. Cycle of Operation
- 3.4.3. Configuration Possibilities
- 3.4.4. Variable Identification and Address Assignment
- 3.4.5. Programming Languages
- 3.4.6. Instruction Set and Programming Software
- 3.4.7. Programming Example

3.5. Methods of Describing Sequential Drives
- 3.5.1. Design of Sequential Drives
- 3.5.2. GRAFCET as a Method for Describing Sequential Drives
- 3.5.3. Types of GRAFCET
- 3.5.4. GRAFCET Elements
- 3.5.5. Standard Symbology
- 3.5.6. Application Examples

3.6. Structured GRAFCET
- 3.6.1. Structured Design and Programming of Control Systems
- 3.6.2. Modes of Operation
- 3.6.3. Security/Safety
- 3.6.4. Hierarchical GRAFCET Diagrams
- 3.6.5. Structured Design Examples

3.7. Continuous Control by Means of Controllers
- 3.7.1. Industrial Controllers
- 3.7.2. Scope of Application of the Regulators. Classification
- 3.7.3. Selection Criteria
- 3.7.4. Application Examples

3.8. Machine Automation
- 3.8.1. Machine Automation
- 3.8.2. Speed and Position Control
- 3.8.3. Safety Systems
- 3.8.4. Application Examples

3.9. Position Control by Axis Control
- 3.9.1. Position Control
- 3.9.2. Field of Application of Axis Controllers. Classification
- 3.9.3. Selection Criteria
- 3.9.4. Application Examples

3.10. Example of Application of Equipment Selection in Machine Design
- 3.10.1. Description of the Machine to be Designed
- 3.10.2. Equipment Selection
- 3.10.3. Resolved Application

Module 4. Mechatronic Systems Integration

4.1. Integrated Manufacturing Systems
- 4.1.1. Integrated Manufacturing Systems
- 4.1.2. Industrial Communications in Systems Integration
- 4.1.3. Integration of Control Equipment in the Production Processes
- 4.1.4. New Production Paradigm: Industry 4.0

4.2. Industrial Communication Networks
- 4.2.1. Industrial Communications. Evolution
- 4.2.2. Structure of Industrial Networks
- 4.2.3. Current Situation of Industrial Communications

4.3. Communication Networks at the Process Interface Level
- 4.3.1. AS-i: Elements
- 4.3.2. IO-Link: Elements
- 4.3.3. Integration of Equipment
- 4.3.4. Selection Criteria
- 4.3.5. Application Examples

4.4. Communication Networks at the Control and Regulation Level
- 4.4.1. Communication Networks at the Command and Control Level
- 4.4.2. Profibus: Elements
- 4.4.3. Canbus: Elements
- 4.4.4. Equipment Integration
- 4.4.5. Selection Criteria
- 4.4.6. Application Examples

4.5. Communication Networks at Centralized Supervisory and Command Level
- 4.5.1. Centralized Supervisory and Command Level Networks
- 4.5.2. Profinet: Elements
- 4.5.3. Ethercat: Elements
- 4.5.4. Equipment Integration
- 4.5.5. Application Examples

4.6. Process Monitoring and Control Systems
- 4.6.1. Process Monitoring and Control Systems
- 4.6.2. Human Machine Interfaces (HMIs)
- 4.6.3. Examples of Use

4.7. Operator Panels
- 4.7.1. The Operator Panel as a Human-Machine Interface
- 4.7.2. Membrane Panels
- 4.7.3. Touch Panels
- 4.7.4. Communication Possibilities of the Operator Panels
- 4.7.5. Selection Criteria
- 4.7.6. Application Examples

4.8. SCADA Packages
- 4.8.1. SCADA Packages as Man-machine Interface
- 4.8.2. Selection Criteria
- 4.8.3. Application Examples

4.9. Industry 4.0. Intelligent Manufacturing
- 4.9.1. Industry 4.0
- 4.9.2. Architecture of the New Factories
- 4.9.3. Industry 4.0 Technologies
- 4.9.4. Examples of Manufacturing based on Industry 4.0

4.10. Example of Application of Equipment Integration in an Automated Process
- 4.10.1. Description of the Process to be Automated
- 4.10.2. Selection of Control Equipment
- 4.10.3. Integration of Equipment

Through this program you will have access to the most updated contents in the mechatronics sector. Don't miss this opportunity and enroll now!"

05

Methodology

This 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 method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

At TECH, you will experience a way of learning 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 is the most widely used learning system in the best faculties in the world. 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 program, the studies 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

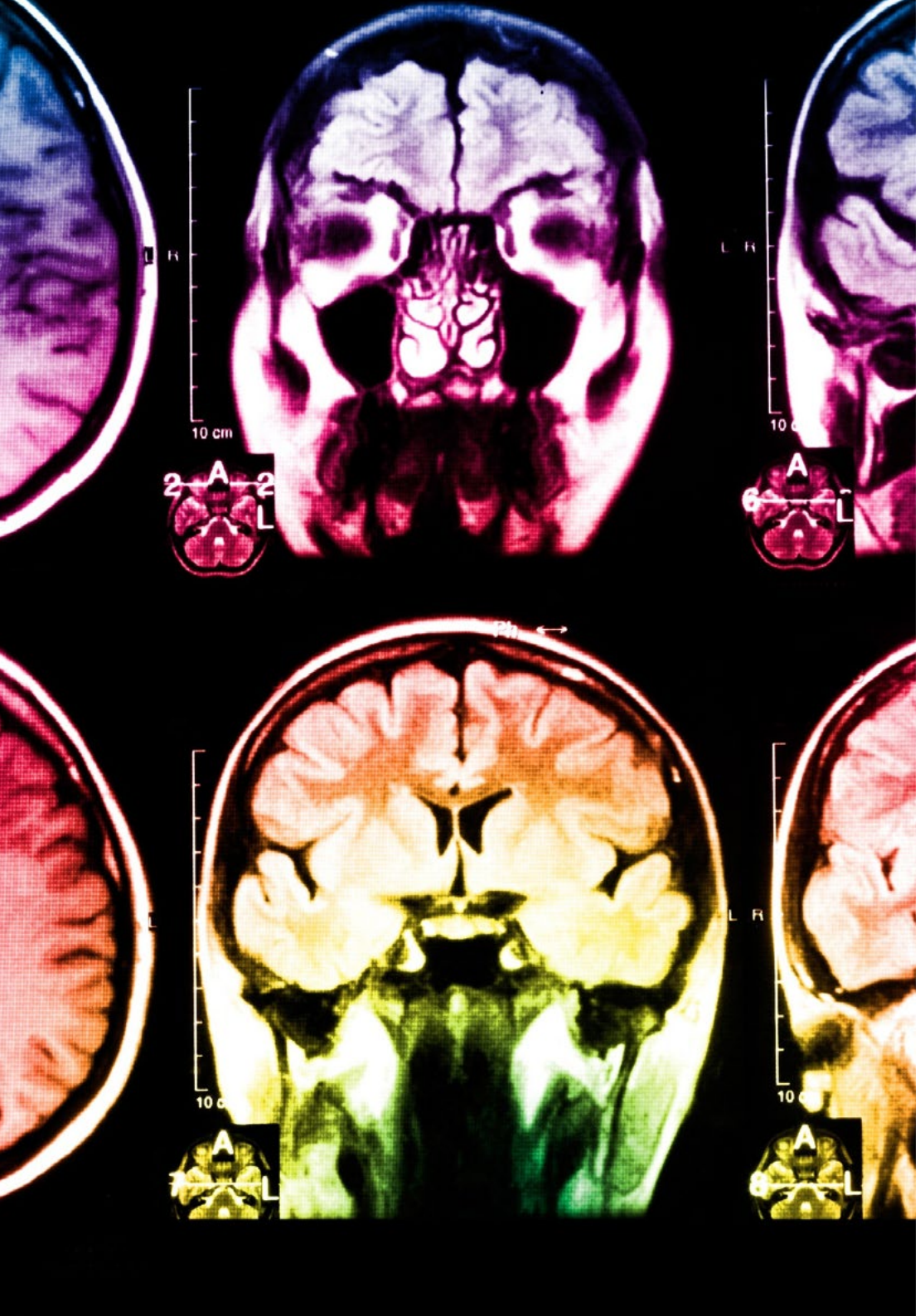
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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 prepare 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 prepared 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 education, 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 adapted in 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.

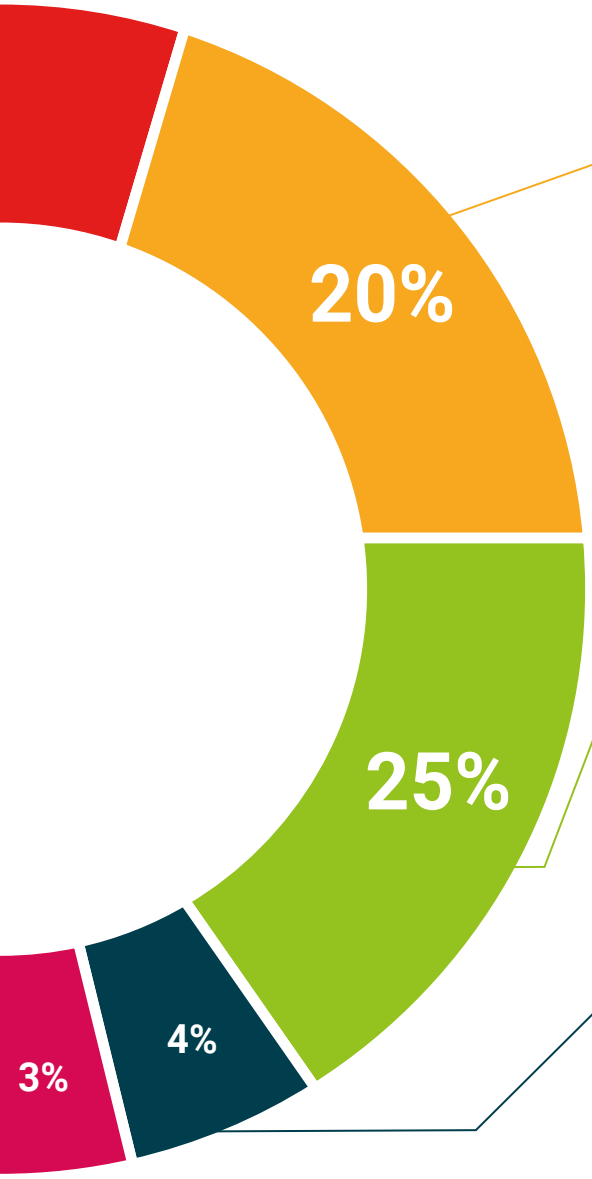
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Practicing Skills and Abilities

They will carry out activities to develop specific competencies and skills in each thematic field. 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 assess and re-assess 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 Diploma in Mechatronics Engineering guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Mechatronics Engineering** 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.

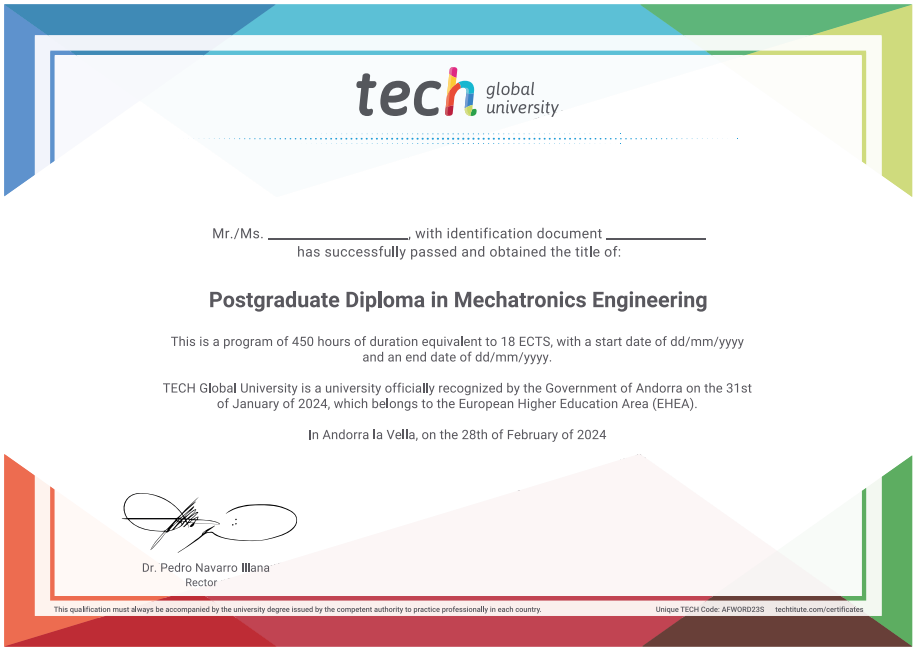
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Mechatronics Engineering**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**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Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Diploma in Mechatronics Engineering

This is a program of 450 hours of duration equivalent to 18 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

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 diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Diploma
Mechatronics Engineering

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Global University**
- Credits: **18 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Postgraduate Diploma
Mechatronics Engineering

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