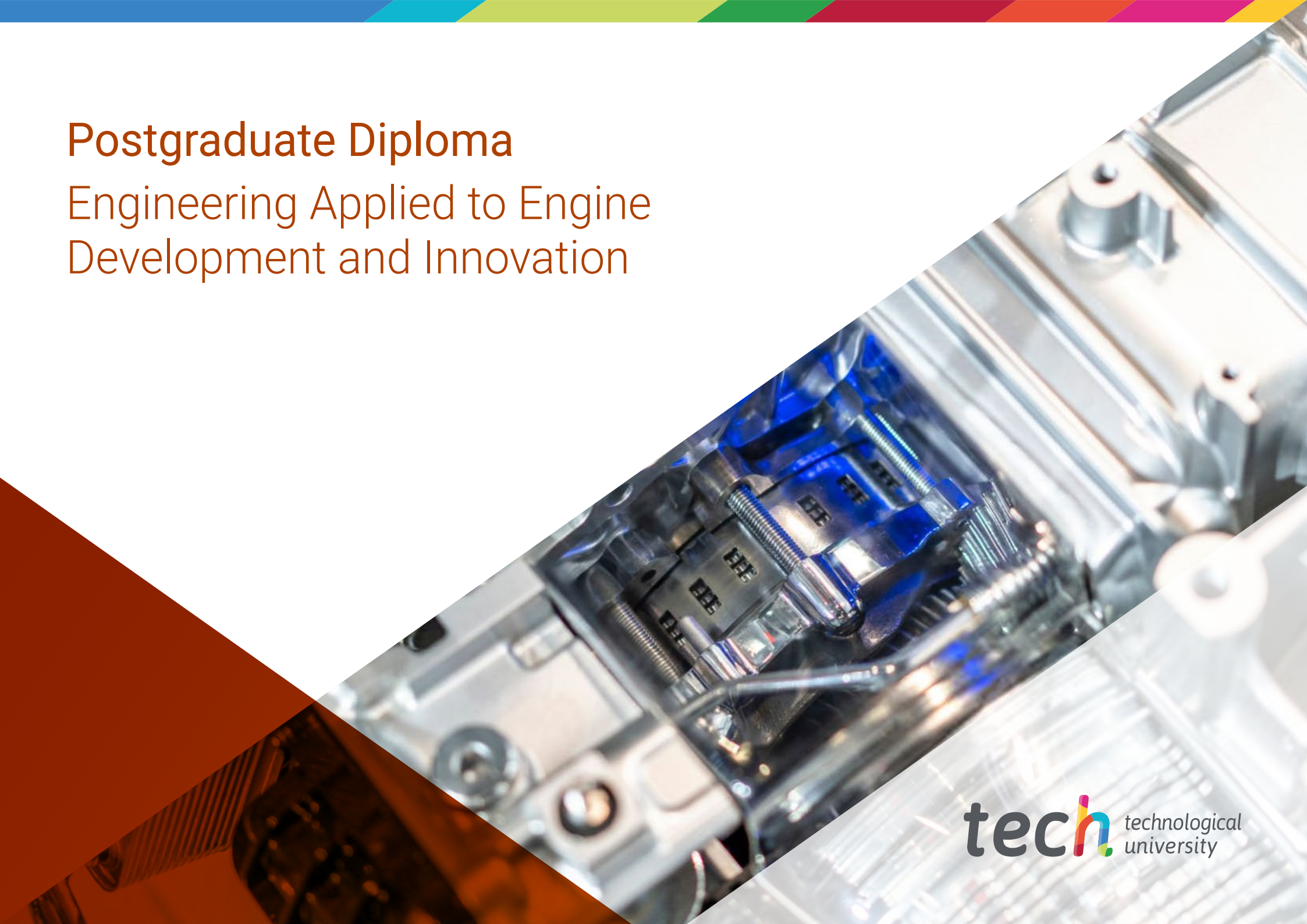
Postgraduate Diploma

Engineering Applied to Engine Development and Innovation



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Postgraduate Diploma
Engineering Applied to Engine Development and Innovation

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

Website: **www.techtitute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-engineering-applied-engine-development-innovation**

Index

01

Introduction

Preventing Alternative Internal Combustion Engine failures in advance requires an intensive preventive maintenance plan. The implementation of these improvement processes requires up-to-date skills on the part of engineers. In this way, they will be able to implement electronic adjustments that optimize machine performance, economize fuel consumption or help reduce environmental pollution. This study program is available to professionals in the sector to update their knowledge and skills. A 100% online program without several rigid and restrictive evaluation schedules that delves into the main mechanisms to control vibrations, noises and engine balancing and establishes the systems for early diagnosis of different types of failures.

A Postgraduate Diploma 100% online that will allow you to implement maintenance and repairs to AICE with efficiency and low environmental impact"

The indiscriminate use of fuel is one of the problems that has historically affected the image of Internal Combustion Engines. For this reason, the search for alternative models has been prioritized in recent times, giving rise to important electronic innovations that allow greater energy efficiency, reduce polluting emissions and enhance the durability of the machinery. With constant technological advances in the industry, understanding and mastering these topics is essential to maintain and improve engine performance, reduce operating costs, comply with regulations and ensure quality operations.

Faced with this scenario, TECH offers a 6-month program where professionals will broaden their competencies in a comprehensive manner. The Postgraduate Diploma consists of 3 educational modules and, in each one of them, the students will have within their reach the keys related to the efficiency, reliability, and safety of the Alternative Internal Combustion Engines.

First, the syllabus focuses on fuel injection and engine ignition systems. In addition, it addresses the main high pressure technologies, mixture formation and the instruments for the control and calibration of competent technicians. In turn, it analyzes the sources of vibration, sway and noise, while examining ways to reduce these anomalies. Finally, the syllabus addresses the most advanced types of maintenance and imaging tests for data extraction and preventing long-term damage.

These study materials will be available in an attractive virtual campus with multiple educational and multimedia resources, including explanatory videos, interactive summaries, and complementary readings. All this through the Relearning methodology that facilitates the assimilation of concepts in a fast and flexible way by means of their gradual and continuous repetition. Furthermore, this teaching process will be guided by a faculty of the highest prestige, with a very high level of experience in this sector of engineering.

This **Postgraduate Diploma in Engineering Applied to Engine Development and Innovation** contains the most complete and up-to-date program on the market. The most important features include:

- The development of practical cases presented by experts in Aeronautical Engineering
- 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 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

Enroll in this program and you will have at your disposal the best educational material through videos, infographics and interactive summaries"

You will delve into the innovative electronic injection systems that ensure precise fuel quantity input in modern engines"

You will have access to the contents of this Postgraduate Diploma 24 hours a day, 7 days a week, from the location of your choice.

You are one step away from enrolling in the world's top-rated university by its students according to the Trustpilot platform.

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 educational year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

This TECH Postgraduate Diploma guarantees engineers an in-depth analysis of the most crucial and innovative topics related to Alternative Internal Combustion Engines (AICE). All graduates of the program will have specific and high quality skills to effectively maintain, optimize and diagnose such machinery. Therefore, the curriculum is supported by intensive educational objectives that delve into operational efficiency, safety, and regulatory compliance for various industrial and transportation applications.

You will implement the different methods of data extraction and analysis needed in AICE maintenance programs”

General Objectives

- Analyze the state of the art of Alternative Internal Combustion Engines (AICE)
- Identify conventional Alternative Internal Combustion Engines, (AICEs)
- Examine the different aspects to be taken into account in the life cycle of AICEas
- Compile the fundamental principles of design, manufacture and simulation of reciprocating internal combustion engines
- Fundamentals of engine testing and validation techniques, including data interpretation and iteration between design and empirical results
- Determine the theoretical and practical aspects of engine design and manufacturing, promoting the ability to make informed decisions at each stage of the process
- Analyze the different injection and ignition methods in alternative internal combustion engines, specifying the advantages and challenges of each type of injection system in different applications
- Determine the natural vibration of internal combustion engines, modally analyzing their frequency and dynamic response, the impact on engine noise in normal and abnormal operation
- Study applicable vibration and noise reduction methods, international regulations and impact on transportation and industry
- Analyze how the latest technologies are redefining energy efficiency and reducing emissions in internal combustion vehicles
- Explore in depth Miller cycle engines, controlled compression ignition (HCCI), compression ignition (CCI) and other emerging concepts
- Analyze the technologies that enable compression ratio adjustment and their impact on efficiency and performance
- Fundamentals of integrating multiple approaches, such as the Atkinson-Miller cycle and spark controlled ignition (SCCI), to maximize efficiency under a variety of conditions
- Delve into the principles of engine data analysis
- Analyze the different alternative fuels on the market, their properties and characteristics, storage, distribution, emissions and energy balance
- Analyze the different systems and components of hybrid and electric motors
- Determine the energy control and management methods, their optimization criteria and their implementation in the transportation sector
- Fundamentals of an in-depth and up-to-date understanding of the challenges, innovations and future prospects in the field of engine research and development, with a focus on alternative internal combustion engines and their integration with advanced technologies and emerging propulsion systems

Specific Objectives

Module 1. Design, manufacture and simulation of Alternative Internal Combustion Engines (AICE)

- Develop the key concepts in the design of combustion chambers, considering the relationship between geometry and combustion efficiency
- Analyze the different materials and manufacturing processes applicable to engine components, considering factors such as resistance, temperature and durability
- Evaluate the importance of precise tolerances and adjustments in the efficient and durable operation of motors
- Use simulation software to model engine behavior under various conditions and optimize engine performance
- Determine validation tests on test benches to evaluate performance, durability and efficiency of motors
- Examine the lubrication, cooling, timing, valve, feed, ignition and exhaust systems in detail, considering their influence on overall engine performance

Module 2. Advanced alternative internal combustion engines

- Explore in depth Miller cycle engines, controlled compression ignition (HCCI), compression ignition (CCI) and other emerging concepts
- Analyze the technologies that enable compression ratio adjustment and their impact on efficiency and performance
- Fundamentals of integrating multiple approaches, such as the Atkinson-Miller cycle and spark controlled ignition (SCCI), to maximize efficiency under a variety of conditions
- Assess the future prospects of alternative internal combustion engines and their relevance in the context of the evolution towards more sustainable propulsion systems

Module 3. Research and development of new engine concepts

- Analyze the economic and commercial prospects of internal combustion and reciprocating engines, exploring how they influence research and development investment as well as business strategies
- Develop the ability to understand and design policies and strategies to promote innovation in engines, considering the role of governments and companies in this process
- Explore emerging trends and analyze the different sectors and their future prospects

You will delve into the means to reduce the vibration and noise level of AICEs over 450 intensive hours of study"

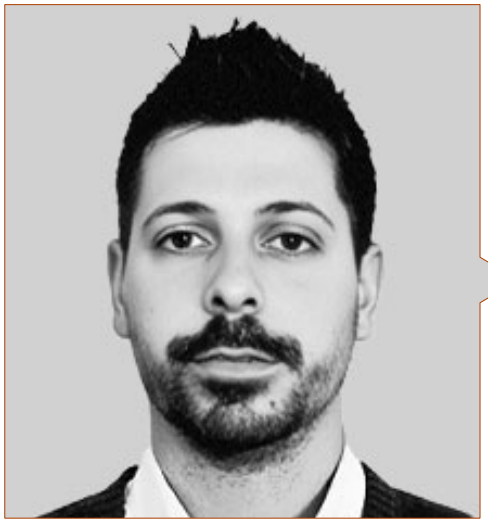
03

Course Management

The faculty of this program has the highest prestige in the complex field of Aeronautical Engineering. These experts have participated in exhaustive design and optimization projects of Alternative Internal Combustion Engines that are implemented in state-of-the-art ships. One of the concerns of the teachers in the program has been the efficiency of their machinery and the reduction of its environmental impact. These aspects are evident in their professional trajectory and have been reflected with excellence in this syllabus.

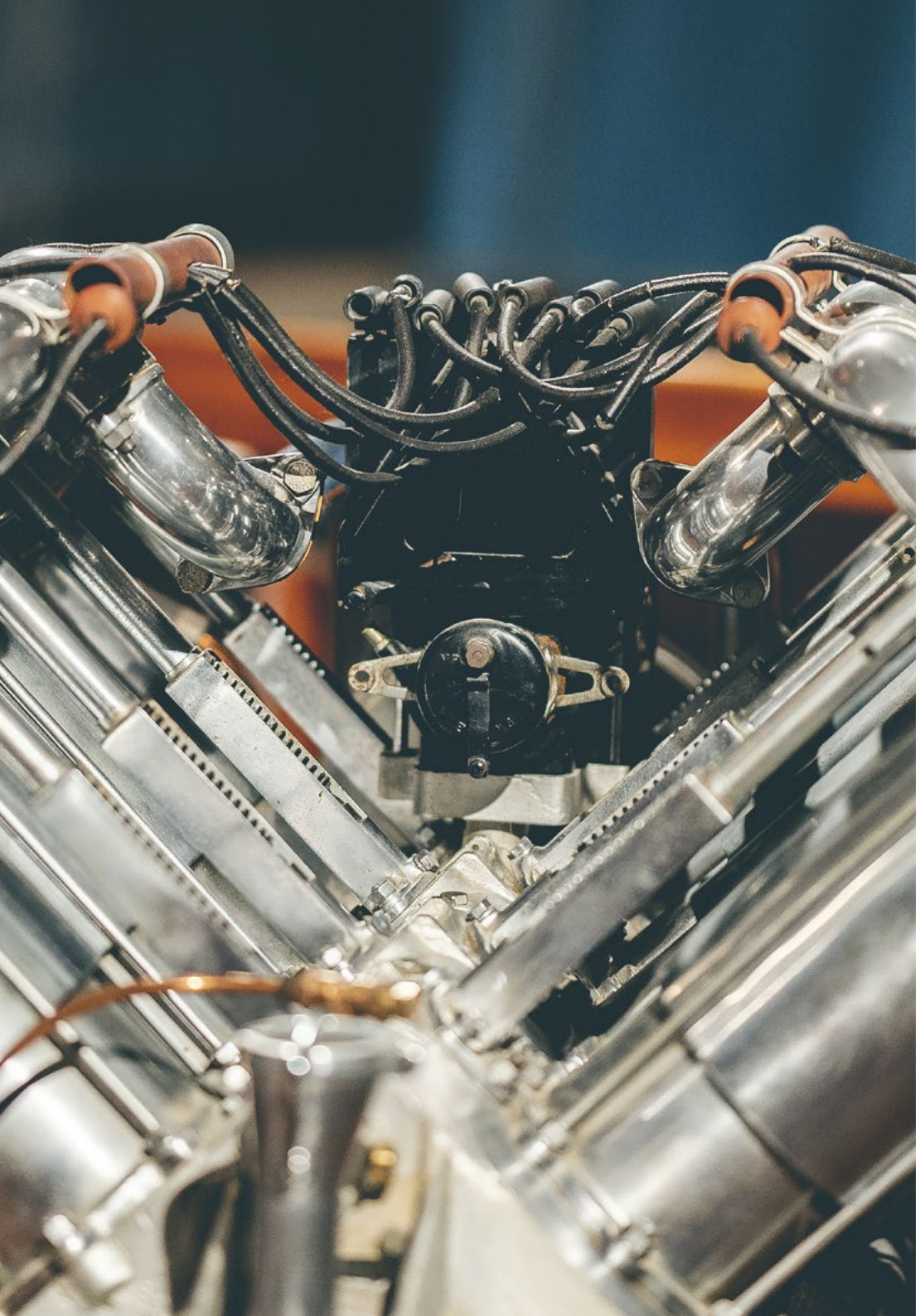
All the teachers in this faculty are fully proficient in the injection and ignition technologies that enhance the quality of AICEs"

Management



Mr. Del Pino Luengo, Isatsi

- Airbus Defence & Space CC295 FWSAR program certification and airworthiness technical manager
- Airworthiness and certification engineer for the engine section in charge of the MTR390 program at the National Institute for Aerospace Technology (NIAT)
- Airworthiness engineer and certification for the VSTOL section by the National Institute for Aerospace Technology (NIAT)
- Aeronautical design and certification engineer for the life extension project of the Spanish Navy AB212 helicopters (PEVH AB212) at Babcock MCSE
- Design and Certification Engineer in the DOA department at Babcock MCSE
- Fleet Technical Office Engineer AS 350 B3/ BELL 212/ SA 330 J.Babcock MCSE
- Qualifying Master's Degree in Aeronautical Engineering from the University of León
- Aeronautical Technical Engineer in Aeromotors, Polytechnic University of Madrid



Professors

Mr. Madrid Aguado, Víctor Manuel

- Aeronautical Engineer at CAPGEMINI
- Aeronautical Engineer at INAER Helicópteros S.A.U. Spain
- Teacher at the Official College of Aeronautical Technical Engineers
- In-house trainer at Capgemini Spain in Aircraft Certification
- Teacher at CIFP Professor Raúl Vázquez
- Graduated in Aerospace Engineering from the University of León
- Degree in Aeronautical Technical Engineering, specializing in Aircraft, University School of Aeronautical Technical Engineers, Polytechnic University of Madrid
- Part 21, Part 145 & Part M Certification at ALTRAN ASD
- Part 21 Certification at INAER S.A.U

Mr. Caballero Haro, Miguel

- Customer Success Manager for Slack/Salesforce
- Test Manager in Vodafone
- Test Manager in Apple Online Store
- SCRUM Product Owner by Scrum Alliance
- LeanSixSigma by Green belt Certificate
- Managing people efectively by Cork College of Commerce

04

Structure and Content

In this study plan, the students will delve into essential elements for the preventive maintenance and recovery of parts and components of reciprocating Internal Combustion Engines. In particular, the syllabus covers, first of all, the types of injection systems, high-pressure technologies, ignition, diagnostics, control, calibration and optimization. Next, the means of inspection and steps for monitoring these machines are discussed. These contents are taught 100% online, accompanied by multimedia resources such as explanatory videos and interactive summaries.

Do you need a methodology that allows you to assimilate complex concepts with flexibility? Achieve your goals with the unique Relearning system"

Module 1. Design, Manufacture and Simulation of Alternative Internal Combustion Engines (AICE)

1.1. Combustion Chamber Design
- 1.1.1. Combustion Chamber Types
  - 1.1.1.1. Compact, Wedge-Shaped, Hemispherical
- 1.1.2. Relationship between Chamber Shape and Combustion Efficiency
- 1.1.3. Design Strategies

1.2. Materials and Fabrication Processes
- 1.2.1. Material Selection for Critical Engine Components
- 1.2.2. Mechanical, Thermal and Chemical Properties Required for Different Parts
- 1.2.3. Manufacturing Processes
  - 1.2.3.1. Casting, Forging, Machining
- 1.2.4. Strength, Durability and Weight in the Choice of Materials

1.3. Tolerances and Adjustments
- 1.3.1. Motor Assembly and Operation Tolerances
- 1.3.2. Adjustments to Prevent Leaks, Vibrations and Premature Wear and Tear
- 1.3.3. Influence of Tolerances on Engine Efficiency and Performance
- 1.3.4. Measuring Methods and Tolerance Control during Manufacture

1.4. Simulation and Modeling of Engines
- 1.4.1. Use of Simulation Software to Analyze the Behavior of the Engine
- 1.4.2. Gas Flow, Combustion and Heat Transfer Modeling
- 1.4.3. Virtual Optimization of Design Parameters for Performance Improvement
- 1.4.4. Correlation between Simulation Results and Experimental Tests

1.5. Engine Testing and Validation
- 1.5.1. Test Design and Execution
- 1.5.2. Verification of Simulation Results
- 1.5.3. Iteration between Simulation and Testing

1.6. Test Benches
- 1.6.1. Test Benches Function and Types
- 1.6.2. Instrumentation and Measurements
- 1.6.3. Interpretation of Results and Adjustments to the Design Based on the Tests

1.7. Design and Fabrication: Lubrication and Cooling System
- 1.7.1. Functions of Lubrication and Cooling Systems
- 1.7.2. Lubrication Circuit Design and Oil Selection
- 1.7.3. Air and Liquid Cooling Systems
  - 1.7.3.1. Radiators, Pumps and Thermostats
- 1.7.4. Maintenance and Monitoring to Prevent Overheating and Wear and Tear

1.8. Design and Fabrication: Distribution Systems and Valves
- 1.8.1. Distribution Systems: Synchronization and Motor Efficiency
- 1.8.2. Types of Systems and Their Manufacture
  - 1.8.2.1. Camshaft, Variable Valve Timing, Valve Drive
- 1.8.3. Design of Cam Profiles to Optimize Valve Opening and Closing
- 1.8.4. Design to avoid Interference and Improve Cylinder Filling

1.9. Design and Fabrication: Power, Ignition and Exhaust System
- 1.9.1. Design of Fueling Systems to Optimize the Air-Fuel Mix
- 1.9.2. Function and Design of Ignition Systems for Efficient Combustion
- 1.9.3. Exhaust System Design to Improve Efficiency and Reduce Emissions

1.10. Practical Analysis of Engine Modeling
- 1.10.1. Practical Application of Design and Simulation Concepts in a Case Study
- 1.10.2. Modeling and Simulation of a Specific Engine
- 1.10.3. Evaluation of Results and Comparison with Experimental Data
- 1.10.4. Feedback to Improve Future Designs and Manufacturing Processes

Module 2. Conventional and Advanced Alternative Internal Combustion Engines

2.1. Miller Cycle Engines
- 2.1.1. Miller Cycle Efficiency
- 2.1.2. Intake Valve Opening and Closing Control for Improved Thermodynamic Efficiency
- 2.1.3. Implementation of the Miller Cycle in Internal Combustion Engines Advantages

2.2. Compression Controlled Compression Ignition (HCCI) Engines
- 2.2.1. Controlled Compression Ignition
- 2.2.2. Auto-Ignition Process of the Air-Fuel Mixture without the Need for a Spark
- 2.2.3. Efficiency and Emissions Challenges of Controlling Autoignition

2.3. Compression Ignition Engines (CIE)
- 2.3.1. Comparison between HCCI and CCI
- 2.3.2. Compression Ignition in CIE engines
- 2.3.3. Control of the Air-Fuel Mixture and Adjustment of the Compression Ratio for Optimum Performance

2.4. Atkinson Cycle Engines
- 2.4.1. Atkinson Cycle and Its Variable Compression Ratio
- 2.4.2. Power vs Efficiency
- 2.4.3. Hybrid Vehicle Applications and Part-Load Efficiency

2.5. Pulsed Combustion Engines (PCE)
- 2.5.1. PCE Motors Operation
- 2.5.2. Use of Precise, Time-Controlled Fuel Injections to Achieve Ignition
- 2.5.3. Efficiency and Emissions Control Challenges

2.6. Spark Ignition Engines (SIE)
- 2.6.1. Compression Ignition and Spark Ignition Combination
- 2.6.2. Dual Ignition Control
- 2.6.3. Efficiency and Emissions Reduction

2.7. Atkinson-Miller Cycle Engines
- 2.7.1. Atkinson and Miller Cycle
- 2.7.2. Optimization of Valve Opening to Improve Efficiency at Different Load Conditions
- 2.7.3. Examples of Applications in Terms of Efficiency

2.8. Variable Compression Engines
- 2.8.1. Engines with Variable Compression Ratios
- 2.8.2. Technologies for Real-Time Compression Ratio Adjustment
- 2.8.3. Impact on Engine Efficiency and Performance

2.9. Advanced Internal Combustion Engines (AICE)
- 2.9.1. Compound Duty Cycle Engines
  - 2.9.1.1. HLSI, Combined Oxidation Engines, LTC
- 2.9.2. Technologies Applied to Advanced AICEs
- 2.9.3. Advanced AICE applicability
- 2.9.4. Less Conventional Alternative Engine Technologies
- 2.9.5. Examples of Experimental or Emerging Engines
- 2.9.6. Research Lines

2.10. Alternative Internal Combustion Engine Innovation and Development

Module 3. Research and development of new engine concepts

3.1. Evolution of Global Environmental Norms and Regulations
- 3.1.1. Impact of International Environmental Regulations on the Engine Industry
- 3.1.2. International Emission and Energy Efficiency Standards
- 3.1.3. Regulation and Compliance

3.2. Research and Development in Advanced Engine Technologies
- 3.2.1. Innovations in Engine Design and Technology
- 3.2.2. Advances in Materials, Geometry and Manufacturing Processes
- 3.2.3. Balance between Performance, Efficiency and Durability

3.3. Integration of Internal Combustion Engines in Propulsion and Electric Systems
- 3.3.1. Integration of Internal Combustion Engines with Hybrid and Electric Systems
- 3.3.2. Role of Engines in Bbattery Charging and Range Extension
- 3.3.3. Control Strategies and Energy Management in Hybrid Systems

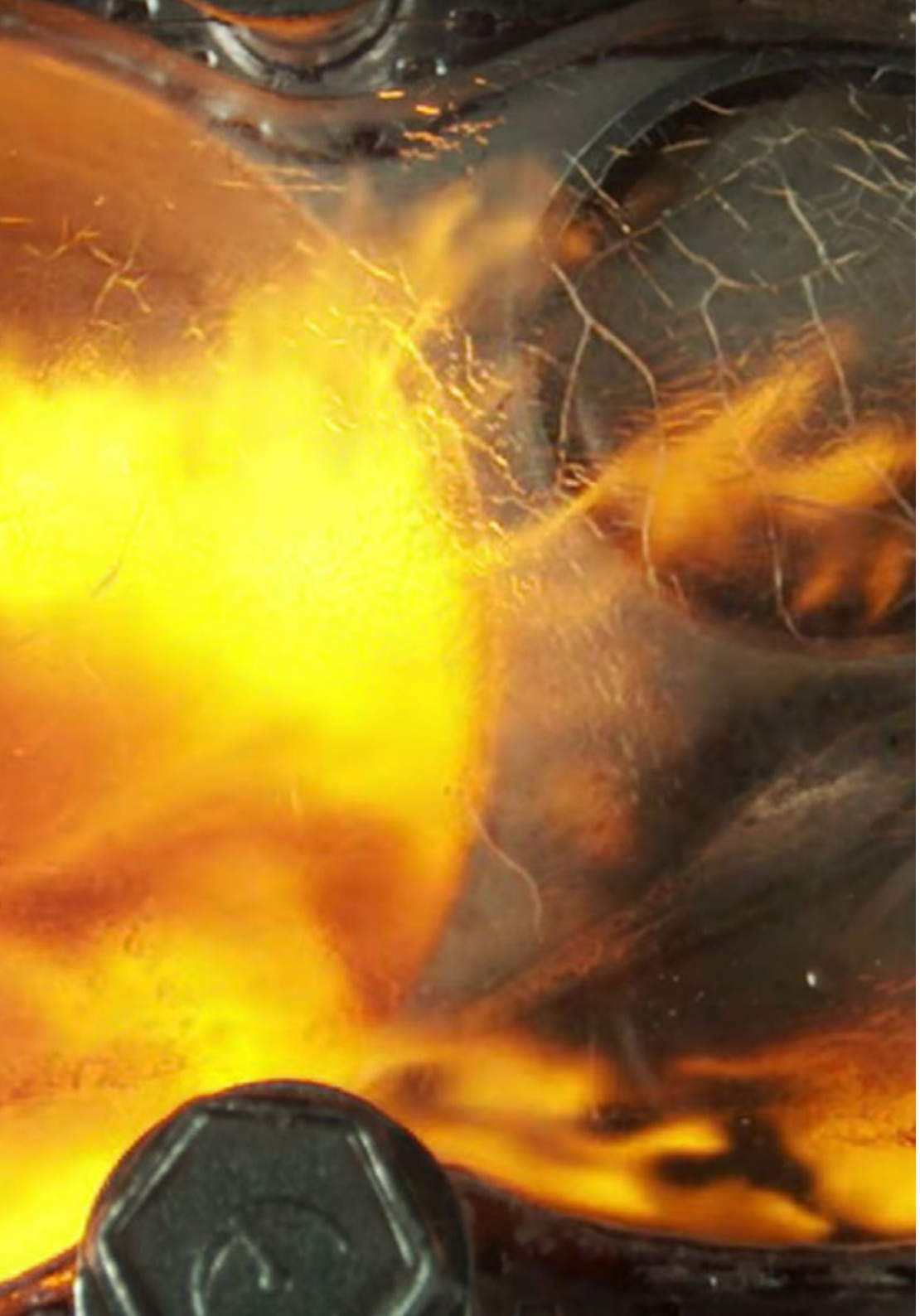
3.4. Transition to Electric Mobility and Other Propulsion Systems
- 3.4.1. Shift from Traditional Propulsion to Electric and Other Alternatives
- 3.4.2. The Different Propulsion Systems
- 3.4.3. Infrastructure Needed for Electric Mobility

3.5. Economic and Commercial Prospects for Internal Combustion Engines
- 3.5.1. Current and Future Economic Scenario for Internal Combustion Engines
- 3.5.2. Market Demand and Consumption Trends
- 3.5.3. Evaluation of the Impact of the Economic Perspective on I+D Investment

3.6. Development of Policies and Strategies to Promote Innovation in Engines
- 3.6.1. Promotion of Innovation in Engines
- 3.6.2. Incentives, Financing and Collaborations in the Development of New Technologies
- 3.6.3. Success Stories in the Implementation of Innovation Policies

3.7. Sustainability and Environmental Aspects of Engine Design
- 3.7.1. Sustainability in Engine Design
- 3.7.2. Approaches to Reduce Emissions and Minimize Environmental Impact
- 3.7.3. Eco-Efficiency in Terms of the Life Cycle of Engines

3.8. Engine Management Systems
- 3.8.1. Emerging Trends in Motor Control and Management
- 3.8.2. Artificial Intelligence, Machine Learning and Real-Time Optimization
- 3.8.3. Analysis of the Impact of Advanced Systems on Performance and Efficiency



3.9. Internal Combustion Engines in Industrial and Stationary Applications
- 3.9.1. Role of Combustion Engines in Industrial and Stationary Applications
- 3.9.2. Use Cases in Power Generation, Industry and Freight Transportation
- 3.9.3. Analysis of the Efficiency and Adaptability of Motors in Industrial and Stationary Applications

3.10. Research in Motor Technologies for Specific Sectors: Maritime, Aerospace
- 3.10.1. Research and Development of Engines for Specific Industries
- 3.10.2. Technical and Operational Challenges in Sectors such as Marine and Aerospace
- 3.10.3. Analysis of the Impact of the Demands of These Sectors in Driving Innovation in Engines

TECH is the best digital university in the world according to Forbes magazine. Don't miss the opportunity to be part of their academic community"

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 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

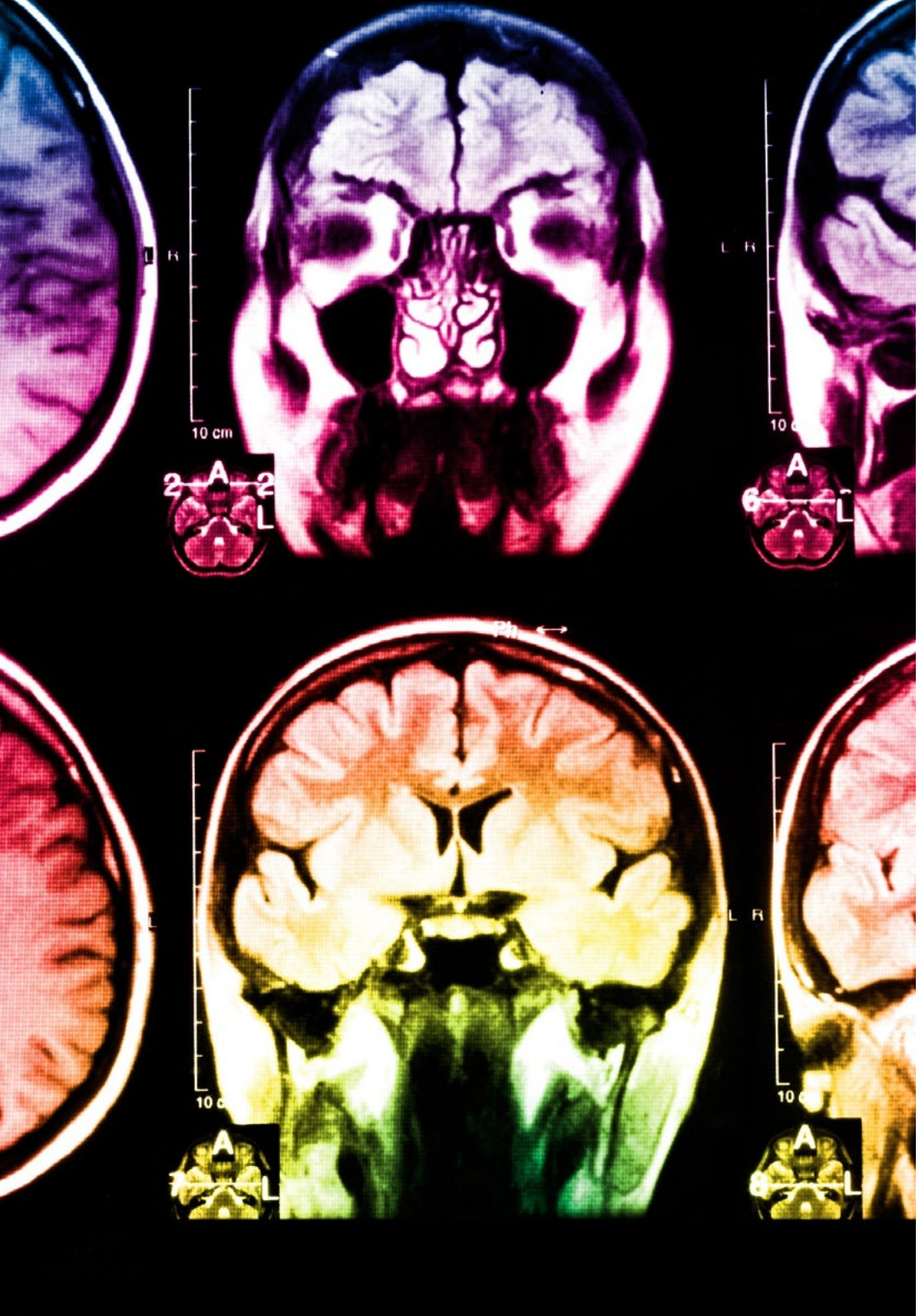
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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 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.

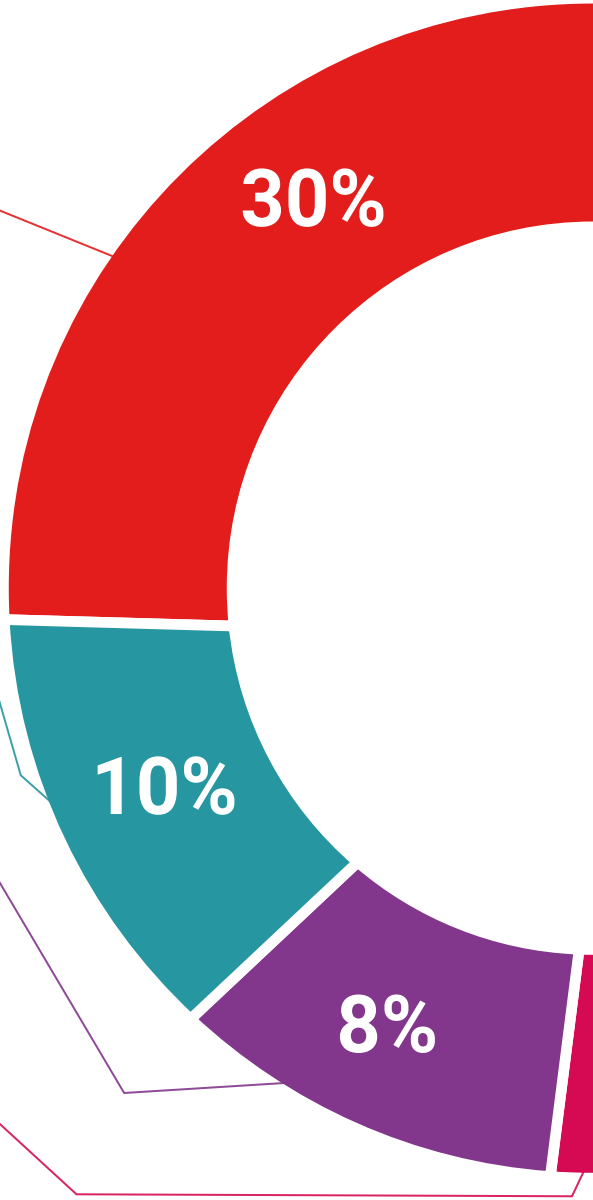
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

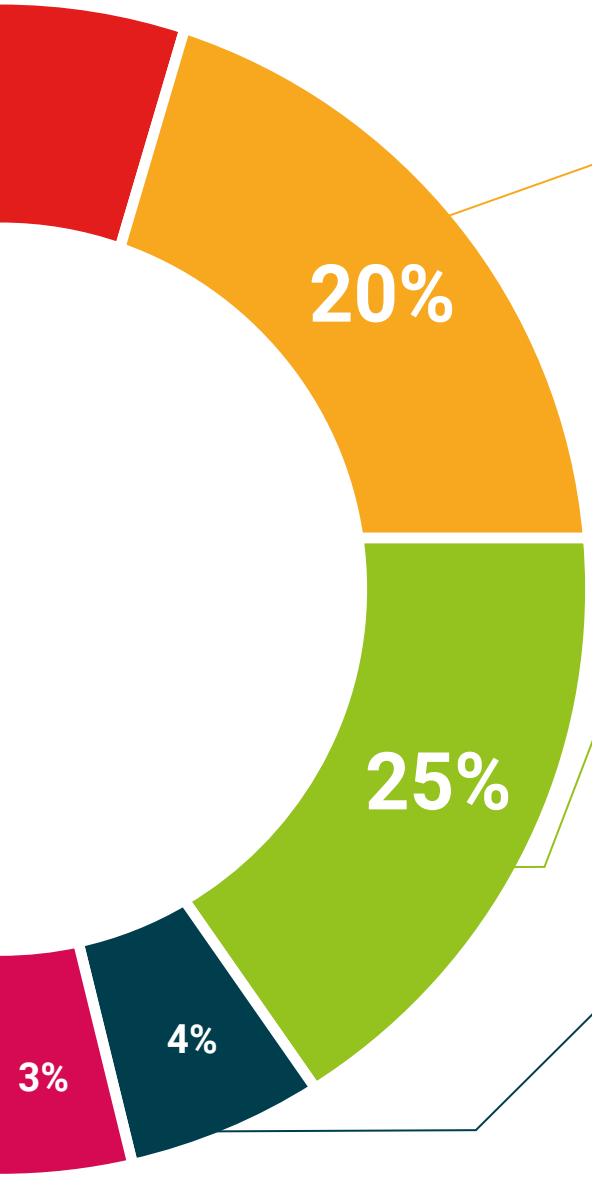
Practising Skills and Abilities

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.

06

Certificate

The Postgraduate Diploma in Engineering Applied to Engine Development and Innovation guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Engineering Applied to Engine Development and Innovation** 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 Diploma** issued by **TECH Technological University** via tracked delivery*.

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

Title: **Postgraduate Diploma in Engineering Applied to Engine Development and Innovation**

Official Nº of Hours: **450 h.**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Engineering Applied to Engine Development and Innovation

This is a qualification awarded by this University, equivalent to 500 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 diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Postgraduate Diploma

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Postgraduate Diploma

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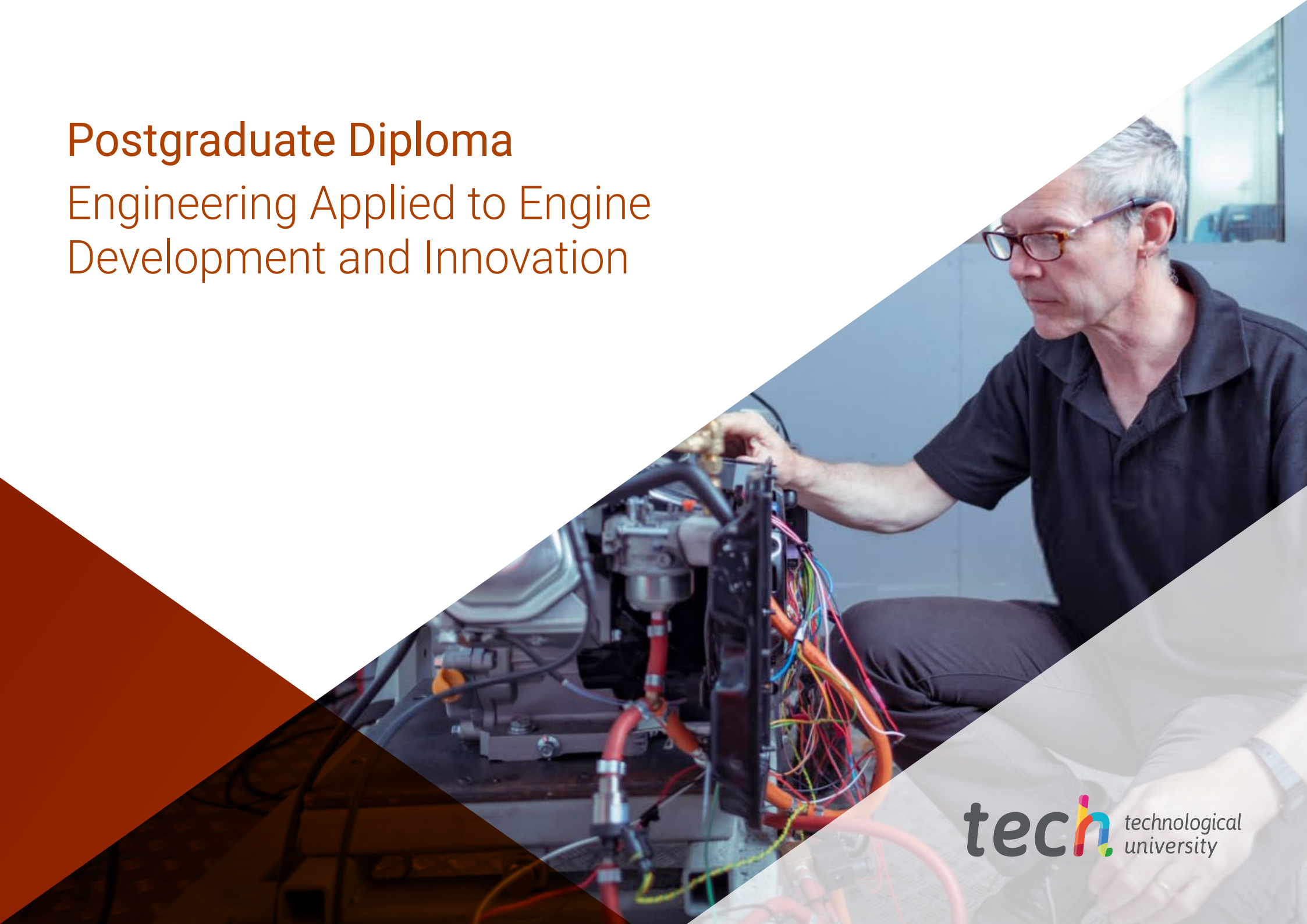

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