

# Postgraduate Diploma Wind Energy





## Postgraduate Diploma Wind Energy

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

Website: [www.techtute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-wind-energy](http://www.techtute.com/us/engineering/postgraduate-diploma/postgraduate-diploma-wind-energy)

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# 01

# Introduction

Renewable Energies are undoubtedly on the rise and this market increasingly requires specialized professionals who know how to manage them and choose those that are best in each case. Aware of this, TECH professionals have designed this very complete program whose main objective is to provide engineers with the knowledge and trends in the latest technologies available in the field of Wind Energy. Likewise, this program will go in depth to make the student understand the way in which wind energy is converted into electrical energy and transported to the electrical grid. This knowledge will enable the engineer to take part in projects of high importance, thus enhancing his professional profile.





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*Wind energy is on the rise and increasingly requires educated professionals who can enhance its use and achieve more efficient results”*

The renewable energy sector is in full international expansion and is increasingly demanding engineers specialized in this field. Therefore, the best professionals in the sector have designed this complete program that aims to prepare professionals with high knowledge in everything that encompasses the renewable energy sector, specifically in wind energy, to increase their working position in today's energy market.

Specifically, this program will help the engineer to understand the process in which the kinetic energy of the air is captured by means of wind turbines, until it is converted into rotational kinetic energy and transformed into electrical energy through the use of generators. During the program, the fundamentals of wind energy extraction and wind behavior (fluid dynamics) will be defined, as well as the maintenance, operation and components of wind turbines (commonly called turbines). Finally, the two types of wind energy; onshore wind energy and offshore wind energy, as well as the advantages and disadvantages of each type will be studied.

On the other hand, the curriculum of this program is based on making the student understand how wind energy is converted into energy and transported to the power grid. To this end, the specialization will focus on; defining the behavior, characteristics and potential of wind, identifying the principle of operation, the different components of wind turbines and differentiating between on-shore and off-shore wind energy.

In addition, we will study in depth its environmental impact and how to mitigate it through a good project design that allows obtaining an optimal performance with a low impact.

For all these reasons, this Wind Energy program integrates the most complete and innovative educational program in the current market in terms of knowledge and latest available technologies, as well as encompassing all the sectors or parties involved in this field. In addition, the program consists of exercises based on real cases of situations currently managed or previously faced by the teaching team.

This **Postgraduate Diploma in Wind Energy** contains the most complete and up-to-date educational program on the market. The most important features of the specialization are:

- ◆ Practical case studies presented by experts
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ 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



*Improving your skills in Wind Energy will give you a boost to your professional career, with greater intervention capacity and better results"*

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*Learn about and apply the latest advances in Wind Energy in your daily practice and give your resume a valuable boost”*

The program’s teaching staff includes professionals from sector who contribute their work experience to this training 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 training that is programmed to train students 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 professional will be assisted by an innovative interactive video system created by renowned and experienced engineering experts.

*You will have innovative didactic materials and resources that will facilitate the learning process and the retention of the contents learned for a longer period of time.*

*A 100% online program that will allow you to combine your studies with the rest of your daily activities.*



# 02

# Objectives

TECH has designed this comprehensive Postgraduate Diploma with the aim of preparing engineering professionals to be able to design, implement and work on Wind Energy projects, knowing in depth everything related to this industry and the aspects of sustainability and climate change in the international arena that directly affect it. To this end, specific aspects of energy systems will be addressed, which are of enormous importance in today's business landscape, and for which large corporations are increasingly demanding competent engineers with a solid specialized education.







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*With this program, TECH has only one goal:  
to help you grow in your profession and  
become a renowned engineer”*



## General Objectives

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- ◆ Conduct an exhaustive analysis of current legislation and the energy system, from electricity generation to the consumption phase, as well as the fundamental production factor in the economic system and the functioning of the different energy markets
- ◆ Identify the different phases required for the feasibility and implementation of a Renewable Energy project and its commissioning
- ◆ Analyze in depth the different technologies and manufacturers available to create renewable energy exploitation systems, and distinguish and critically select those qualities based on costs and their actual application
- ◆ Identify the operation and maintenance tasks required for the correct operation of Renewable Energy installations
- ◆ Size facilities for the application of all energy sources of lesser implementation such as mini-hydro, geothermal, tidal and clean vectors
- ◆ Manage and analyze relevant bibliography on a topic related to one or some of the fields of Renewable Energies, published both nationally and internationally
- ◆ Adequately interpret society's expectations on the environment and climate change, and engage in technical discussions and critical opinions on energy aspects of sustainable development, as skills that Renewable Energy professionals should have
- ◆ Integrate knowledge and face the complexity of formulating reasoned judgments in the field applicable to a company in the Renewable Energy sector
- ◆ Master the different existing solutions or methodologies for the same problem or phenomenon related to Renewable Energies and develop a critical spirit knowing the practical limitations





## Specific Objectives

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### Module 1. Renewable Energies and Their Current Environment

- ◆ Explore in depth the world energy and environmental situation, as well as that of other countries
- ◆ Gain detailed knowledge of the current energy and electricity context from different perspectives: structure of the electricity system, operation of the electricity market, regulatory environment, analysis and evolution of the electricity generation system in the short and medium and long term
- ◆ Master the technical-economic criteria of generation systems based on the use of conventional energy: nuclear energy, large hydro, conventional thermal, combined cycle and the current regulatory environment of both conventional and renewable generation systems and their dynamics of evolution
- ◆ Apply the knowledge acquired to the understanding, conceptualization and modeling of systems and processes in the field of energy technology, particularly in the field of renewable energy sources
- ◆ Effectively pose and solve practical problems, identifying and defining the significant elements that constitute them
- ◆ Critically analyze data and reach conclusions in the field of energy technology
- ◆ Use the acquired knowledge to conceptualize models, systems and processes in the field of energy technology
- ◆ Analyze the potential of Renewable Energies and energy efficiency from multiple perspectives: technical, regulatory, economic and market
- ◆ Carry out operations in the Spanish electricity system market
- ◆ Gain the ability to search for information on public websites related to the electricity system and to elaborate this information

### Module 2. Wind Energy Systems

- ♦ Assess the advantages and disadvantages of replacing fossil fuels with Renewable Energies in different situations
- ♦ Gain in-depth knowledge to implement wind energy systems and the most appropriate types of technology to be used according, to location and economic requirements
- ♦ Obtain a scientific-technical vocabulary of Renewable Energies
- ♦ Ability to develop hypotheses to address problems in the field of renewable energies, and the ability to evaluate results in an objective and coherent manner
- ♦ Understand and master the fundamental concepts of wind types and the implementation of wind measurement systems
- ♦ Understand and master the fundamental concepts of the general laws governing the capture of wind energy and wind turbine technologies
- ♦ Develop wind power plant projects

### Module 3. Development, Financing and Feasibility of Renewable Energy Projects

- ♦ Gain in-depth knowledge and analyze the technical documentation of Renewable Energy projects required for their feasibility, financing and processing
- ♦ Manage technical documentation up to the "Ready to Build" stage
- ♦ Establish types of financing
- ♦ Understand and carry out an economic and financial study of a renewable energy project
- ♦ Use all the tools for project management and planning

- ♦ Master the part of insurance involved in the financing and viability of Renewable Energy projects, both in their construction and operation phases
- ♦ Delve into the processes of valuation and appraisal of claims in Renewable Energy assets

### Module 4. Digital Transformation and Industry 4.0 Applied to Renewable Energy Systems

- ♦ Optimize processes, both in production and in Operations and Maintenance
- ♦ Learn in detail about the capabilities of digital industrialization and automation in Renewable Energy installations
- ♦ Gain in-depth knowledge and analyze the different alternatives and technologies offered by digital transformation
- ♦ Implement and test IoT (IoT) systems
- ♦ Use tools such as Big Data to improve processes and/or energy facilities
- ♦ Gain in-depth knowledge of the scope of drones and autonomous vehicles in preventive maintenance
- ♦ Learning new ways to commercialize energy *Blockchain and Smart Contracts*



# 03

# Course Management

TECH applies a criterion based on high quality in all its Postgraduate Diplomas. This guarantees students that by studying here they will find the best didactic content taught by the best professionals in the sector. In this sense, this Postgraduate Diploma in Wind Energy has highly prestigious professionals in this area, who pour into the training the experience of their years of work, as well as the knowledge acquired from research in the field. All to provide the engineer with a high-level program, which will enable them to practice in national and international environments with greater guarantees of success.





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*Learn with the best and acquire the knowledge and skills you need to intervene in this area of development with total success”*

## Guest Director



### Mr. De la Cruz Torres, José

- ♦ Degree in Physics and Industrial Electronics Engineering, University of Seville
- ♦ Master's Degree in Operations Management by EADA Business School Barcelona
- ♦ Master's Degree in Industrial Maintenance Engineering, University of Huelva, Spain
- ♦ Railway Engineering, UNED
- ♦ South head of the appraisal, assessment and valuation of technologies and processes of Renewable Energy generation facilities at RTS International Loss Adjusters

## Co-director



### Lillo Moreno, Javier

- ♦ Telecommunications Engineer, University of Seville
- ♦ Master's Degree in Project Management and Master's Degree in Big Data & Business Analytics, School of Industrial Organization (EOI)
- ♦ With an extensive professional career in the Renewable Energy sector of more than 15 years
- ♦ Has managed the O&M areas of several companies with high visibility in the sector



## Professors

### Mr. Silvan Zafra, Álvaro

- ♦ Energy Engineer, University of Seville
- ♦ Master in Thermal Energy Systems and Business Administration
- ♦ Senior Consultant focused on the execution of international E2E projects in the energy sector
- ♦ Responsible for the market management of more than 15 GW of installed capacity for clients such as Endesa, Naturgy, Iberdrola, Acciona and Engie

### Dr. Gutiérrez, María Delia

- ♦ Vice President of Operations at the Tecnológico de Monterrey
- ♦ Master's Degree in Environmental Systems at Tecnológico de Monterrey
- ♦ PhD in Engineering Science with a specialization in Energy and Environment from Dartmouth College.
- ♦ Professor of Climate Change and Energy Use and Ecological Processes for Human Development at Tec de Monterrey.

### Mr. Serrano, Ricardo

- ♦ Director of Andalusia, Willis Towers Watson
- ♦ Law Degree from the University of Seville
- ♦ Participation in the design and placement of insurance programs for renewable energy companies and other industrial activities.

### Mr. Martín Grande, Ángel

- ♦ Director in Chile at Reverb
- ♦ Industrial Engineer from the University of Seville
- ♦ Master's Degree in Occupational Risk Prevention.

- ♦ MBA in Technical Management in Renewable Energies and Thermal Plants
- ♦ Operations management of more than 4 GW of solar and wind power plants in Spain, Europe, United Arab Emirates, United States, Peru, Chile, Uruguay and Argentina.

### Montoto Rojo, Antonio

- ♦ Electronics Engineer from the University of Seville
- ♦ MBA Master's Degree Camilo José Cela University
- ♦ Account Manager for storage systems at Gamesa Electric

### Pérez García, Fernando

- ♦ Industrial Technical Engineer, specializing in Electricity, from the University of Zaragoza.
- ♦ Insurance appraiser specialized in the adjustment and appraisal of industrial risks, technical and energy claims, especially in the Renewable Energy sector (wind, hydro, photovoltaic, solar thermal and biomass)

### Dr. De la Cal Herrera, José Antonio

- ♦ Industrial Engineer, Universidad Politécnica de Madrid.
- ♦ MBA in Business Administration and Management from the Business School of Commercial and Marketing Management, ESIC
- ♦ Doctor from the University of Jaén
- ♦ Former Head of the Renewable Energy Department of AGECAM, S.A., Energy Management Agency of Castilla-La Mancha
- ♦ Associate Professor of the Department of Business Organization of the University of Jaén.

**Granja Pacheco, Manuel**

- ◆ Civil Engineer, Alfonso X el Sabio University
- ◆ Master's Degree in Renewable Energy Installation Management and Project Internationalization by ITE (Instituto Tecnológico de la Energía)
- ◆ Manages the operations of a company specialized in the development of Renewable Energy projects, with a track record of more than 3,000 MW of projects at national and international level





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

# 04

# Structure and Content

The syllabus of the Postgraduate Diploma is configured as a complete tour through each and every one of the contents necessary to understand and assume the ways of working in this field. Thus, through an innovative didactic approach, based on the practical application of the contents, the engineer will learn and understand the functioning of wind energy, knowing how to design and implement projects in this sense, providing high levels of safety and services to companies. This, in addition to adding value to your professional profile, will make you a much better prepared professional to work in a variety of environments.



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*The best professionals in the sector have designed for TECH the most complete and up-to-date syllabus on the market. This way, you'll be sure to learn from the best teaching content"*

## Module 1. Renewable Energies and Their Current Environment

- 1.1. Renewable Energies
  - 1.1.1. Fundamental Principles
  - 1.1.2. Conventional Energy Forms vs. Renewable Energy
  - 1.1.3. Advantages and Disadvantages of Renewable Energies
- 1.2. International Context of Renewable Energies
  - 1.2.1. Basics of Climate Change and Energy Sustainability Renewable Energies vs. Non-Renewable Energies
  - 1.2.2. Decarbonization of the World Economy. From the Kyoto Protocol to the Paris Agreement in 2015 and the 2019 Madrid Climate Summit
  - 1.2.3. Renewable Energies in the Global Energy Context
- 1.3. Energy and International Sustainable Development
  - 1.3.1. Carbon Markets
  - 1.3.2. Clean Energy Certificates
  - 1.3.3. Energy vs. Sustainability
- 1.4. General Regulatory Framework
  - 1.4.1. International Energy Regulation and Directives
  - 1.4.2. Legal, Legislative and Regulatory Framework of the Energy Sector and Energy Efficiency at the National (Spain) and European Level
  - 1.4.3. Auctions in the Renewable Electricity Sector
- 1.5. Electricity Markets
  - 1.5.1. System Operation with Renewable Energies
  - 1.5.2. Regulation of Renewable Energies
  - 1.5.3. Participation of Renewable Energies in the Electricity Markets
  - 1.5.4. Operators in the Electricity Market
- 1.6. Structure of the Electrical System
  - 1.6.1. Generation of the Electrical System
  - 1.6.2. Transmission of the Electrical System
  - 1.6.3. Distribution and Operation of the Market
  - 1.6.4. Marketing
- 1.7. Distributed Generation
  - 1.7.1. Concentrated Generation vs. Distributed Generation
  - 1.7.2. Self-Consumption
  - 1.7.3. Generation Contracts

- 1.8. Emitters
  - 1.8.1. Measuring Energy
  - 1.8.2. Greenhouse Gases in Power Generation and Use
  - 1.8.3. Emission Assessment by Type of Energy Generation
- 1.9. Energy Storage
  - 1.9.1. Types of Cells
  - 1.9.2. Advantages and Disadvantages of Cells
  - 1.9.3. Other Energy Storage Technologies
- 1.10. Main Technologies
  - 1.10.1. Energies of the Future
  - 1.10.2. New Uses
  - 1.10.3. Future Energy Contexts and Models

## Module 2. Wind Energy Systems

- 2.1. The Wind as a Natural Resource
  - 2.1.1. Wind Behavior and Classification
  - 2.1.2. The Wind Resource in our Planet
  - 2.1.3. Wind Resource Measurements
  - 2.1.4. Wind Energy Prediction
- 2.2. Wind Energy
  - 2.2.1. Wind Energy Evolution.
  - 2.2.2. Temporal and Spatial Variability of the Wind Resource.
  - 2.2.3. Wind Energy Applications
- 2.3. The Wind Turbine
  - 2.3.1. Types of Wind Turbines
  - 2.3.2. Parts of a Wind Turbine
  - 2.3.3. Functioning of a Wind Turbine
- 2.4. Wind Generator
  - 2.4.1. Asynchronous Generators: Wound Rotor
  - 2.4.2. Asynchronous Generators: Squirrel Cage
  - 2.4.3. Synchronous Generators: Independent Excitation
  - 2.4.4. Permanent Magnet Synchronous Generators

- 2.5. Site Selection
  - 2.5.1. Basic Criteria
  - 2.5.2. Specific Aspects
  - 2.5.3. Onshore and Offshore Wind Energy Facilities
- 2.6. Operation of a Wind Farm
  - 2.6.1. Operating Model
  - 2.6.2. Control Operations
  - 2.6.3. Remote Operation
- 2.7. Wind Park Maintenance
  - 2.7.1. Types of Maintenance: Corrective, Preventive and Predictive
  - 2.7.2. Main Failures
  - 2.7.3. Machine Improvement and Resource Organization
  - 2.7.4. Maintenance Costs (OPEX)
- 2.8. Wind Energy Impact and Environmental Maintenance
  - 2.8.1. Impact on Flora and Erosion
  - 2.8.2. Impact on Avifauna
  - 2.8.3. Visual and Sound Impact
  - 2.8.4. Environmental Maintenance
- 2.9. Data and Performance Analysis
  - 2.9.1. Energy Production and Revenue
  - 2.9.2. Control Indicators KPIs
  - 2.9.3. Wind Park Performance
- 2.10. Wind Park Design
  - 2.10.1. Design Considerations
  - 2.10.2. Wind Turbine Arrangement
  - 2.10.3. Effect of the Trails on the Distance Between Wind Turbines
  - 2.10.4. Medium and High Voltage Equipment
  - 2.10.5. Installation Costs (CAPEX)

### Module 3. Development, Financing and Feasibility of Renewable Energy Projects

- 3.1. Identifying *Stakeholders*
  - 3.1.1. National, Regional and Local Government
  - 3.1.2. Developers, Engineering and Consulting Companies
  - 3.1.3. Investment Funds, Banks and Other Stakeholders
- 3.2. Development of Renewable Energy Projects
  - 3.2.1. Main Stages of Development
  - 3.2.2. Main Technical Documentation
  - 3.2.3. Sales Process. RTB
- 3.3. Renewable Energy Project Assessment
  - 3.3.1. Technical Feasibility
  - 3.3.2. Commercial Feasibility
  - 3.3.3. Environmental and Social Feasibility
  - 3.3.4. Legal Feasibility and Associated Risks
- 3.4. Financial Bases
  - 3.4.1. Financial Knowledge
  - 3.4.2. Analysis of Financial Statements
  - 3.4.3. Financial Modeling
- 3.5. Economic Assessment of Renewable Energy Projects and Companies
  - 3.5.1. Fundamentals of Valuation
  - 3.5.2. Valuation Methods
  - 3.5.3. Calculating Project Profitability and Fundability
- 3.6. Financing of Renewable Energies
  - 3.6.1. Characteristics of *Project Finance*
  - 3.6.2. Structuring the Financing
  - 3.6.3. Risks in Financing
- 3.7. Renewable Asset Management: *Asset Management*
  - 3.7.1. Technical Supervision
  - 3.7.2. Financial Supervision
  - 3.7.3. Claims, Permit Monitoring and Contract Management

- 3.8. Insurance in Renewable Energy Projects. Construction Phase
  - 3.8.1. Developer and Builder. Specialized Insurance
  - 3.8.2. Construction Insurance-CAR
  - 3.8.3. Professional Insurance
  - 3.8.4. ALOP-*Advance Loss of Profit* Clause
- 3.9. Insurance in Renewable Energy Projects. Operation and Exploitation Phase
  - 3.9.1. Property Insurance. Multirisk-OAR
  - 3.9.2. O&M Contractor's CR or Professional Insurance
  - 3.9.3. Suitable Coverage. Consequential and Environmental Losses
- 3.10. Valuation and Appraisal of Damages in Renewable Energy Assets
  - 3.10.1. Industrial Valuation and Appraisal Services: Renewable Energy Facilities
  - 3.10.2. Intervention and Policy
  - 3.10.3. Property Damages and Consequential Losses
  - 3.10.4. Types of Claims: Photovoltaic, Thermal, Hydroelectric and Wind Power

#### Module 4. Digital Transformation and Industry 4.0 Applied to Renewable Energy Systems

- 4.1. Current Situation and Outlook
  - 4.1.1. Current Status of Technologies
  - 4.1.2. Trend and Evolution
  - 4.1.3. Challenges and Future Opportunities
- 4.2. Digital Transformation Applied to Renewable Energy Systems
  - 4.2.1. The Era of Digital Transformation
  - 4.2.2. The Digitization of Industry
  - 4.2.3. 5G Technology
- 4.3. Automation and Connectivity: Industry 4.0
  - 4.3.1. Automated Systems
  - 4.3.2. Connectivity
  - 4.3.3. The Importance of the Human Factor Key Factor
- 4.4. *Lean Management* 4.0
  - 4.4.1. *Lean Management* 4.0
  - 4.4.2. Benefits of *Lean Management* in Industry
  - 4.4.3. Lean Tools in the Management of Renewable Energy Installations







- 4.5. Mass Catchment Systems. IoT
  - 4.5.1. Sensors and Actuators
  - 4.5.2. Continuous Data Monitoring
  - 4.5.3. Big Data
  - 4.5.4. SCADA Systems
- 4.6. IoT Project Applied to Renewable Energies
  - 4.6.1. Structure of the Monitoring System
  - 4.6.2. IoT System Architecture
  - 4.6.3. Cases Applied to IoT
- 4.7. Big Data and Renewable Energies
  - 4.7.1. The Principles of Big Data
  - 4.7.2. Big Data Tools
  - 4.7.3. Usability in the Energy and REE Sector
- 4.8. Proactive or Predictive Maintenance
  - 4.8.1. Predictive Maintenance and Fault Diagnosis
  - 4.8.2. Instruments Vibrations, Thermography, Damage Analysis and Diagnosis Techniques
  - 4.8.3. Predictive Models
- 4.9. Drones and Automated Vehicles
  - 4.9.1. Main Characteristics
  - 4.9.2. Uses of Drones
  - 4.9.3. Uses of Autonomous Vehicles
- 4.10. New Forms of Energy Commercialization. *Blockchain* and *Smart Contracts*
  - 4.10.1. Information Systems Using *Blockchain*
  - 4.10.2. Tokens and Smart Contracts
  - 4.10.3. Present and Future Applications for the Electrical Sector
  - 4.10.4. Available Platforms and *Blockchain*-Based Application Cases

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.





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*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.*



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

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.



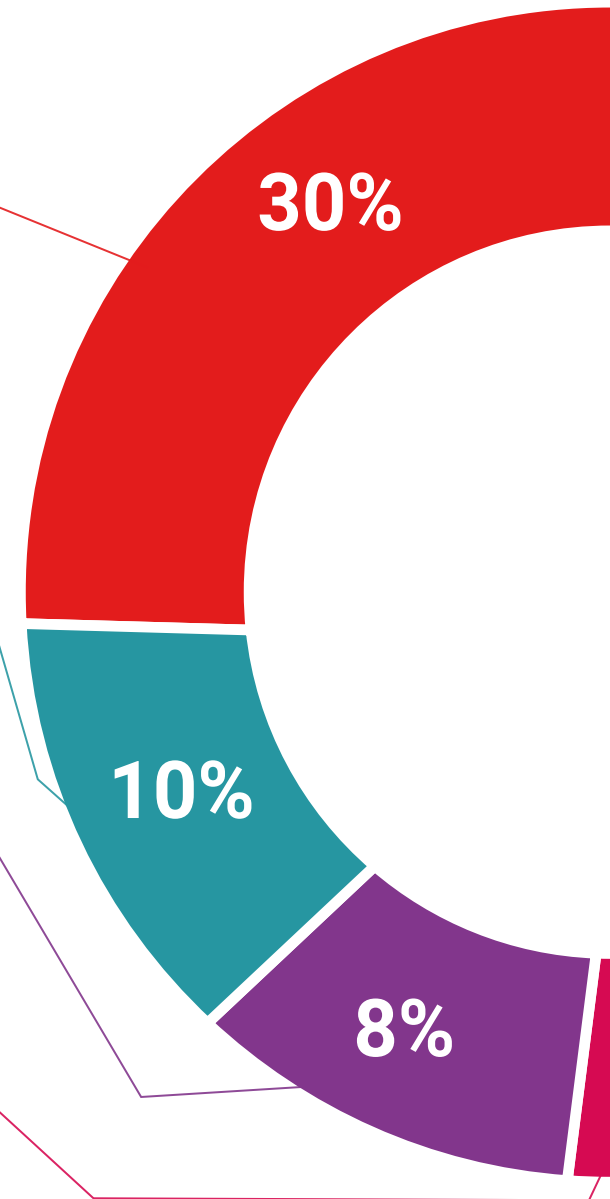
### Practising Skills and Abilities

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.

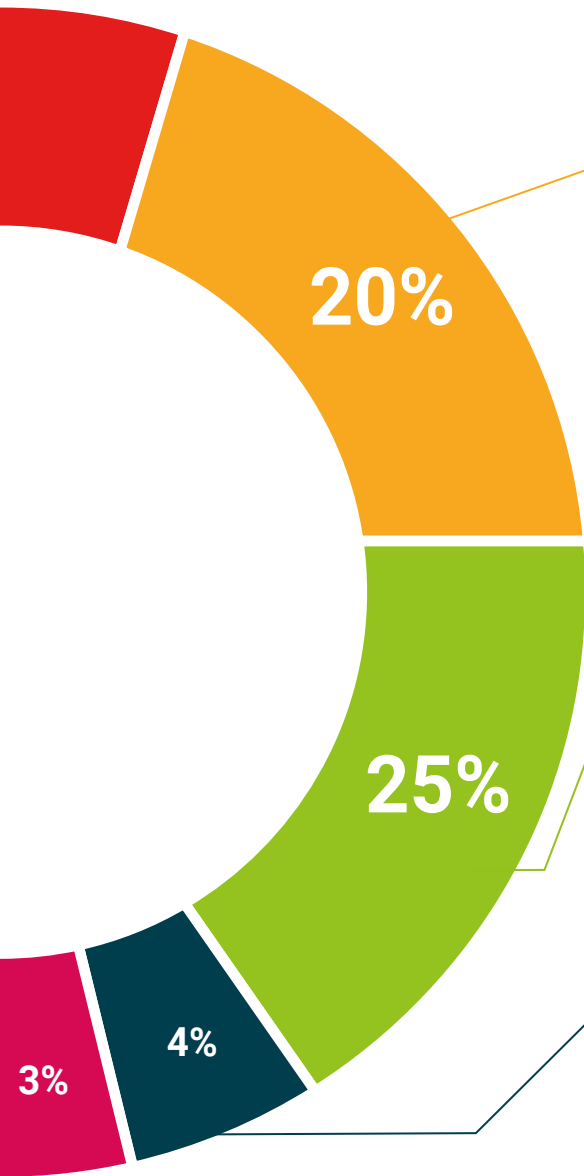


### Additional Reading

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 Wind Energy guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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”*

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- » Certificate: TECH Technological University
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