Postgraduate Diploma
Enabling Technologies

tech global university

tech global university

Postgraduate Diploma
Enabling Technologies

- 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-enabling-technologies**

Index

01

Introduction

Enabling Technologies such as AI, Cloud Computing or Big Data, are some of the things responsible for companies to be able to develop the digital transformation process and adapt to Industry 4.0 and the Smart Factory model. This is why professionals with a specialization in this area are increasingly in demand and why TECH has created this program. In this way, throughout the program the fundamental principles of Big Data or AI are profoundly addressed, as well as market trends in Virtual Reality or Blockchain. And this, with the aim of providing students with knowledge and skills with which to carry out their work as efficiently as possible. All this, through a 100% online mode that gives total freedom of organization.

Thanks to TECH, you will be at the forefront of the latest news in Artificial Intelligence"

The great technological and scientific advances of recent years have given rise to Enabling Technologies, which are those that allow companies to carry out the process of digital transformation and adapt to Industry 4.0. Some of them are blockchain technology, artificial intelligence, big data, nanotechnology, cybersecurity, quantum computing, augmented reality or cloud computing.

In order to know these tools and technologies in depth, advanced and in-depth knowledge is needed, which is why TECH has created this Postgraduate Diploma in Enabling Technologies. The objective of this program is to provide students with optimal skills and competencies in this field, addressing topics such as Data Visualization, Creation of Virtual Worlds, Quantum Computing, Uses of Cryptocurrencies or the Future of AI.

All this, through a comfortable 100% online modality that allows students to combine their studies with any other activity, with total freedom and without time limits. In addition, being able to access from any device with internet connection to the most complete and updated teaching materials of the academic landscape.

This **Postgraduate Diploma in Enabling Technologies** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in Enabling Technologies
- The graphic, schematic and practical contents of the book provide technical 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

In just a few months, you will be able to boost your professional profile and obtain the main tools and techniques with which you will succeed in the Industry 4.0 sector"

Enter a technology sector in full growth and update your knowledge in Enabling Technologies"

This online program will allow you to combine your studies with your professional work, choose from where and when to access.

Enjoy a wide variety of multimedia materials and delve into essential technologies for businesses in all sectors.

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 professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

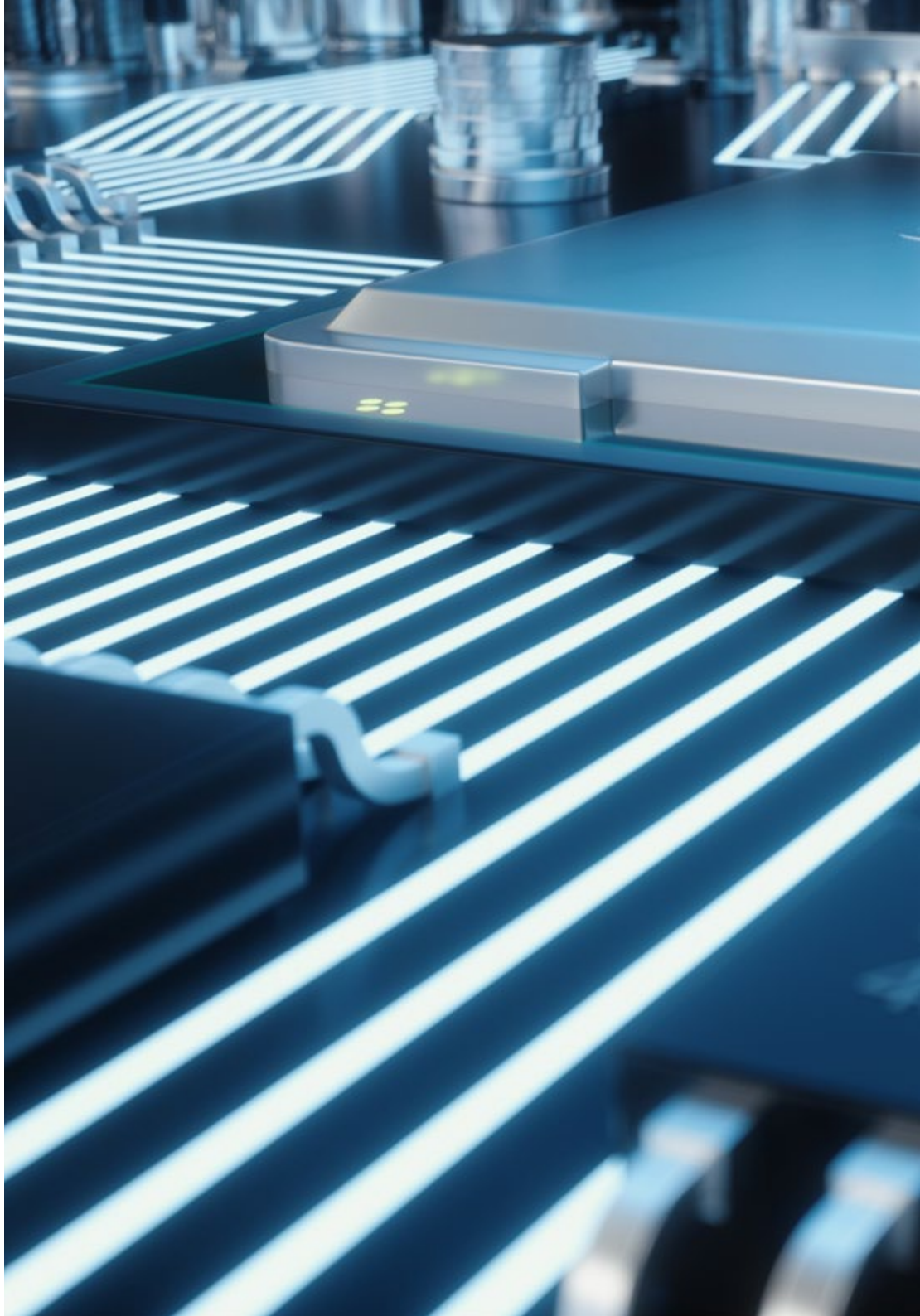
The objective of this course is to provide students with the necessary skills and knowledge in Enabling Technologies, so that they can face a promising future as professionals in this area. All this, through the most complete theoretical, practical and updated content in the academic market.

Achieve your most demanding goals as an engineer and succeed in one of the areas with the most potential in the labor market"

General Objectives

- Conduct a comprehensive analysis of the profound transformation and radical paradigm shift being experienced in the current global digitalization process
- Provide in-depth knowledge and the necessary technological tools to face and lead the technological leap and the challenges currently present in companies
- Mastering the digitalization procedures of companies and the automation of their processes to create new fields of wealth in areas such as creativity, innovation and technological efficiency
- Leading Digital Change

Immerse yourself in a program that will show you the latest updates in Virtual Reality, Augmented, and Mixed"



Specific Objectives

Module 1. Big Data and Artificial Intelligence

- Delve into the knowledge of the fundamental principles of artificial intelligence
- Master the techniques and tools of this technology (*machine learning*/deep learning)
- Obtain a practical knowledge of one of the most widespread applications such as Chatbots and virtual assistants
- Acquire knowledge of the different transversal applications that this technology has in all fields

Module 2. Virtual, Augmented and Mixed Reality

- Acquire expert knowledge on the characteristics and fundamentals of virtual reality, augmented reality and mixed reality, as well as their differences
- Use applications of each of these technologies and develop solutions with each of them individually and in an integrated manner, combining them to define immersive experiences

Module 3. *Blockchain* and Quantum Computing

- Acquire in-depth knowledge of the fundamentals of Blockchain technology and its value propositions
- Lead the creation of Blockchain-based projects and apply this technology to different business models and the use of tools such as Smart Contracts
- Acquire important knowledge about one of the technologies that will revolutionize our future, such as quantum computing

03

Course Management

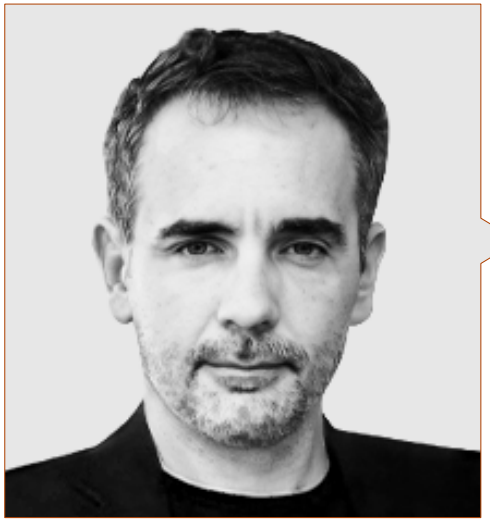
The specialists have been selected by TECH as part of its team of engineering experts. This teaching staff has an extraordinary professional background in this field and is specialized in Enabling Technologies, which will greatly facilitate the learning process of the student. For this, the most complete, dynamic and precise theoretical and practical contents have been elaborated .

TECH has selected a team of leading experts to support you throughout your learning process"

Management

Mr. Segovia Escobar, Pablo

- Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group
- Corporate Project Director Indra
- Master's Degree in Companies Administration and Management by the National University of Distance Education
- Postgraduate in Strategic Management Function
- Member of: Spanish Association of People with High Intellectual Quotient



Mr. Diezma López, Pedro

- Chief Innovation Officer and CEO of Zerintia Technologies
- Founder of the technology company Acuilae
- Member of the Kebala Group for business incubation and promotion
- Consultant for technology companies such as Endesa, Airbus or Telefónica
- Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for occupational safety

Professors

Ms. Sánchez López, Cristina

- CEO and founder of Acuilae
- Artificial Intelligence consultant at ANHELA IT
- Creator of Ethyka Software for Computer System Security
- (Software Engineer) for the Accenture Group in large clients such as Bank of Santander, BBVA, Endesa or Barclays Bank
- Master's Degree in Data Science at KSchool
- Degree in Statistics from the Complutense University Madrid

Mr. Asenjo Sanz, Álvaro

- IT Consultant for Capitole Consulting
- Project Manager for Kolokium Blockchain Technologies
- IT Engineer for Aubay, Tecnocom, Humantech, Ibermatica and Acens Technologies
- Degree from Computer Engineering of Systems at the Complutense University of Madrid

04

Structure and Content

The syllabus of this Postgraduate Diploma in Enabling Technologies has been designed by the outstanding professionals who make up the team of experts in the field of TECH. In addition, all the content has been based on the most up-to-date sources, on their experience as specialists in the sector and on the most efficient pedagogical methodology, Relearning, which guarantees the natural, progressive and precise assimilation of essential concepts.

thT pedagogical methodology of TECH's Relearning, will allow you to assimilate the essential concepts in a fast, natural and progressive way"

Module 1. Big Data and Artificial Intelligence

1.1. Fundamental Principles of Big Data
- 1.1.1. Big Data
- 1.1.2. Tools to Work With Big Data

1.2. Data Mining and Warehousing
- 1.2.1. Data Mining Cleaning and Standardization
- 1.2.2. Information Extraction, Machine Translation, Sentiment Analysis, etc
- 1.2.3. Types of Data Storage

1.3. Data Intake Applications
- 1.3.1. Principles of Data intake
- 1.3.2. Data Ingestion Technologies to Serve Business Needs

1.4. Data Visualization
- 1.4.1. The Importance of Data Visualization
- 1.4.2. Tools to Carry It Out Tableau, D3, matplotlib (Python), Shiny®

1.5. Machine Learning
- 1.5.1. Understanding Machine Learning
- 1.5.2. Supervised and Unsupervised Learning
- 1.5.3. Types of Algorithms

1.6. Neural Networks (Deep Learning)
- 1.6.1. Neural Network: Parts and Operation
- 1.6.2. Types of Networks CNN, RNN
- 1.6.3. Applications of Neural Networks; Image Recognition and Natural Language Interpretation
- 1.6.4. Generative Text Networks: LSTM

1.7. Natural Language Recognition
- 1.7.1. PLN (Processing Natural Language)
- 1.7.2. Advanced PLN Techniques: Word2vec, Doc2vec

1.8. Chatbots and Virtual Assistants
- 1.8.1. Types of Assistants: Voice and Text Assistants
- 1.8.2. Fundamental Parts for the Development of an Assistant: Intents, Entities and Dialog Flow
- 1.8.3. Integrations: Web, Slack, WhatsApp, Facebook
- 1.8.4. Assistant Development Tools: Dialogflow, Watson Assistant

1.9. Emotions, Creativity and Personality in IA
- 1.9.1. Understand How to Detect Emotions Using Algorithms
- 1.9.2. Creating a Personality: Language, Expressions and Content

1.10. Future of Artificial Intelligence

1.11. Reflections

Module 2. Virtual, Augmented and Mixed Reality

2.1. Market and Tendencies
- 2.1.1. Current Market Situation
- 2.1.2. Reports and Growth by Different Industries

2.2. Differences Between Virtual, Augmented and Mixed Reality
- 2.2.1. Differences Between Immersive Realities
- 2.2.2. Immersive Reality Typology

2.3. Virtual Reality Cases and Uses
- 2.3.1. Origin and Fundamentals of Virtual Reality
- 2.3.2. Cases Applied to Different Sectors and Industries

2.4. Augmented Reality Cases and Uses
- 2.4.1. Origin and Fundamentals of Augmented Reality
- 2.4.2. Cases Applied to Different Sectors and Industries

2.5. Mixed and Holographic Reality
- 2.5.1. Origin, History and Fundamentals of Mixed and Holographic Reality
- 2.5.2. Cases Applied to Different Sectors and Industries

2.6. 360º Photography and Video
- 2.6.1. Camera Typology
- 2.6.2. Uses of 360 Images
- 2.6.3. Creating a Virtual Space in 360 Degrees

2.7. Virtual World Creation
- 2.7.1. Platforms for the Creation of Virtual Environments
- 2.7.2. Strategies for the Creation of Virtual Environments

2.8. User Experience (UX)
- 2.8.1. Components in the User Experience
- 2.8.2. Tools for the Creation of User Experiences

2.9. Devices and Glasses for Immersive Technologies
- 2.9.1. Device Typology on the Market
- 2.9.2. Glasses and Wearables: Operation, Models and Uses
- 2.9.3. Smart Glasses Applications and Evolution

2.10. Future Immersive Technologies
- 2.10.1. Tendencies and Evolution
- 2.10.2. Challenges and Opportunities

Module 3. *Blockchain* and Quantum Computing

3.1. Aspects of Decentralization
- 3.1.1. Market Size, Growth, Companies and Ecosystem
- 3.1.2. Fundamentals of Blockchain

3.2. Background: Bitcoin, Ethereum, etc.
- 3.2.1. Popularity of Decentralized Systems
- 3.2.2. Evolution of Decentralized Systems

3.3. Blockchain Operation and Examples
- 3.3.1. Types of Blockchain and Protocols
- 3.3.2. Wallets, Mining and More

3.4. Characteristics of Blockchain Networks
- 3.4.1. Functions and Properties of Blockchain Networks
- 3.4.2. Applications: Cryptocurrencies, Reliability, Chain of Custody, etc

3.5. Types of Blockchain
- 3.5.1. Public and Private Blockchains
- 3.5.2. Hard And Soft Forks

3.6. Smart Contracts
- 3.6.1. Intelligent Contracts and Their Potential
- 3.6.2. Smart Contract Applications

3.7. Industry Use Models
- 3.7.1. Blockchain Applications by Industry
- 3.7.2. Blockchain Success Stories by Industry

3.8. Security and Cryptography
- 3.8.1. Objectives of Cryptography
- 3.8.2. Digital signatures and Hash functions

3.9. Cryptocurrencies and Uses
- 3.9.1. Types of Cryptocurrencies Bitcoin, Hyperledger, Ethereum, Litecoin, etc.
- 3.9.2. Current and Future Impact of Cryptocurrencies
- 3.9.3. Risks and Regulations

3.10. Quantum Computing
- 3.10.1. Definition and Keys
- 3.10.2. Uses of Quantum Computing

An innovative and comprehensive program that will exceed your highest expectations in the field of Enabling Technologies"

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

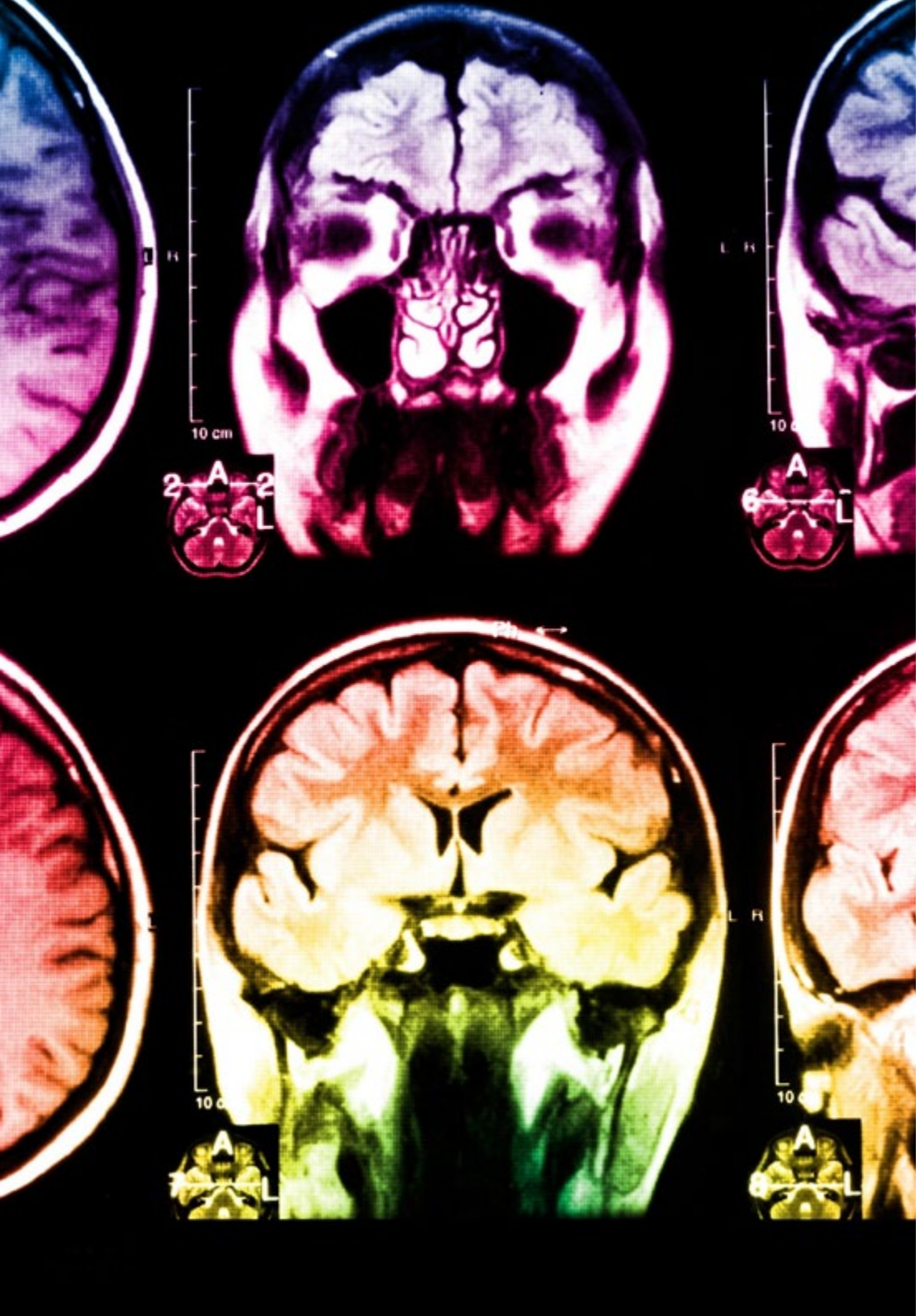
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

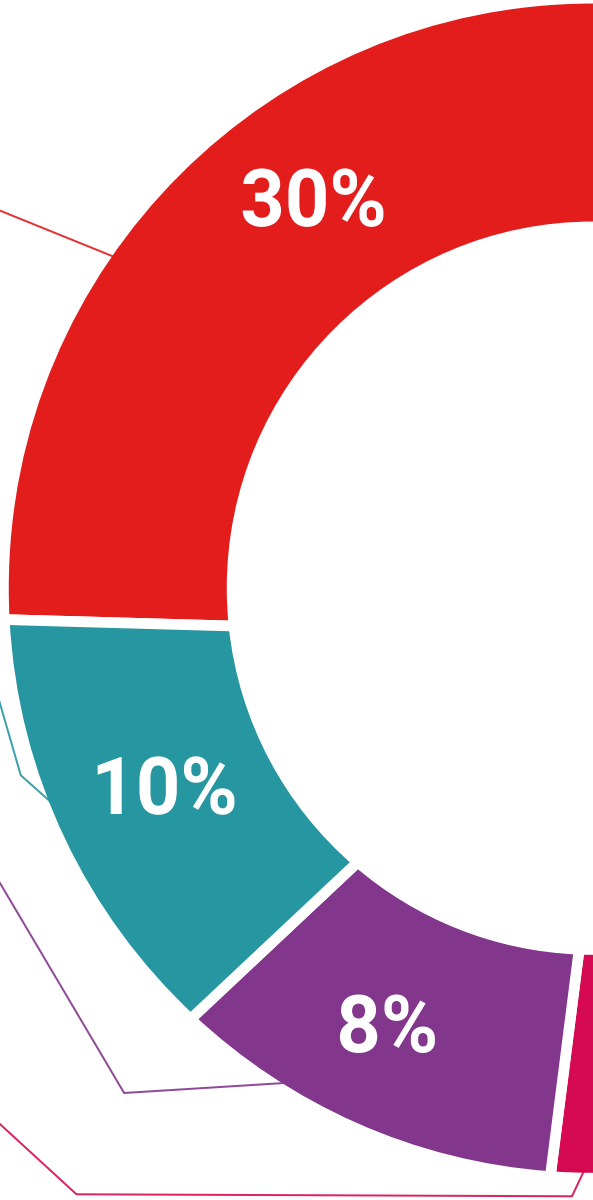
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

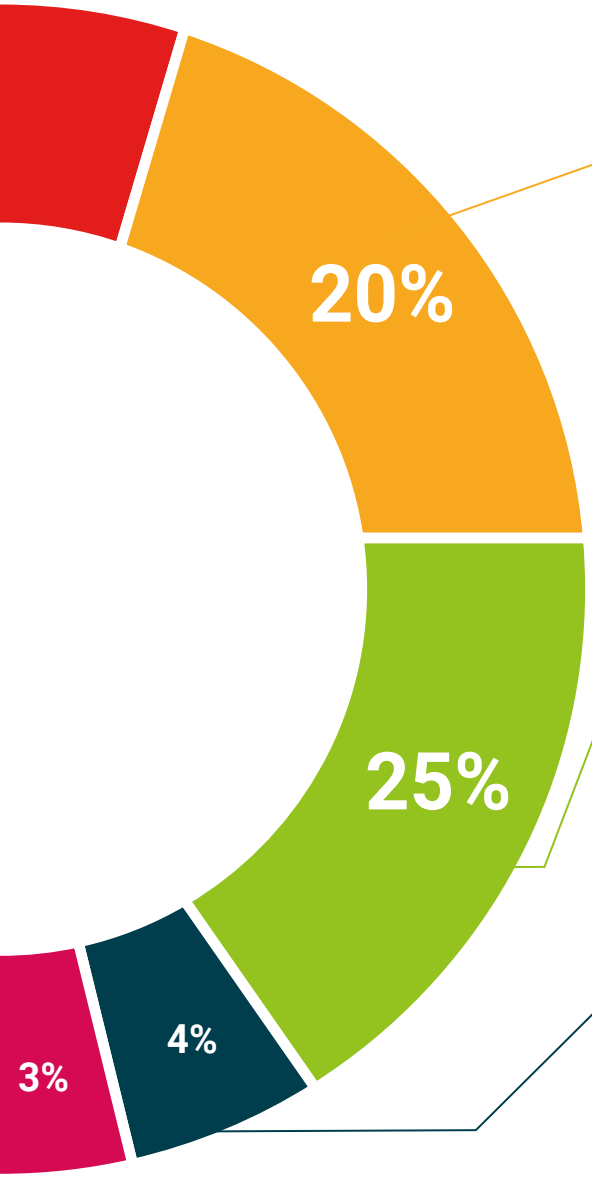
Practising Skills and Abilities

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 Enabling Technologies 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 Enabling Technologies** 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 Enabling Technologies**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**


tech global university

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

Postgraduate Diploma in Enabling Technologies

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.

tech global university

Postgraduate Diploma
Enabling Technologies

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

Postgraduate Diploma
Enabling Technologies

tech global university