



Postgraduate Diploma Innovation in Design through Artificial Intelligence

» Modality: online

» Duration: 6 months

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

We b site: www.techtitute.com/in/design/postgraduate-diploma/postgraduate-diploma-innovation-design-artificial-intelligence

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Certificate

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tech 06 | Introduction

Increasingly, Virtual Assistants play a relevant role in interactive design, by facilitating the interaction between humans and digital systems in a more efficient way. In addition, these advanced resources serve to personalize the experiences of audiences by adapting to their preferences and particular needs. One example of this is that algorithms offer content and recommendations tailored to their interests. These systems also provide real-time assistance to users, guiding them through complex processes such as making an online purchase.

In this context, TECH launches a Postgraduate Diploma that will address in depth the technologies applied to Design and AI. In this way, the syllabus will focus on the automatic detection and correction of visual errors through Machine Learning. Likewise, the syllabus will provide students with tools for usability evaluation of interface designs and optimization of editorial workflows with algorithms. On the other hand, the university program will delve into mass customization in industrial production, bearing in mind the logistical and scale challenges. The program will also analyze Machine Learning models for predictive maintenance, as well as for the evaluation of the accuracy and effectiveness of these models in industrial environments.

Students will have video summaries of each topic, specialized readings or case study simulation scenarios that can be conveniently accessed from a digital device at any time of the day. Likewise, the Relearningsystem, based on the reiteration of content, will lead the professionals to progress naturally through the main concepts of this program and thus reduce the long hours of study. A program that provides the flexibility that the ophthalmologist requires to make their daily work and personal activities compatible with a quality program, developed by an excellent team of specialists with a high level of competence in this field.

This Postgraduate Diploma in Innovation in Design through Artificial Intelligence 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 Innovation in Design through AI
- The graphic, schematic and practical contents of the book provide theoretical 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



The current importance of design makes this program a safe bet, with a market in continuous growth and full of possibilities"



You will analyze the relationship between Artificial Intelligence and process optimization in the field of industrial design through innovative multimedia resources"

The program's teaching staff includes professionals from the sector who contribute their work experience to this 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.

A university program that will take you into a world of unlimited creative and personalized opportunities.

The Relearning system applied by TECH in its programs reduces the long hours of study so frequent in other teaching methods.





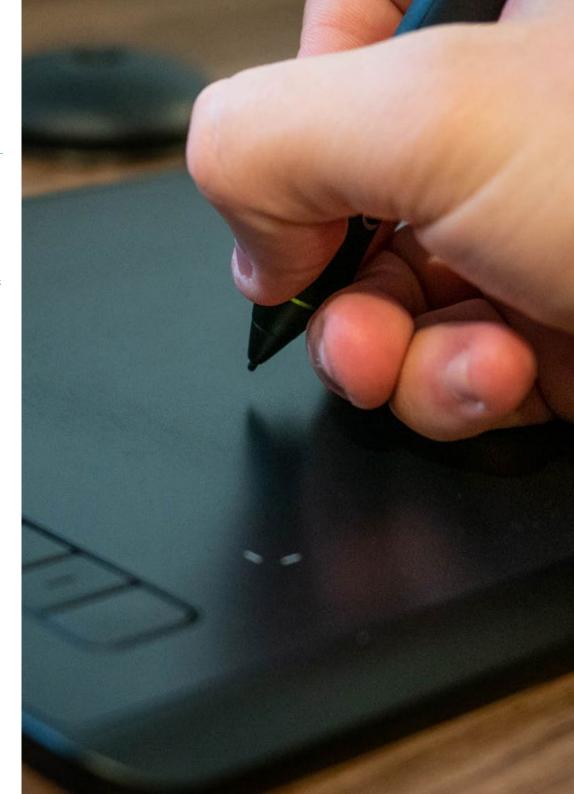


tech 10 | Objectives



General Objectives

- Develop skills to implement artificial intelligence tools in design projects, including automatic content generation, design optimization and pattern recognition
- Apply collaborative tools, taking advantage of Artificial Intelligence to improve communication and efficiency in design teams
- Develop skills in adaptive design, considering user behavior and applying advanced AI tools
- Critically analyze the challenges and opportunities when implementing personalized designs in industry using Artificial Intelligence





Module 1. Practical Applications of Artificial Intelligence in Design

- Apply collaborative tools, leveraging AI to improve communication and efficiency in design teams
- Incorporate emotional aspects into designs through techniques that effectively connect with the audience, exploring how AI can influence the emotional perception of Design
- Master tools and frameworks specific to the application of AI in Design, such as GANs (Generative Adversarial Networks) and other relevant libraries
- Employ AI to generate images, illustrations and other visual elements automatically
- Implementing AI techniques to analyze design-related data, such as navigation behavior and user feedback

Module 2. Innovation in Design and AI Processes

- Understand the transformative role of AI in design and manufacturing process innovation
- Implement mass customization strategies in production through Artificial Intelligence, adapting products to individual needs
- Apply AI techniques to minimize waste in the design process, contributing to more sustainable practices
- Develop practical skills to apply AI techniques to improve industrial and design processes
- Encourage creativity and exploration during design processes, using Al as a tool to generate innovative solutions

Module 3. Technologies Applied to Design and Al

- Enhance comprehensive understanding and practical skills to leverage advanced technologies and Artificial Intelligence in various facets of Design
- Understand the strategic integration of emerging technologies and AI in the field of design
- Apply microchip architecture optimization techniques using Al to improve both performance and efficiency
- Properly use algorithms for the automatic generation of multimedia content, enriching visual communication in editorial projects
- Implement the knowledge and skills acquired during this program to real projects involving technologies and AI in Design



TECH is a university at the forefront of technology, which puts all its resources at the disposal of its students to help them achieve entrepreneurial success"





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Management



Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at Al Shephers Gmb+
- Consultant and Strategic Business Advisor at Alliance Medical
- Director of Design and Development at DocPath
- Ph.D. in Psychology from the University of Castilla La Mancha
- Ph.D. in Economics, Business and Finance from the Camilo José Cela University
- Ph.D. in Psychology from University of Castilla La Mancha
- Professional Master's Degree in Executive MBA by the Isabel I University
- Professional Master's Degree in Sales and Marketing Management, Isabel I University
- Expert Master's Degree in Big Data by Hadoop Training
- ullet Professional Master's Degree in Advanced Information Technologies from the University of Castilla La Mancha
- Member of: SMILE Research Group



Mr. Maldonado Pardo, Chema

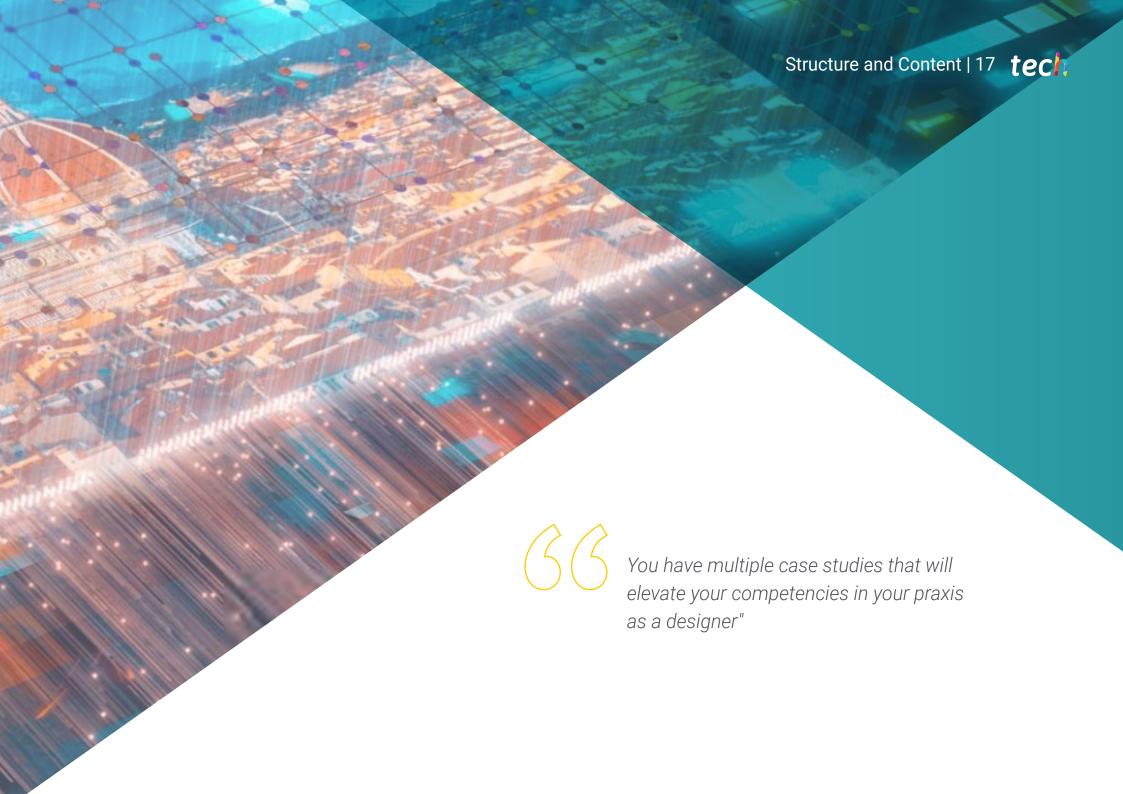
- Graphic Design Specialist
- Graphic Designer at DocPath Document Solutions S.L
- Founding Partner and Head of the Design and Advertising Department at D.C.M. Difusión Integral de Ideas, C.B
- Head of the Design and Digital Printing Department at Ofipaper, La Mancha S.L
- Graphic Designer in Ático, Estudio Gráfico
- Graphic Designer and Craftsman Printer at Lozano Artes Gráficas
- · Layout and Graphic Designer in Gráficas Lozano
- ETSI Telecommunications by the Polytechnic University of Madric
- ETS Computer Systems ETSI by the University of Castilla-La Mancha

Professors

Ms. Parreño Rodríguez, Adelaida

- Technical Developer & Energy Communities Engineer at the University of Murcia
- Manager in Research & Innovation in European Projects at the University of Murcia
- Technical Developer & Energy/Electrical Engineer & Researcher in PHOENIX Project and FLEXUM (ONENET) Project
- Content Creator in Global UC3M Challenge
- Ginés Huertas Martínez Award (2023)
- Professional Master's Degree in Renewable Energies from the Polytechnic University of Cartagena
- Degree in Electrical Engineering (bilingual) from Carlos III University of Madrid





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Module 1. Practical Applications of Artificial Intelligence in Design

- 1.1. Automatic Image Generation in Graphic Design
 - 1.1.1. Fundamental Concepts of Image Generation
 - 1.1.2. Tools and Frameworks for Automatic Graphic Generation
 - 1.1.3. Social and Cultural Impact of Generative Design
 - 1.1.4. Current Trends in the Field and Future Developments and Applications
- 1.2. Dynamic Personalization of User Interfaces Using Al
 - 1.2.1. UI/UX Personalization Principles
 - 1.2.2. Recommendation Algorithms in UI Customization
 - 1.2.3. User Experience and Continuous Feedback
 - 1.2.4. Practical Implementation in Real Applications
- 1.3. Generative Design: Applications in Industry and Art
 - 1.3.1. Fundamentals of Generative Design
 - 1.3.2. Generative Design in Industry
 - 1.3.3. Generative Design in Contemporary Art
 - 1.3.4. Challenges and Future Advances in Generative Design
- 1.4. Automatic Creation of Editorial Layouts with Algorithms
 - 1.4.1. Principles of Automatic Editorial Layout
 - 1.4.2. Content Distribution Algorithms
 - 1.4.3. Optimization of Spaces and Proportions in Editorial Design
 - .4.4. Automation of the Revision and Adjustment Process
- 1.5. Procedural Generation of Content in Videogames
 - 1.5.1. Introduction to Procedural Generation in Videogames
 - 1.5.2. Algorithms for the Automatic Creation of Levels and Environments
 - .5.3. Procedural Narrative and Branching in Videogames
 - 1.5.4. Impact of Procedural Generation on the Player Experience
- 1.6. Pattern Recognition in Logos with Machine Learning
 - 1.6.1. Fundamentals of Pattern Recognition in Graphic Design
 - 1.6.2. Implementation of Machine Learning Models for Logo Identification
 - 1.6.3. Practical Applications in Graphic Design
 - 1.6.4. Legal and Ethical Considerations in Logo Recognition



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- 1.7. Optimization of Colors and Compositions with Al
 - 1.7.1. Color Psychology and Visual Composition
 - 1.7.2. Color Optimization Algorithms in Graphic Design
 - 1.7.3. Automatic Composition of Visual Elements
 - 1.7.4. Evaluation of the Impact of Automatic Optimization on User Perception
- 1.8. Predictive Analysis of Visual Trends in Design
 - 1.8.1. Data Collection and Current Trends
 - 1.8.2. *Machine Learning* Models for Trend Prediction
 - 1.8.3. Implementation of Proactive Design Strategies
 - 1.8.4. Principles in the Use of Data and Predictions in Design
- 1.9. Al-assisted Collaboration in Design Teams
 - 1.9.1. Human-IA Collaboration in Design Projects
 - 1.9.2. Platforms and Tools for Al-assisted Collaboration
 - 1.9.3. Best Practices in Al-assisted Technology Integration
 - 1.9.4. Future Perspectives on Human-Al Collaboration in Design
- 1.10. Strategies for the Successful Incorporation of Al in Design
 - 1.10.1. Identification of Al-solvable Design Needs
 - 1.10.2. Evaluation of Available Platforms and Tools
 - 1.10.3. Effective Integration in Design Projects
 - 1.10.4. Continuous Optimization and Adaptability

Module 2. Innovation in Design and AI Processes

- 2.1. Optimization of Manufacturing Processes with Al Simulations
 - 2.1.1. Introduction to Manufacturing Process Optimization
 - 2.1.2. Al Simulations for Production Optimization
 - 2.1.3. Technical and Operational Challenges in the Implementation of Al Simulations
 - 2.1.4. Future Perspectives: Advances in Process Optimization with Al
- 2.2. Virtual Prototyping: Challenges and Benefits
 - 2.2.1. Importance of Virtual Prototyping in Design
 - 2.2.2. Tools and Technologies for Virtual Prototyping
 - 2.2.3. Challenges in Virtual Prototyping and Strategies for Overcoming them
 - 2.2.4. Impact on Design Innovation and Agility

- 2.3. Generative Design: Applications in Industry and Artistic Creation
 - 2.3.1. Architecture and Urban Planning
 - 2.3.2. Fashion and Textile Design
 - 2.3.3. Design of Materials and Textures
 - 2.3.4. Automation in Graphic Design
- 2.4. Materials and Performance Analysis using Artificial Intelligence
 - 2.4.1. Importance of Materials and Performance Analysis in Design
 - 2.4.2. Artificial Intelligence Algorithms for Materials Analysis
 - 2.4.3. Impact on Design Efficiency and Sustainability
 - 2.4.4. Implementation Challenges and Future Applications
- 2.5. Mass Customization in Industrial Production
 - 2.5.1. Transforming Production through Mass Customization
 - 2.5.2. Enabling Technologies for Mass Customization
 - 2.5.3. Logistical and Scale Challenges of Mass Customization
 - 2.5.4. Economic Impact and Innovation Opportunities
- 2.6. Artificial Intelligence-assisted Design Tools
 - 2.6.1. Design Aided Design by Gan Generation (Generative Adversarial Networks)
 - 2.6.2. Collective Idea Generation
 - 2.6.3. Context-aware Generation
 - 2.6.4. Exploration of Non-linear Creative Dimensions
- 2.7. Human-robot Collaborative Design in Innovative Projects
 - 2.7.1. Integration of Robots in Innovative Design Projects
 - 2.7.2. Tools and Platforms for Human-Robot Collaboration
 - 2.7.3. Challenges in the Integration of Robots in Creative Projects
 - 2.7.4. Future Perspectives in Collaborative Design with Emerging Technologies
- 2.8. Predictive Maintenance of Products: Al Approach
 - 2.8.1. Importance of Predictive Maintenance in Product Life Extension
 - 2.8.2. Machine Learning Models for Predictive Maintenance
 - 2.8.3. Practical Implementation in Various Industries
 - 2.8.4. Evaluation of the Accuracy and Effectiveness of these Models in Industrial Environments

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- 2.9. Automatic Generation of Typefaces and Visual Styles
 - 2.9.1. Basics of Automatic Generation in Typeface Design
 - 2.9.2. Practical Applications in Graphic Design and Visual Communication
 - 2.9.3. Al-assisted Collaborative Design in the Creation of Typefaces
 - 2.9.4. Exploration of Automatic Styles and Trends
- 2.10. IoT Integration to Monitor Products in Real Time
 - 2.10.1. Transformation with IoT Integration in Product Design
 - 2.10.2. Sensors and IoT Devices for Real-Time Monitoring
 - 2.10.3. Data Analysis and IoT-based Decision Making
 - 2.10.4. Implementation Challenges and Future Applications of IoT in Design

Module 3. Technologies Applied to Design and Al

- 3.1. Integration of Virtual Assistants in Design Interfaces
 - 3.1.1. Role of Virtual Assistants in Interactive Design
 - 3.1.2. Development of Virtual Assistants Specialized in Design
 - 3.1.3. Natural Interaction with Virtual Assistants in Design Projects
 - 3.1.4. Implementation Challenges and Continuous Improvement
- 3.2. Automatic visual error detection and correction with Al
 - 3.2.1. Importance of Automatic Visual Error Detection and Correction
 - 3.2.2. Algorithms and Models for Visual Error Detection
 - 3.2.3. Automatic Correction Tools in Visual Design
 - 3.2.4. Challenges in Automatic Error Detection and Correction and Strategies to Overcome them
- 3.3. Al Tools for Usability Evaluation of Interface Designs
 - 3.3.1. Analysis of Interaction Data with Machine Learning Models
 - 3.3.2. Automated Report Generation and Recommendations
 - 3.3.3. Virtual User Simulations for Usability Testing
 - 3.3.4. Conversational Interface for User Feedback
- 3.4. Optimization of Editorial Workflows with Algorithms
 - 3.4.1. Importance of Optimizing Editorial Workflows
 - 3.4.2. Algorithms for Editorial Automation and Optimization
 - 3.4.3. Tools and Technologies for Editorial Optimization
 - 3.4.4. Challenges in Implementation and Continuous Improvement in Editorial Workflows





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- 3.5. Realistic Simulations in Video Game Design
 - 3.5.1. Importance of Realistic Simulations in the Video Game Industry
 - 3.5.2. Modeling and Simulation of Realistic Elements in Video Games
 - 3.5.3. Technologies and Tools for Realistic Simulations in Videogames
 - 3.5.4. Technical and Creative Challenges in Realistic Video Game Simulations
- 3.6. Automatic Generation of Multimedia Content in Editorial Design
 - 3.6.1. Transformation with Automatic Multimedia Content Generation
 - 3.6.2. Algorithms and Models for Automatic Multimedia Content Generation
 - 3.6.3. Practical Applications in Publishing Projects
 - 3.6.4. Challenges and Future Trends in the Automatic Generation of Multimedia Content
- 3.7. Adaptive and Predictive Design based on User Data
 - 3.7.1. Importance of Adaptive and Predictive Design in User Experience
 - 3.7.2. Collection and Analysis of User Data for Adaptive Design
 - 3.7.3. Algorithms for Adaptive and Predictive Design
 - 3.7.4. Integration of Adaptive Design in Platforms and Applications
- 3.8. Integration of Algorithms in the Improvement of Usability
 - 3.8.1. Segmentation and Behavioral Patterns
 - 3.8.2. Detection of Usability Problems
 - 3.8.3. Adaptability to Changes in User Preferences
 - 3.8.4. Automated a/b Testing and Analysis of Results
- 3.9. Continuous Analysis of User Experience for Iterative Improvements
 - 3.9.1. Importance of Continuous Feedback in Product and Service Evolution
 - 3.9.2. Tools and Metrics for Continuous Analysis
 - 3.9.3. Case Studies Demonstrating Substantial Improvements Achieved through this Approach
 - 3.9.4. Handling of Sensitive Data
- 3.10. Al-assisted Collaboration in Editorial Teams
 - 3.10.1. Transformation of Al-assisted Collaboration in Editorial Teams
 - 3.10.2. Tools and Platforms for Al-assisted Collaboration
 - 3.10.3. Development of Virtual Assistants Specialized in Editing
 - 3.10.4. Challenges in the Implementation and Future Applications of Al-assisted Collaboration





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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 we face 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

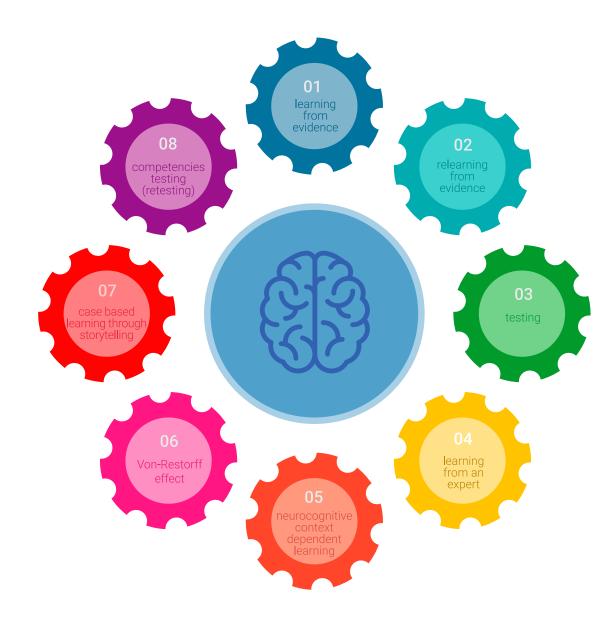
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.



Methodology | 27 tech

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. With this methodology we have 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, markets, and financial 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.



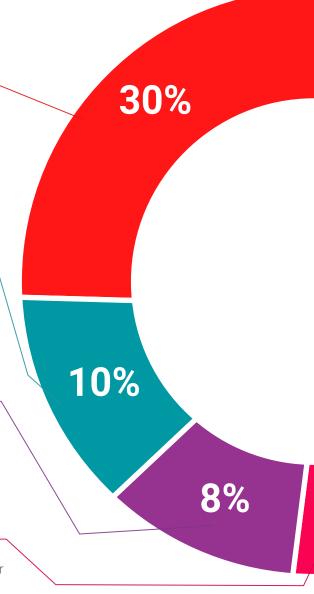
Practising Skills and Abilities

They will carry out activities to develop specific competencies and skills in each thematic 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.





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.

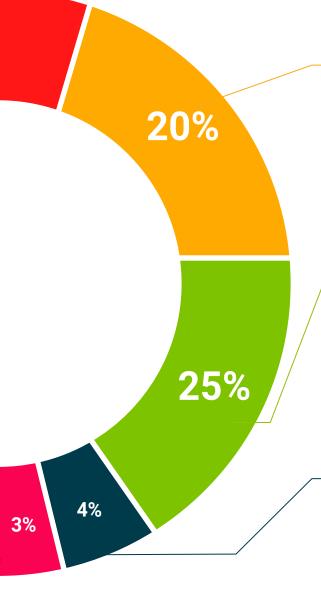


This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Testing & Retesting

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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.







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This **Postgraduate Diploma in Innovation in Design through Artificial Intelligence** 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 certificate 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 Innovation in Design through Artificial Intelligence**Official N° of Hours: **450 h**.



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

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leducation information tutors
guarantee accreditation teaching
institutions technology learning



Postgraduate Diploma Innovation in Design through Artificial Intelligence

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

