Postgraduate Certificate

Personalization of Education through Artificial Intelligence

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Postgraduate Certificate
Personalization of Education through Artificial Intelligence

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

Website: **www.techtitute.com/us/education/postgraduate-certificate/personalization-education-artificial-intelligence**

Index

01

Introduction

Personalization of Teaching Strategies based on data analysis with Artificial Intelligence (AI) is a growing trend in the field of education. This technique involves the use of information collected from students (such as test scores, study time, interactions on platforms, etc.) and their learning behavior, in order to improve the way they are taught. In this way, teachers can adjust their teaching approaches by identifying areas for improvement and tailoring content according to the individual needs of each student. For this reason, TECH launches a university program that will provide the most advanced pedagogical strategies to individualize educational development. All in a convenient 100% online format.

Delve into intervention strategies to address academic challenges in the best digital university in the world according to Forbes"

More and more educational institutions are becoming aware of the benefits that Machine Learning offers to the world of Teaching. Among them, the personalization of learning according to the individual needs of students stands out. Teachers are thus using AI's own mechanisms to create adaptive teaching itineraries. In addition, this technology provides students with immediate feedback to students by identifying errors and areas for improvement. This allows students to learn much more effectively by taking into account their personal difficulties.

In this context, TECH is developing a Postgraduate Certificate that will delve into the implementation of AI in the educational environment to personalize educational processes. The syllabus will delve into the use of *Machine Learning* techniques to interpret trends and patterns. At the same time, the syllabus will offer multiple indicators of academic performance from educational data. Teachers will establish key metrics to evaluate student performance and identify areas for improvement. In addition, the program will address the most modern AI tools to make educational decisions based on accurate information. The program will also include the analysis of case studies of successful predictions, so that professionals can learn from the lessons and use them in their educational environments.

On the other hand, the program's methodology will reflect the need for flexibility and adaptation to contemporary professional demands. With a 100% online format, it will allow graduates to advance their education without compromising their job responsibilities. In addition, the application of the *Relearning*system, based on the reiteration of key concepts, ensures a deep and lasting understanding. This pedagogical approach reinforces the ability of professionals to effectively apply the knowledge acquired in their daily practice. In turn, the only thing physicians will need to complete this academic pathway will be a device with Internet access.

The **Postgraduate Certificate in Personalization of Education through Artificial Intelligence** contains the most complete and up-to-date program on the market. Its most notable features are:

- The development of case studies presented by experts in Personalization of Education 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 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

You will make the most of feedback integration to optimize your teaching process"

You will implement innovative data protection techniques to ensure the privacy of educational systems"

You will use the most advanced Classification and Regression Algorithms to predict educational trends.

Thanks to the Relearning system used by TECH you will reduce the long hours of study and memorization.

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.

02

Objectives

Thanks to this program, professionals will implement the most advanced AI mechanisms to the analysis and evaluation of educational data to achieve constant improvement in the classroom. In this way, graduates will establish academic performance indicators to estimate student performance. On the other hand, specialists will carry out personalized diagnoses of learning difficulties, based on the data obtained with Machine Learning. Experts will intervene specifically to solve the problems they detect in their students.

This program gives you the opportunity to update your knowledge in a real scenario, with the maximum scientific rigor of an institution at the forefront of technology"

General Objectives

- Understand the fundamental ethical principles related to the application of Artificial Intelligence (AI) in educational settings
- Analyze the current legislative framework and the challenges associated with the implementation of AI in educational settings
- Develop critical skills to evaluate the ethical and social impact of AI in education
- Encourage the responsible design and use of AI solutions in educational contexts, considering cultural diversity and gender equity
- Train in the design and implementation of AI projects in the educational environment
- Provide an in-depth understanding of the theoretical foundations of AI, including machine learning, neural networks, and natural language processing
- Develop skills to integrate AI projects effectively and ethically into the educational syllabus
- Understand the applications and impact of AI in teaching and learning, critically assessing its current and potential uses
- Apply generative AI to personalize and enrich teaching practice, creating adaptive educational materials
- Identify, evaluate, and apply the latest trends and emerging technologies in AI relevant to education, reflecting on their challenges and opportunities

Specific Objectives

- Apply AI in the analysis and evaluation of educational data to drive continuous improvement in educational settings
- Define academic performance indicators based on educational data to measure and improve student performance
- Implement AI technologies and algorithms to perform predictive analytics on academic performance data
- Perform personalized diagnostics of learning difficulties through data analysis with AI, identifying particular educational needs and designing targeted interventions
- Address security and privacy in the processing of educational data when applying AI tools, ensuring regulatory and ethical compliance

As this is an online program, you will be able to combine your studies with the rest of your daily activities"

03

Course Management

In its commitment to provide educational excellence, TECH has a teaching staff of international prestige. These specialists have extensive professional experience, being part of recognized academic centers. In addition, they are characterized by a deep knowledge of AI management. They also offer these technological resources to students in order to provide educational resources based on excellence. In this way, students have the guarantees they need to update their competencies and acquire new skills to make a leap in their professional careers.

You will have access to a syllabus designed by a reputable teaching staff, which will guarantee you a successful learning"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at AI Shephers GmbH
- 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 the University of Castilla-La Mancha and Executive MBA from the University Isabel I
- Professional Master's Degree in Sales and Marketing Management, Isabel I University
- Expert Master's Degree in Big Data by Hadoop Training
- Professional Master's Degree in Advanced Information Technologies from the University of Castilla - La Mancha
- Member of: SMILE Research Group

Mr. Nájera Puente, Juan Felipe

- Data Analyst and Data Scientist
- Director of Studies and Research at the Council for Quality Assurance in Higher Education
- Production Programmer at Confiteca C.A
- Processes Consultant at Esefex Consulting
- Academic Planning Analyst at San Francisco de Quito University
- Professional Master's Degree in *Big Data* and Data Science at the International University of Valencia
- Industrial Engineer from San Francisco de Quito University

Professors

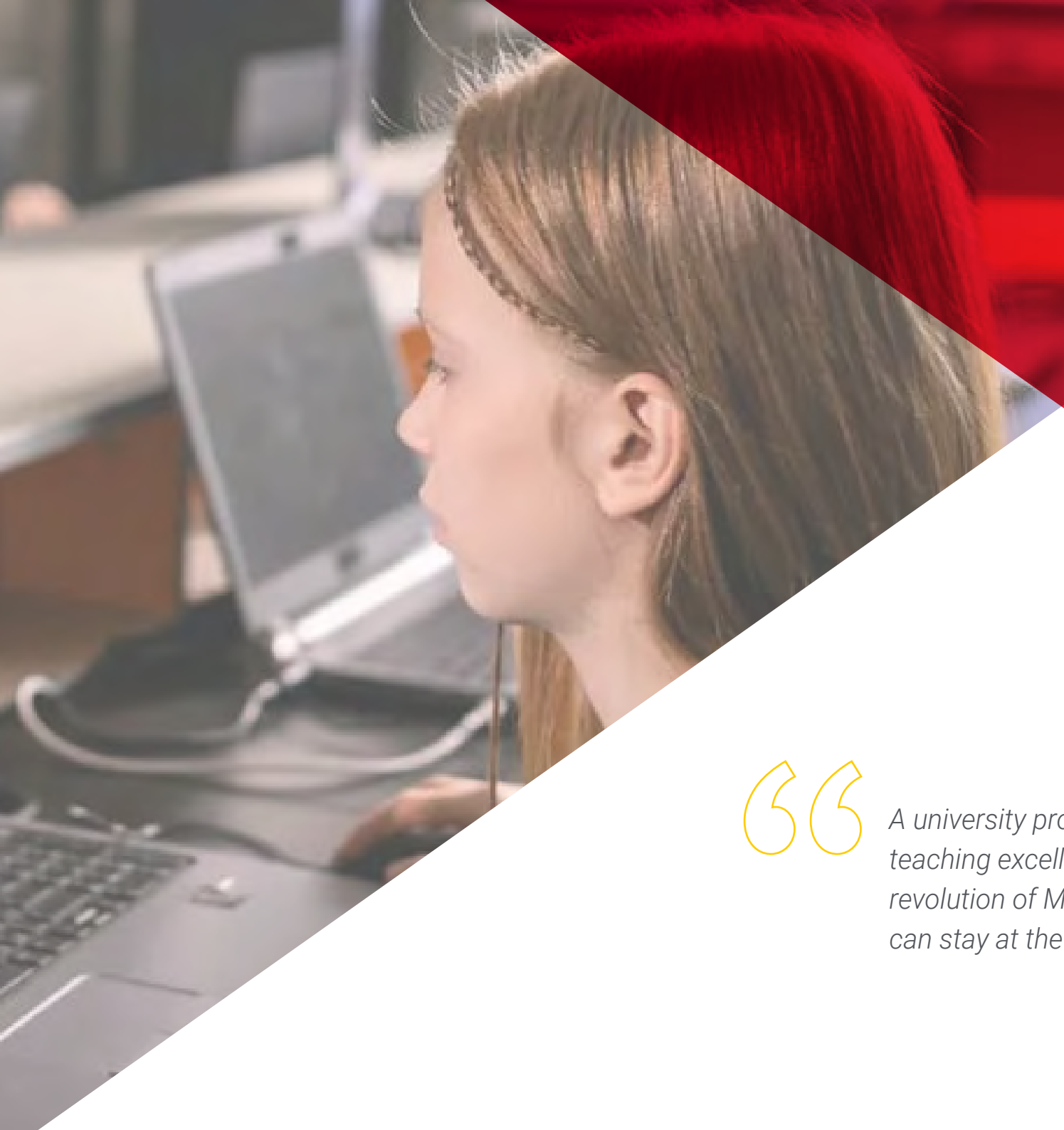
Ms. Martínez Cerrato, Yésica

- Education, Business and Marketing Specialist
- Responsible for Technical Training at Securitas Seguridad España
- *Product Manager* in Electronic Security at Securitas Seguridad España
- Business Intelligence Analyst at Ricopia Technologies
- Computer Technician and Head of OTEC Computer Classrooms at the University of Alcalá de Henares
- Collaborator in the ASALUMA Association
- Degree in Electronic Communications Engineering at the Polytechnic School, University of Alcalá de Henares, Madrid

04

Structure and Content

This Postgraduate Certificate will provide graduates with a solid understanding of the Personalization of Education through AI. To this end, the syllabus will delve into the identification, extraction, preparation and evaluation of educational data. In this way, professionals will implement continuous improvements in the classroom, ensuring teaching based on the highest quality. In line with this, the syllabus will offer multiple Machine Learning tools for teachers to make more informed educational decisions. Likewise, the academic materials will delve into the application of Data Analysis in order to prevent and solve educational problems quickly.



A university program that combines teaching excellence with the technological revolution of Machine Learning, so you can stay at the forefront of education"

Module 1. Data analysis and application of AI techniques for educational personalization

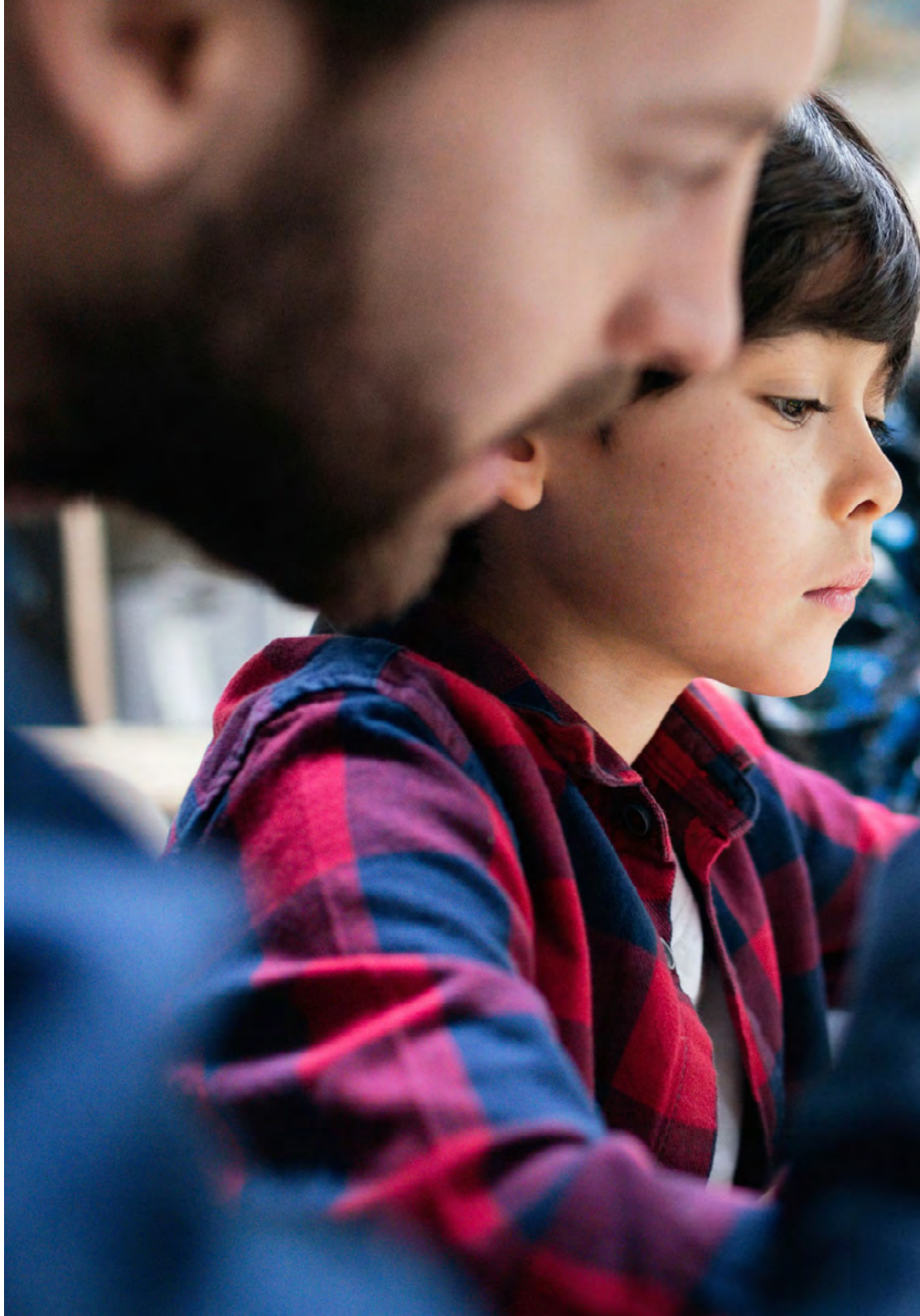
1.1. Identification, Extraction and Preparation of Educational Data
- 1.1.1. Methods of Collection and Selection of Relevant Data in Educational Settings
- 1.1.2. Data Cleaning and Normalization Techniques for Educational Analyses
- 1.1.3. Importance of Data Integrity and Quality in Educational Research

1.2. Analysis and Evaluation of Educational Data with AI for Continuous Improvement in the Classroom
- 1.2.1. Use of Machine Learning Techniques to Interpret Educational Trends and Patterns
- 1.2.2. Evaluating the Impact of Pedagogical Strategies using Data Analytics
- 1.2.3. Integration of AI-based Feedback for the Optimization of the Teaching Process

1.3. Definition of Academic Performance Indicators from Educational Data
- 1.3.1. Establishment of Key Metrics for Evaluating Student Achievement
- 1.3.2. Comparative Analysis of Indicators to Identify Areas for Improvement
- 1.3.3. Correlation Between Academic Indicators and External Factors Using AI

1.4. AI Tools for Educational Decision Making and Monitoring
- 1.4.1. AI-based Decision Support Systems for Educational Administrators
- 1.4.2. Role of AI in Educational Resource Planning and Allocation
- 1.4.3. Optimization of Educational Processes through Predictive Analytics

1.5. AI Technologies and Algorithms for Predictive Analysis of Academic Achievement Data
- 1.5.1. Fundamentals of Predictive Modeling in Education
- 1.5.2. Use of Classification and Regression Algorithms to Predict Trends in Education
- 1.5.3. Case Studies of Successful Predictions in Educational Environments



1.6. Application of Data Analytics with AI for the Prevention and Solution of Educational Problems
- 1.6.1. Early Identification of Academic Risks through Predictive Analytics
- 1.6.2. Data-driven Intervention Strategies to Address Educational Challenges
- 1.6.3. Assessing the Impact of AI-based Solutions in Education

1.7. Personalized Diagnosis of Learning Difficulties from Data Analytics with AI
- 1.7.1. AI Techniques for the Identification of Learning Styles and Learning Difficulties
- 1.7.2. Integration of Data Analysis into Individualized Educational Support Plans
- 1.7.3. Case Studies of Diagnoses Improved by the Use of AI

1.8. Data Analysis and Application of AI for Identification of Special Educational Needs
- 1.8.1. AI Approaches to the Detection of Special Educational Needs
- 1.8.2. Personalization of Teaching Strategies Based on Data Analysis
- 1.8.3. Evaluation of the Impact of AI on Educational Inclusion

1.9. Personalization of Learning with AI from Academic Performance Data Analytics
- 1.9.1. Creating Adaptive Learning Pathways using AI
- 1.9.2. Implementation of Recommender Systems for Educational Resources
- 1.9.3. Individual Progress Measurement and Real-Time Adjustments via AI

1.10. Security and Privacy in the Processing of Educational Data
- 1.10.1. Ethical and Legal Principles in the Management of Educational Data
- 1.10.2. Data Protection and Privacy Techniques in AI-based Educational Systems
- 1.10.3. Case Studies on Security Breaches and their Impact on Education

Don't miss the opportunity to boost your career through this innovative program in just 6 weeks"

05

Methodology

This training program offers 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"

At TECH Education School we use the Case Method

In a given situation, what should a professional do? Throughout the program students will be presented with multiple simulated cases based on real situations, where they will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method.

With TECH, educators can experience a learning methodology that is shaking the foundations of traditional universities around the world.

It is a technique that develops critical skills and prepares educators to make decisions, defend their arguments, and contrast opinions.

Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method"

The effectiveness of the method is justified by four fundamental achievements:

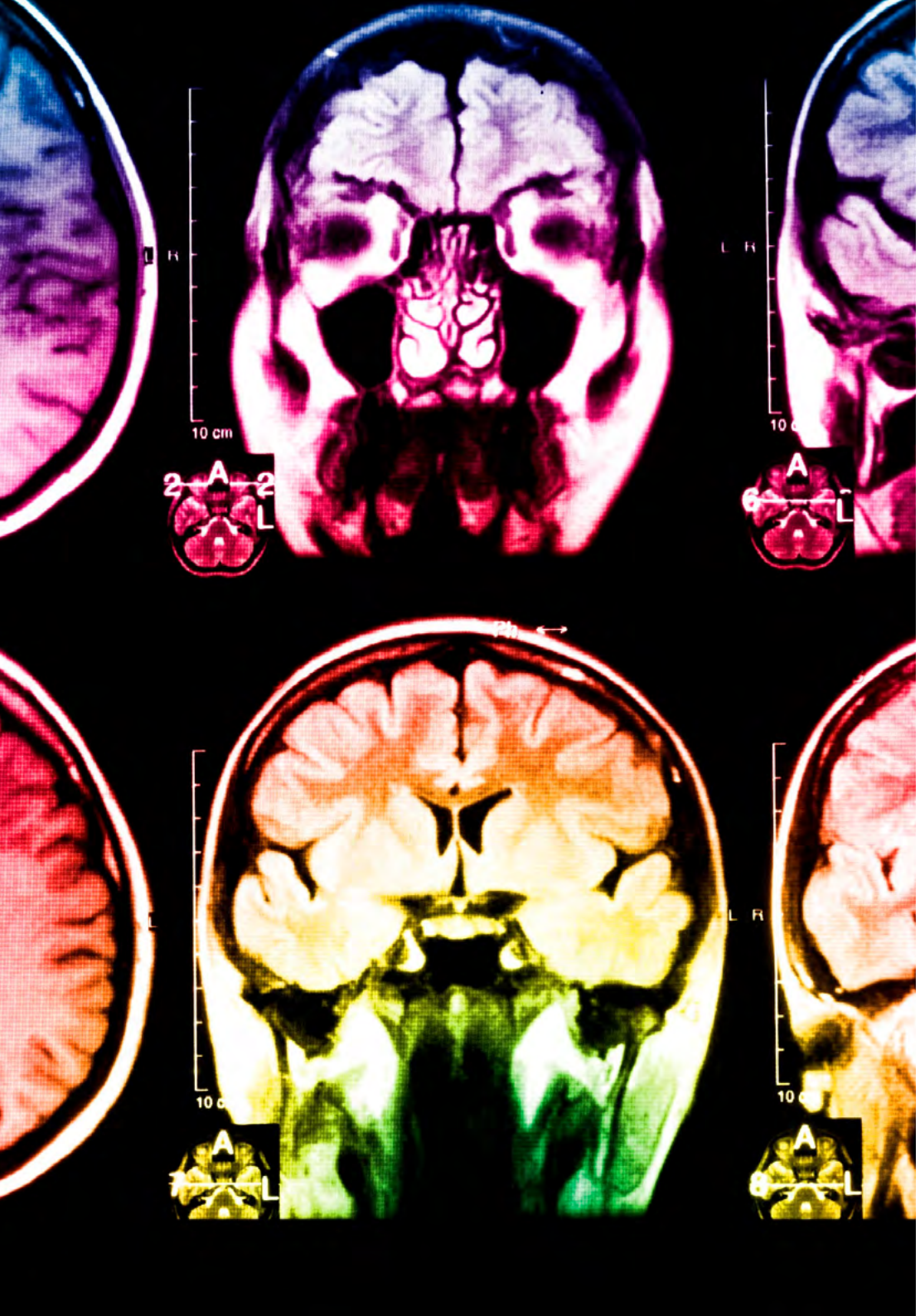
1. Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life teaching.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

Our University is the first in the world to combine case studies with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.

Educators will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we have trained more than 85,000 educators with unprecedented success in all specialties. 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.

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.

The overall score obtained by our learning system is 8.01, according to the highest international standards.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialist educators who teach the course, specifically for the course, so that the teaching content is really 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.

Educational Techniques and Procedures on Video

TECH introduces students to the latest techniques, with the latest educational advances, and to the forefront of Education. All this, first-hand, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.

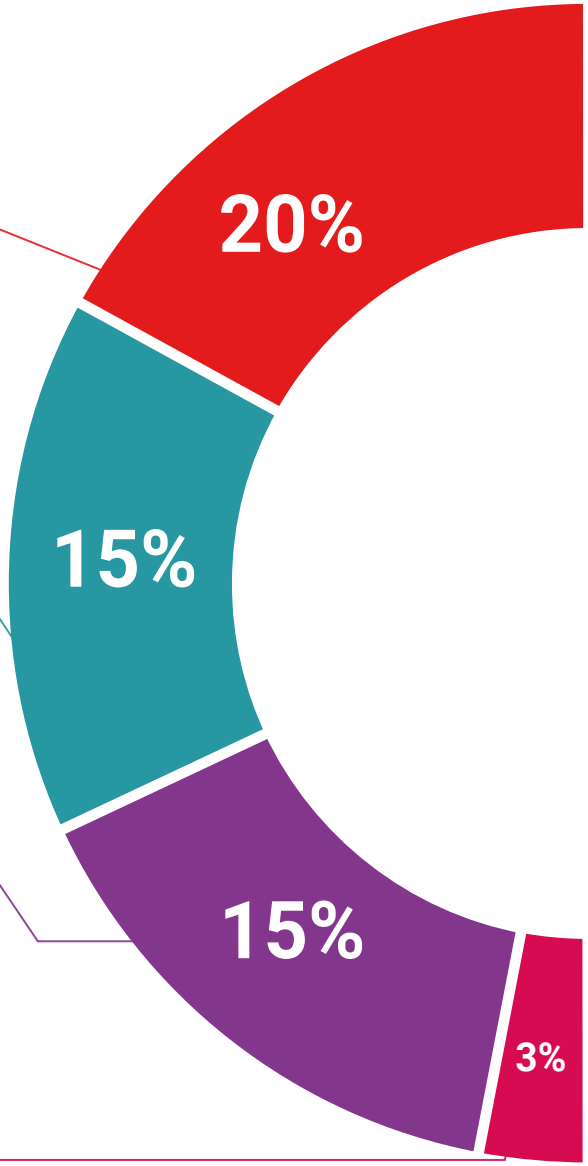
Interactive Summaries

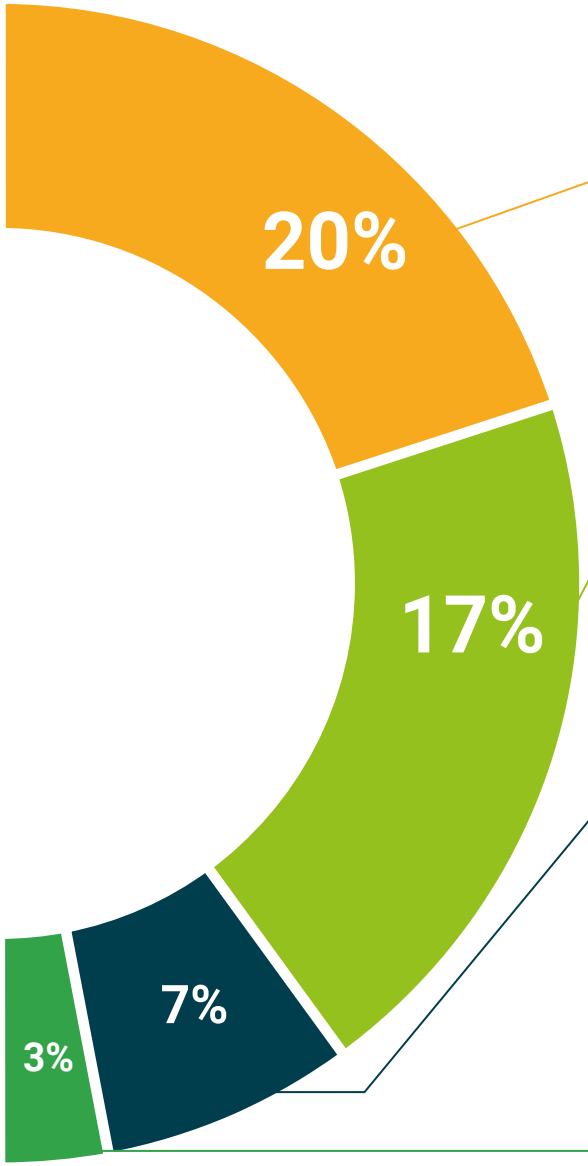
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".

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.





Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

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 your goals.

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.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.

06

Certificate

The Postgraduate Certificate in Personalization of Education through Artificial Intelligence guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

The **Postgraduate Certificate in Personalization of Education 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 Certificate** issued by **TECH Technological University** via tracked delivery*.

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

Title: **Postgraduate Certificate in Personalization of Education through Artificial Intelligence**

Official Nº of Hours: **150 h.**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Awards the following

DIPLOMA

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Personalization of Education through Artificial Intelligence

This is a qualification awarded by this University, equivalent to 150 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

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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