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/artificial-intelligence/postgraduate-certificate/personalization-education-artificial-intelligence**

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01

Introduction

Academic Performance Indicators are key to evaluate the performance of students in an educational environment. These indicators contribute to improving the quality of teaching and the evaluation of the academic system. To obtain more accurate data, experts employ the resource of Artificial Intelligence (AI), whose systems are responsible for collecting, analyzing and evaluating data in a more efficient way. In this way, specialists can use them to analyze texts written by students to detect similarities with external sources, determining whether plagiarism is taking place. In this context, TECH has developed a pioneering 100% online qualification, which will provide professionals with the most effective tools to make educational decisions.

TECH's 100% online methodology will allow you to update your knowledge without interrupting your professional work"

More and more educational institutions are becoming aware of the benefits of Machine Learning for academic data processing. Among them, the detection of suspicious activities, which could indicate a possible violation of privacy, stands out. In turn, this mechanism drives biometric authentication, such as facial or fingerprint recognition, to ensure that only authorized individuals have access to information. Similarly, Artificial Intelligence (AI) serves to manage the encryption of recorded facts efficiently.

In this sense, TECH has designed an innovative program that will offer the keys to implement secure protocols in the treatment of educational data, through the use of Artificial Intelligence. At the same time, the syllabus will delve into the most effective mechanisms for the predictive study of academic performance data.

In addition, students will analyze data that will contribute to both the prevention and solution of educational problems. In addition, the program will provide the keys for graduates to develop personalized diagnoses of learning difficulties.

On the other hand, the university qualification will be based on the revolutionary Relearning methodology, a learning system pioneered by TECH, which consists of reiterating the key aspects of the syllabus so that they remain in the mind. The program can be planned individually, as there are no preset schedules or evaluation chronograms. All students will need is an electronic device with Internet access, such as a cell phone, tablet or computer.

Likewise, the Virtual Campus will be available 24 hours a day, offering users the possibility of downloading teaching materials for later consultation. They will also be able to access a library full of multimedia resources, including interactive summaries and infographics, all to strengthen their knowledge in a dynamic way.

The **Postgraduate Certificate in Personalization of Education 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 Personalization of Education through Artificial Intelligence
- 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

You will master the most modern Machine Learning algorithms to obtain academic performance data"

You will use the most sophisticated applications to detect the particular educational needs of your students”

The program will include real case studies and exercises to bring the development of the program closer to the usual teaching practice.

Relearning will allow you to learn with less effort and higher performance, involving you more in your professional specialization.

The program’s teaching staff includes professionals from the 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 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

Through this university program, graduates will apply Artificial Intelligence in the analysis and evaluation of educational data to achieve constant improvement in the classroom. Professionals will establish academic performance indicators, based on educational data, to evaluate student performance. In addition, experts will carry out personalized diagnoses of learning difficulties, using information obtained with Artificial Intelligence. In this way, specialists will intervene specifically to solve the problems they detect in their students.

Looking for a boost to your teaching career? Specialize in Intelligent Automation in only 150 hours with this unique program"

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 Artificial Intelligence in educational settings
- Develop critical skills to evaluate the ethical and social impact of Artificial Intelligence in education
- Promote the design and responsible use of Artificial Intelligence solutions in educational contexts, considering cultural diversity and gender equity
- Learn he design and implementation of Artificial Intelligence projects in the educational environment
- Provide a deep understanding of the theoretical foundations of Artificial Intelligence, including machine learning, neural networks and natural language processing
- Develop skills to integrate Artificial Intelligence projects effectively and ethically into educational syllabus
- Understand the applications and impact of Artificial Intelligence in teaching and learning, critically assessing its current and potential uses
- Apply generative Artificial Intelligence to personalize and enrich teaching practice, creating adaptive educational materials
- Identify, evaluate and apply the latest trends and emerging technologies in Artificial Intelligence relevant to education, reflecting on their challenges and opportunities

Specific Objectives

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

You will be immersed in a booming industry, where AI innovation merges with learning in the educational field"

03

Course Management

In order to maintain intact the high educational level that defines all TECH programs, this Postgraduate Certificate has important teachers in Artificial Intelligence applied to educational contexts. These professionals have an extensive professional background, which has led them to be part of prestigious academic institutions. In this line, these specialists have designed a study plan for graduates to acquire the necessary knowledge and skills to apply in their daily teaching practice.

Get updated in the Analysis of Academic Performance Data by the best experts in the field. Launch your career with TECH!"

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 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
- 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

04

Structure and Content

This university program will provide professionals with a thorough understanding of the Personalization of Education through Artificial Intelligence. Designed by an experienced faculty, the syllabus will delve into the identification, extraction, preparation and evaluation of educational data. Graduates will apply continuous improvements in the classroom, guaranteeing teaching based on excellence. In this line, the syllabus will provide various tools of Machine Learning, which will allow more informed educational decisions. Finally, the program will delve into the application of Data Analysis to prevent and solve educational problems quickly.

This Postgraduate Certificate merges teaching excellence with the technological revolution of Artificial Intelligence, 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

The current importance of Personalization of Education makes this program a safe bet, especially in an ever-growing market full of possibilities"

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 has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. 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 course, students 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

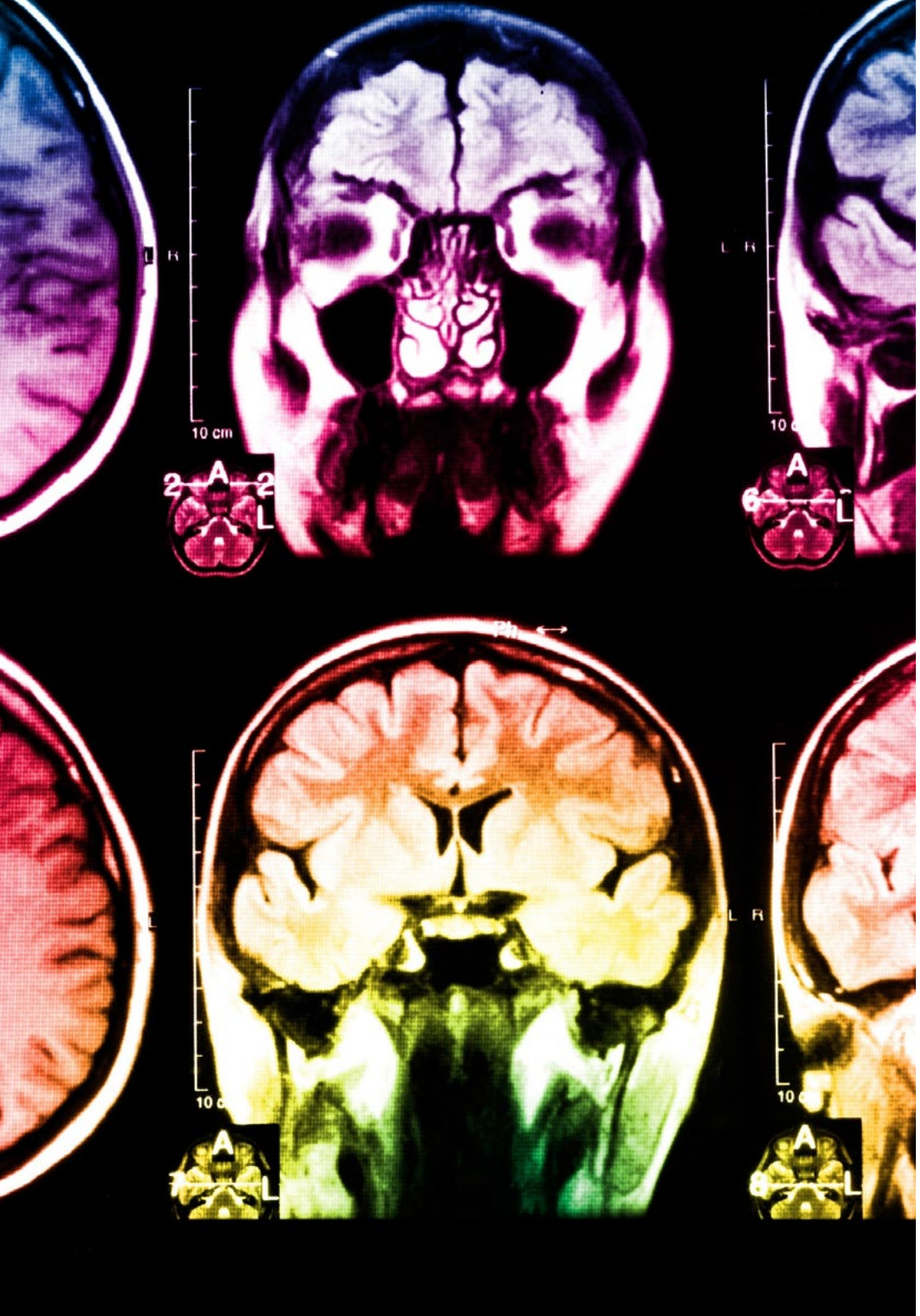
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

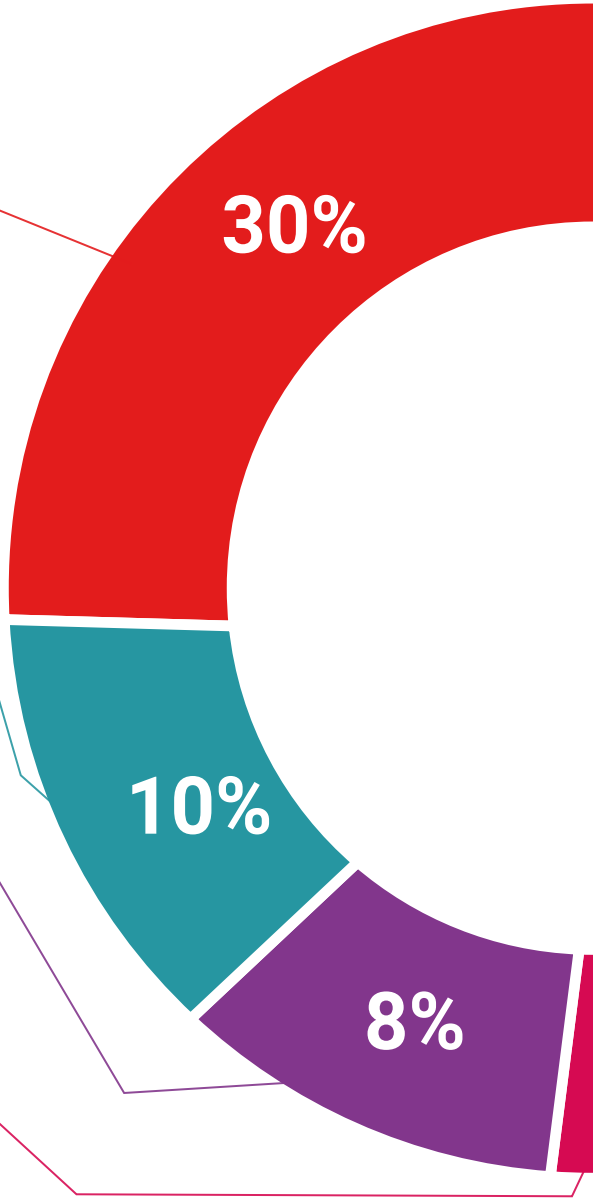
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

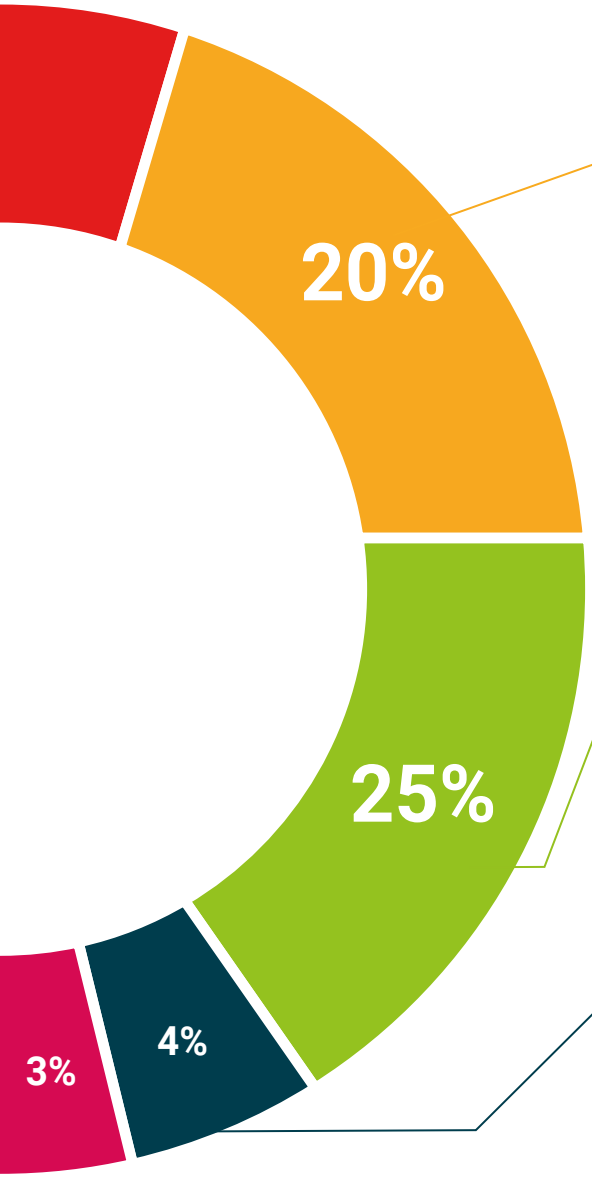
Practising Skills and Abilities

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 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"

This **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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