Postgraduate Certificate
Optimization of Patient Care and Treatment with Artificial Intelligence

tech global university

Postgraduate Certificate
Optimization of Patient Care and Treatment with Artificial Intelligence

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Global University**
- » Accreditation: **6 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/us/medicine/postgraduate-certificate/optimization-patient-care-treatment-artificial-intelligence**

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01
Introduction

Artificial Intelligence (AI) has become a tool with multiple applications in medicine. With it, physicians optimize processes such as the monitoring of their patients during their stay in intensive care. To this end, they use innovative tools for monitoring and controlling health indicators and electronic records. In this way, specialists implement the most disruptive mechanisms to make clinical decisionsv supported by outcome prediction. In this context, TECH has implemented an advanced program that comprehensively specializes physicians on healthcare through Intelligent Automation. In addition, it is taught 100% on a platform with a variety of didactic resources in multimedia format.

You will acquire advanced skills in the presentation, visualization and management of Artificial Intelligence data applied to the healthcare field"

Healthcare is a highly complex field that encompasses a wide variety of disciplines, from Medicine and Nursing to Computer Science and even Engineering. However, all these branches have a common goal: to provide the highest quality healthcare to patients. In this sense, interdisciplinary collaboration is key to more effectively address the medical challenges associated with AI-assisted treatments. This will allow professionals to define the needs of individuals, knowing their real problems in order to subsequently make efficient approaches.

For this reason, TECH has developed this Postgraduate Certificate that will improve the health care of its graduates through a thorough knowledge of Intelligent Automation. Designed by a teaching staff specialized in this subject, the syllabus will offer the most contemporary equipment for health monitoring. Along the same lines, the syllabus will delve into machine learning algorithms for the execution of therapeutic treatments. At the same time, the didactic materials will promote the adaptability of experts to therapeutic protocols using AI. The specialization will also delve into its application to act in health emergencies such as epidemiological outbreaks.

On the other hand, the only thing students will need to expand their knowledge will be a device with Internet access, such as a cell phone, computer or tablet, to access the Virtual Campus. The schedules and evaluation chronograms can be individually planned by the graduates. Also, this syllabus will be distinguished by relying on the disruptive Relearning teaching system, which is based on repetition to ensure the mastery of its different aspects. At the same time, it mixes the learning process with real situations so that the knowledge is acquired in a natural and progressive way, without the extra effort that memorizing would entail.

This **Postgraduate Certificate in Optimization of Patient Care and Treatment with Artificial Intelligence** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of case studies presented by experts in Artificial Intelligence in Clinical Practice
- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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 plan the measures through computerized and intelligent tools after this academic itinerary of TECH, the best digital university in the world according to Forbes"

You will have access to multimedia resources, such as explanatory videos and interactive summaries, which will allow you to dynamically update your skills.

"*You will handle Artificial Intelligence effectively to cope with health emergency situations thanks to the study of this intensive program*"

The Relearning methodology used in this university program will allow you to acquire solid healthcare knowledge in an autonomous and progressive way.

The program's teaching staff includes professionals from the industry 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

Through this Postgraduate Certificate, physicians will acquire a multidisciplinary and comprehensive vision on the application of AI in different medical treatments. Therefore, graduates will effectively handle the most innovative tools for monitoring and control of health indicators. They will also stand out for offering optimal health care, based on the implementation of highly personalized treatments. They will also be prepared to act in the face of health emergencies such as epidemic outbreaks, therefore ensuring rapid and effective responses. On the other hand, experts will be able to innovate by developing new lines of research to offer therapeutic advances.

You will stand out for your adaptability and mastery of therapeutic protocols based on Artificial Intelligence after completing this TECH course"

General Objectives

- Understand the theoretical foundations of Artificial Intelligence.
- Study the different types of data and understand the data lifecycle
- Evaluate the crucial role of data in the development and implementation of AI solutions
- Delve into algorithms and complexity to solve specific problems
- Explore the theoretical basis of neural networks for Deep Learning development
- Analyze bio-inspired computing and its relevance in the development of intelligent systems
- Analyze current strategies of Artificial Intelligence in various fields, identifying opportunities and challenges
- Critically evaluate the benefits and limitations of AI in healthcare, identifying potential pitfalls and providing an informed assessment of its clinical application
- Recognize the importance of collaboration across disciplines to develop effective AI solutions
- Gain a comprehensive perspective of emerging trends and technological innovations in AI applied to healthcare
- Acquire solid knowledge in medical data acquisition, filtering, and preprocessing
- Understand the ethical principles and legal regulations applicable to the implementation of AI in medicine, promoting ethical practices, fairness, and transparency

Specific Objectives

- Interpret results for ethical datasets creation and strategic application in health emergencies
- Acquire advanced skills in the presentation, visualization, and management of AI data in healthcare
- Gain a comprehensive perspective of emerging trends and technological innovations in AI applied to healthcare
- Develop AI algorithms for specific applications such as health monitoring, facilitating the effective implementation of solutions in medical practice
- Design and implement individualized medical treatments by analyzing patients' clinical and genomic data with AI

An academic institution that adapts to you, allowing you to reconcile your daily activities with your studies"

Course Management

In its commitment to offer a first-class educational experience, TECH has carefully selected the teaching staff of this Postgraduate Certificate. These professionals stand out for their years of experience in the medical sector, offering innovative solutions, based on the latest scientific evidence and technology, to effectively solve pathologies of various kinds. In this way, students are guaranteed to have access to the most rigorous content and the academic guidance of up-to-date specialists who are able to develop a healthcare practice of the highest excellence.

"

Leading experts in Treatment Optimization and Patient Care with Artificial Intelligence will share all their knowledge in this field through this exclusive program"

Management

Dr. Peralta Martín-Palomino, Arturo

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

Mr. Martín-Palomino Sahagún, Fernando

- Telecommunications Engineer
- Chief Technology Officer and R+D+i Director at AURA Diagnostics (medTech)
- Business Development at SARLIN
- Chief Operating Officer at Alliance Diagnostics
- Chief Innovation Officer at Alliance Medical
- Chief Information Officer at Alliance Medical
- Field Engineer & Project Management in Digital Radiology at Kodak
- MBA from Polytechnic University of Madrid
- Executive Master's Degree in Marketing and Sales at ESADE
- Telecommunications Engineer from the University Alfonso X El Sabio

Professors

Dr. Carrasco González, Ramón Alberto

- Specialist in Computer Science and Artificial Intelligence
- Researcher
- Head of Business Intelligence (Marketing) at the Caja General de Ahorros de Granada and Banco Mare Nostrum
- Head of Information Systems (Data Warehousing and Business Intelligence) at Caja General de Ahorros de Granada and Banco Mare Nostrum
- Doctor in Artificial Intelligence by the University of Granada
- Higher Engineering Degree in Computer Science from the University of Granada

Mr. Popescu Radu, Daniel Vasile

- Pharmacology, Nutrition and Diet Specialist
- Freelance Producer of Teaching and Scientific Content
- Nutritionist and Community Dietitian
- Community Pharmacist
- Researcher
- Master's Degree in Nutrition and Health at the Open University of Catalonia
- Master's Degree in Psychopharmacology from the University of Valencia
- Pharmacist from the Complutense University of Madrid
- Nutritionist-Dietitian by the European University Miguel de Cervantes

Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

04
Structure and Content

Through this Postgraduate Certificate, physicians will gain a broad understanding of the use of AI-assisted treatment systems. To this end, the university program will cover the most advanced indicators for measuring the health status of patients. In this regard, the teaching materials will offer the most advanced tools for monitoring processes. Graduates will be able to assess the response of individuals to therapies and verify whether any adjustments are required. The syllabus will delve into the keys to improving health care by designing individualized plans. In addition, it will highlight interdisciplinary collaboration to ensure the well-being of citizens.
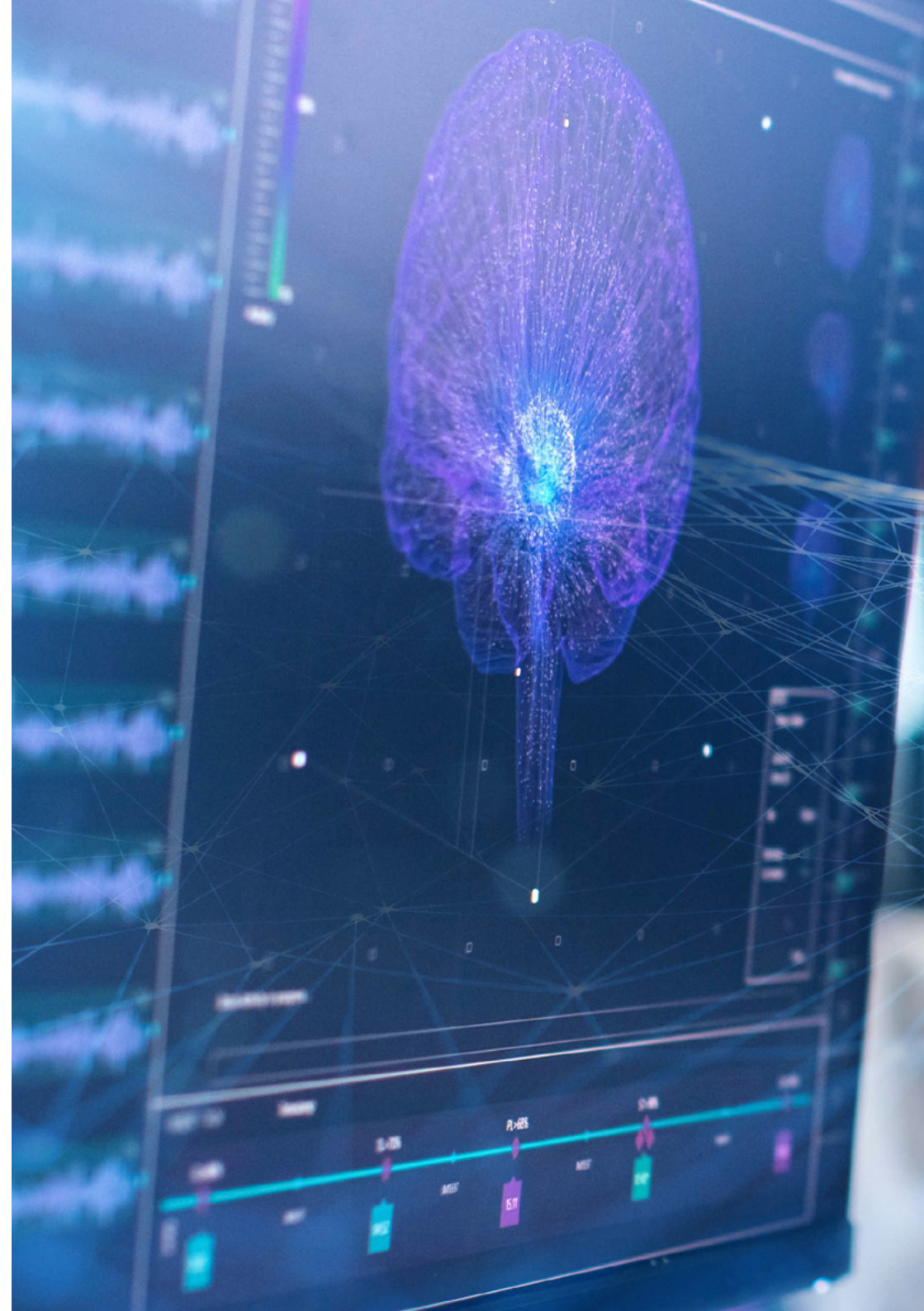
"You will acquire the necessary skills to master Artificial Intelligence assisted treatment systems after this Postgraduate Certificate"

Module 1. Treatment and Management of Patients with AI

1.5. Machine Learning Algorithms for the Establishment of Therapeutic Treatments

1.5.1. Using Machine Learning to Develop Personalized Treatment Protocols

1.5.2. Implementing Predictive Algorithms for the Selection of Effective Therapies

1.5.3. Developing AI Systems for Real-Time Treatment Adaptation

1.5.4. Applying AI in the Analysis of the Effectiveness of Different Therapeutic Options

1.6. Adaptability and Continuous Updating of Therapeutic Protocols using AI with IBM Watson for Oncology

1.6.1. Implementing AI Systems for Dynamic Review and Update of Treatments

1.6.2. Using AI in Adapting Therapeutic Protocols to New Findings and Data

1.6.3. Developing AI Tools for Continuous Personalization of Treatments

1.6.4. Integrating AI in Adaptive Response to Evolving Patient Conditions

1.7. Optimization of Healthcare Services Using AI Technology with Optum

1.7.1. Using AI to Improve the Efficiency and Quality of Healthcare Services

1.7.2. Implementing AI Systems for Healthcare Resource Management

1.7.3. Developing AI Tools for the Optimization of Hospital Workflows

1.7.4. Applying AI in the Reduction of Waiting Times and Improvement of Patient Care

1.8. Applying AI in the Response to Health Emergencies

1.8.1. Implementing AI Systems for Rapid and Efficient Healthcare Crisis Management with BlueDot

1.8.2. Using AI in Optimizing Resource Allocation in Emergencies

1.8.3. Developing AI Tools for Disease Outbreak Prediction and Response

1.8.4. Integrating AI in Warning and Communication Systems during Health Emergencies

1.9. Interdisciplinary Collaboration in AI-Assisted Treatments

1.9.1. Promoting Collaboration between Different Medical Specialties using AI Systems

1.9.2. Using AI to Integrate Knowledge and Techniques from Different Disciplines in Treatment

1.9.3. Developing AI Platforms to Facilitate Interdisciplinary Communication and Coordination

1.9.4. Implementing AI in the Creation of Multidisciplinary Treatment Teams

1.10. Successful Experiences of AI in the Treatment of Diseases

1.10.1. Analysis of Successful Cases in the Use of AI for Effective Treatment of Diseases

1.10.2. Evaluation of the Impact of AI in Improving Treatment Outcomes

1.10.3. Documentation of Innovative Experiences in the Use of AI in Different Medical Areas

1.10.4. Discussion on the Advances and Challenges in the Implementing AI in Medical Treatments

The didactic material of this program will take you deeper into machine learning algorithms for the establishment of therapies in a more visual way. Take this opportunity enroll now"

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*"

At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Nurses learn better, faster, and more sustainably over time.

With TECH, nurses can experience a learning methodology that is shaking the foundations of traditional universities around the world.
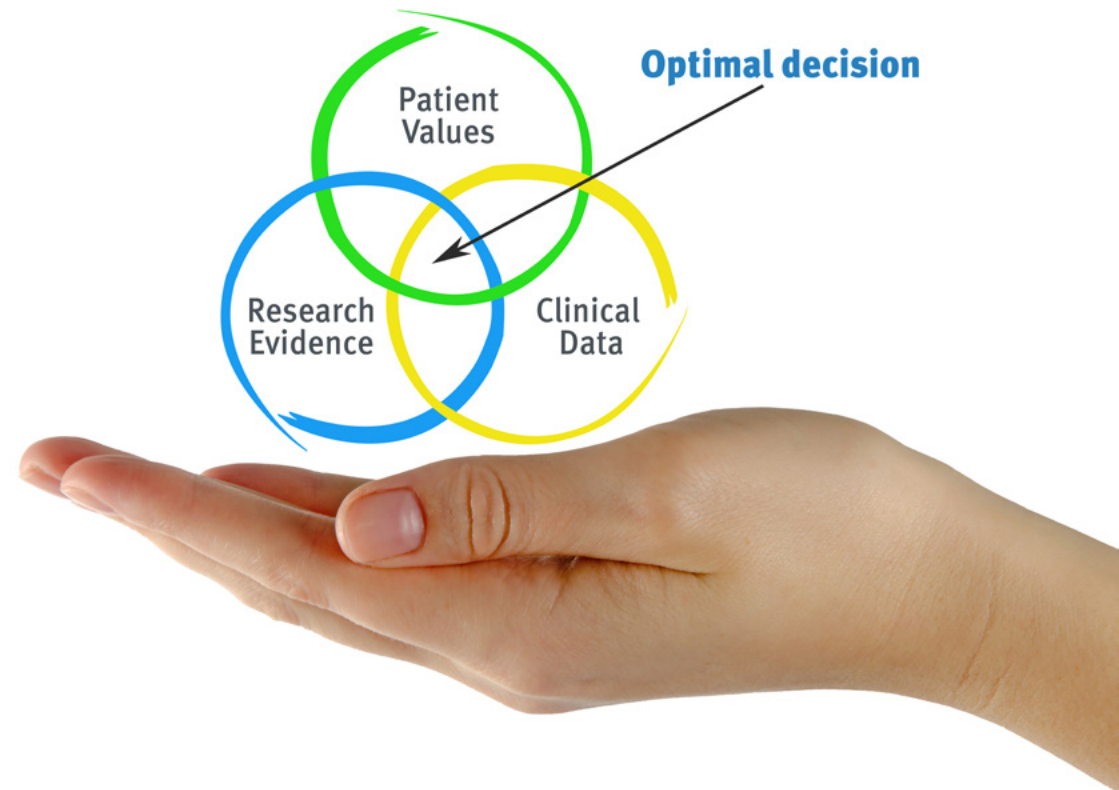
According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, in an attempt to recreate the real conditions in professional nursing practice.

"*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. Nurses 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 has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.

3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.

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.

This 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 is a real revolution compared to the simple study and analysis of cases.

The nurse 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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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 175,000 nurses with unprecedented success in all specialities regardless of practical workload. Our pedagogical methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

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 TECH's learning system is 8.01, according to the highest international standards.

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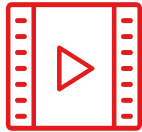
Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is really specific and precise.

These contents are then adapted in 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.

20%

Nursing Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch them as many times as you want.

**15%**

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".
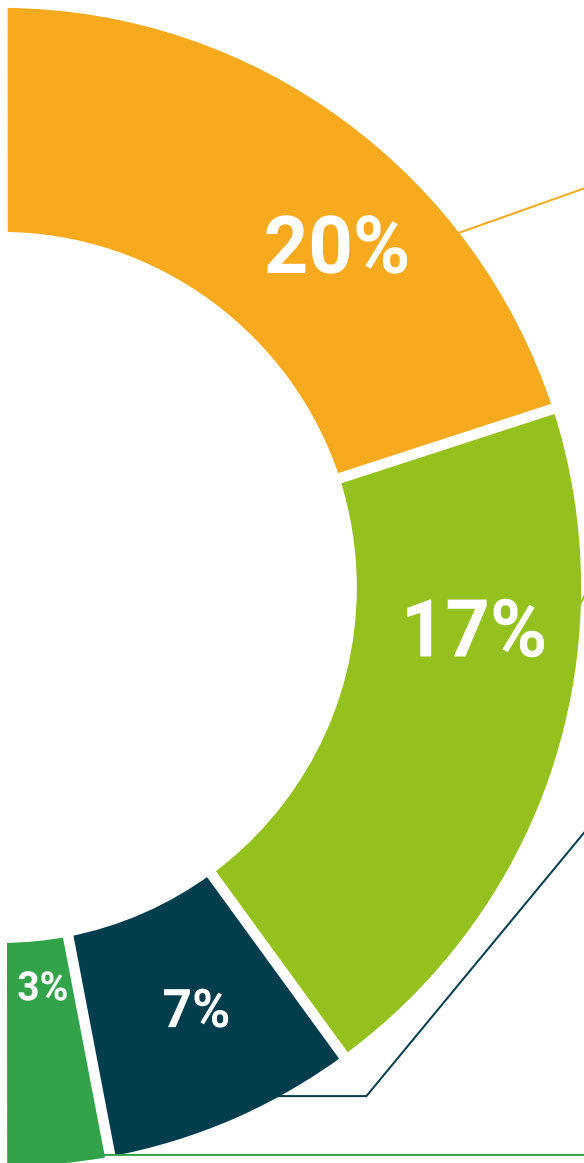
15%

3%

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.

20%

17%

7%

3%
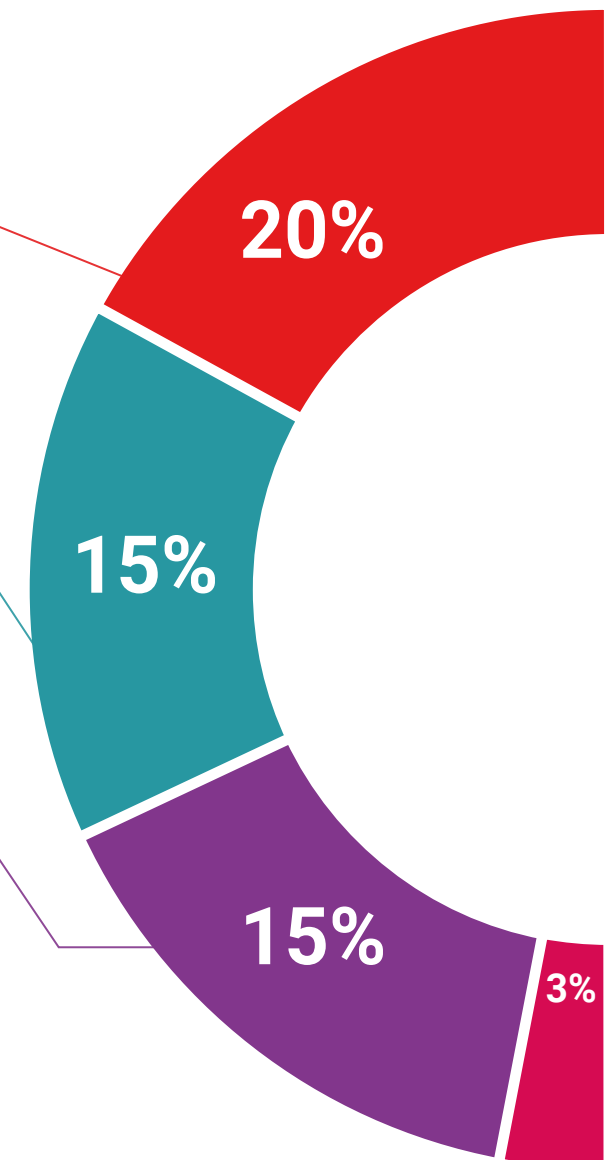
Expert-Led Case Studies and Case Analysis

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

The student's knowledge is periodically assessed and re-assessed throughout the program, through evaluative and self-evaluative activities and exercises: in this way, students can check how they are doing in terms of achieving their 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 Optimization of Patient Care and Treatment with Artificial Intelligence guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This private qualification will allow you to obtain a **Postgraduate Certificate in Optimization of Patient Care and Treatment with Artificial Intelligence** 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.
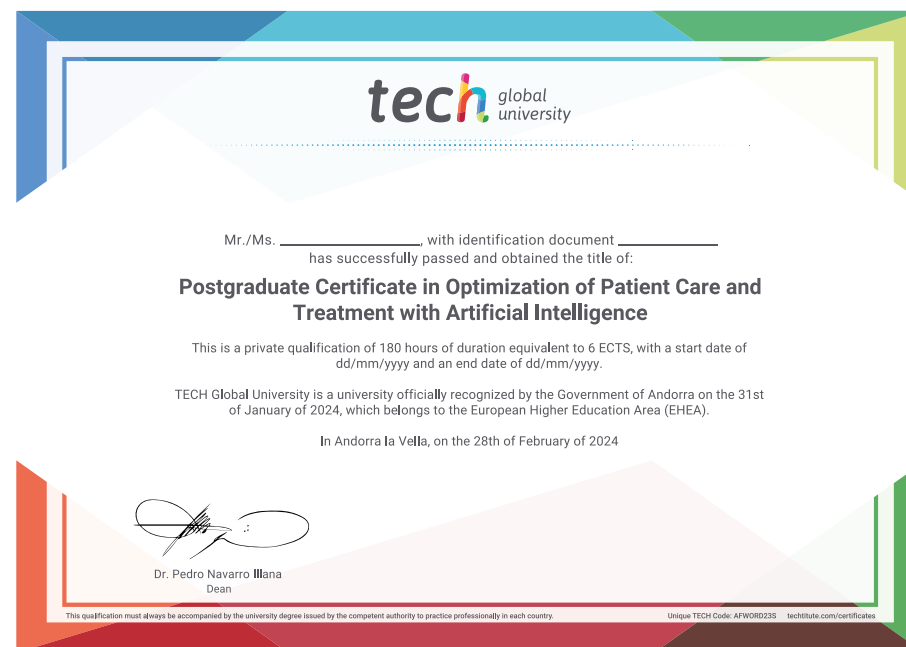
This **TECH Global University** private qualification is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Optimization of Patient Care and Treatment with Artificial Intelligence**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

tech *global university*

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

Postgraduate Certificate in Optimization of Patient Care and Treatment with Artificial Intelligence

This is a private qualification of 180 hours of duration equivalent to 6 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
Dean

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.

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Postgraduate Certificate

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