



Postgraduate Certificate

Artificial Intelligence in Diagnostics and Personalized Therapies

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Global University

» Accreditation: 6 ECTS

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/us/artificial-intelligence/postgraduate-certificate/artificial-intelligence-diagnostics-personalized-therapies

Index

02 Introduction to the Program Why Study at TECH? p. 4 p. 8 05 03 Syllabus **Teaching Objectives Study Methodology** p. 16 p. 12 p. 20 06 **Teaching Staff** Certificate p. 30 p. 34





tech 06 | Introduction to the Program

Artificial Intelligence has burst onto the healthcare scene, optimizing disease diagnosis and enabling highly personalized therapies. Thanks to its ability to analyze large volumes of biomedical data with pinpoint accuracy, Al has boosted the early detection of diseases and the design of treatments tailored to the specific needs of each patient. From the interpretation of medical images to the development of predictive models in oncology, its impact on modern medicine is undeniable.

In view of this innovation scenario, TECH has designed this Postgraduate Certificate in Artificial Intelligence in Diagnostics and Personalized Therapies, which will provide the most comprehensive content on the market. Through a comprehensive and specialized approach, topics such as deep learning in medical image analysis, the optimization of algorithms for the detection of anomalies and the integration of genomic data in clinical decision-making will be addressed. In addition, emphasis will be placed on advanced tools for natural language processing in the interpretation of medical records and the prediction of responses to specific treatments.

With this preparation, professionals will be ready to access high-level job opportunities in hospitals, research centers and biotechnology companies. In turn, this qualification will provide the necessary tools to participate in cutting-edge research, collaborate in the creation of new medical technologies and improve the efficiency of clinical procedures, marking a before and after in healthcare.

In addition, TECH will offer a 100% online modality that allows students to balance learning with other responsibilities. This means that the content will be available at all times and can be consulted from any device with an Internet connection. Finally, the program will be based on the Relearning methodology, which optimizes knowledge retention through the progressive reiteration of key concepts, thereby guaranteeing an effective and dynamic experience.

This Postgraduate Certificate in Artificial Intelligence in Diagnostics and Personalized Therapies contains the most complete and up-to-date educational program on the market. Its most notable features are:

- Development of practical cases presented by experts in Artificial Intelligence
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Special emphasis on innovative methodologies in AI in Diagnostics and Personalized Therapies
- 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 knowledge provided by this syllabus will prepare you to lead technological innovation in Pharmacy and offer more effective treatments that are adapted to the specific needs of each patient"

Introduction to the Program | 07 tech

66

You will receive cutting-edge education, with up-to-date content and the most innovative methodology. This will enable you to become an expert in the application of AI in diagnosis and personalized therapies in pharmacology"

Its teaching staff includes professionals from the field of Artificial Intelligence, who bring their work experience to this program, as well as renowned specialists from leading companies 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 an immersive learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

Do you want to increase your job prospects and growth within the field of Artificial Intelligence related to specialized Pharmacy? You've come to the right place to achieve your goals.

Through a comprehensive syllabus, designed by experts from the industry, TECH will provide you with the tools you need to meet the challenges of AI and pharmaceutical medicine.







tech 10 | Introduction to the Program

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.



The most complete syllabus





World's
No.1
The World's largest
online university

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.









Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's toprated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.



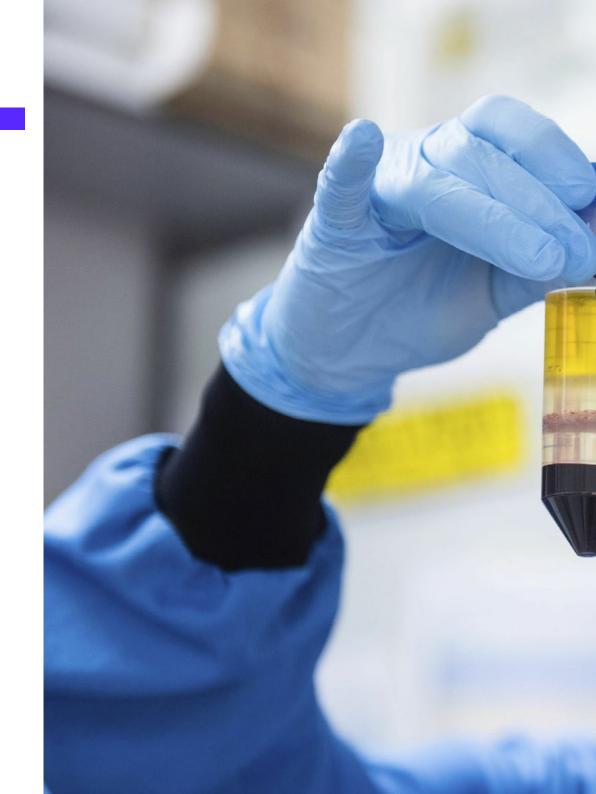
Through a comprehensive study plan, professionals will master everything from deep learning in radiology and the automation of genomic analysis to the development of predictive models in oncology and neurology. In addition, they will handle the use of machine learning algorithms for the identification of patterns in medical records, the integration of big data in medical decision-making and the optimization of therapies based on the patient's genetic profile. In this way, they will acquire the essential tools for applying AI in clinical diagnostics and the personalization of treatments, making a significant difference in modern medicine.



tech 14 | Syllabus

Module 1. Artificial Intelligence in Diagnostics and Personalized Therapies

- 1.1. Early Diagnosis of Diseases
 - 1.1.1. Importance of Early Diagnosis in the Treatment of Diseases
 - 1.1.2. Al Algorithms for Early Detection of Pathology
 - 1.1.3. Al for Predictive Analysis of Risk Factors
 - 1.1.4. Examples such as PathAI for Automated Diagnosis
- 1.2. Al-Based Personalized Therapies
 - 1.2.1. Introduction to Personalized Medicine and Its Relevance
 - 1.2.2. Al for Personalization of Treatments according to Patient Profile
 - 1.2.3. Predictive Models for Personalized Dose Adjustment
 - 1.2.4. Applications such as Tempus in Personalized Oncology
- 1.3. Biomarker Detection Using Al
 - 1.3.1. Concept and Types of Biomarkers in Medicine
 - 1.3.2. Al Algorithms for the Identification of Key Biomarkers
 - 1.3.3. Importance of Biomarkers in Diagnosis and Treatment
 - 1.3.4. Tools such as Freenome for Biomarker Detection
- 1.4. Genomic Medicine and Pharmacogenomics
 - 1.4.1. Genomics and Pharmacogenomics for Personalization of Therapies
 - 1.4.2. Al Applications in the Analysis of Genetic Profiling
 - 1.4.3. Al in the Study of Genetic Variations for Personalized Medicine
 - 1.4.4. Cases such as 23andMe in Personalized Genetic Analysis
- 1.5. Al in Immunotherapy and Oncology
 - 1.5.1. Introduction to Immunotherapy and Its Impact on Cancer Treatment
 - 1.5.2. Application of AI to Personalize Immune Therapies
 - 1.5.3. Al Models for Optimizing Efficacy of Immunotherapies
 - 1.5.4. Examples such as GNS Healthcare for Immunotherapy in Oncology
- 1.6. Personalized Pharmacological Counseling
 - 1.6.1. Importance of Personalized Pharmacological Counseling
 - 1.6.2. Al for Treatment Recommendations according to Specific Conditions
 - 1.6.3. Al Models to Optimize Drug Selection
 - 1.6.4. Example of IBM Watson for Oncology in Treatment Recommendations





Syllabus | 15 tech

- 1.7. Treatment Response Prediction
 - 1.7.1. Al Techniques for Predicting Responses to Different Treatments
 - 1.7.2. Predictive Models of Efficacy and Safety of Treatments
 - 1.7.3. Al Algorithms for Treatment Personalization
 - 1.7.4. Tools such as Foundation Medicine for Analysis of Treatment Response
- 1.8. Development of Algorithms for Specific Therapies
 - 1.8.1. Principles of Algorithm Development for Targeted Therapies
 - 1.8.2. Al for Identifying and Developing Targeted Therapies
 - 1.8.3. Algorithms Personalized according to Disease Type
 - 1.8.4. Applications such as Owkin in Federated Learning for Oncology
- 1.9. Remote Patient Monitoring
 - 1.9.1. Importance of Remote Monitoring in Chronic Patients
 - 1.9.2. Al for Monitoring Parameters and Vital Signs Remotely
 - 1.9.3. Predictive Models to Anticipate Patient Complications
 - 1.9.4. Tools such as Biofourmis for Remote Monitoring
- 1.10. Al in Portable Diagnostic Devices
 - 1.10.1. Impact of Portable Devices on Health Diagnosis
 - 1.10.2. Al Algorithms in Portable Devices Data Analysis
 - 1.10.3. Al for Real-Time Detection of Health Conditions
 - 1.10.4. Examples such as Butterfly iQ, Al-Assisted Portable Ultrasound



By choosing TECH, you will not only enjoy accessible and up-to-date education, but you will also benefit from multimedia materials such as infographics, interactive summaries and case studies"



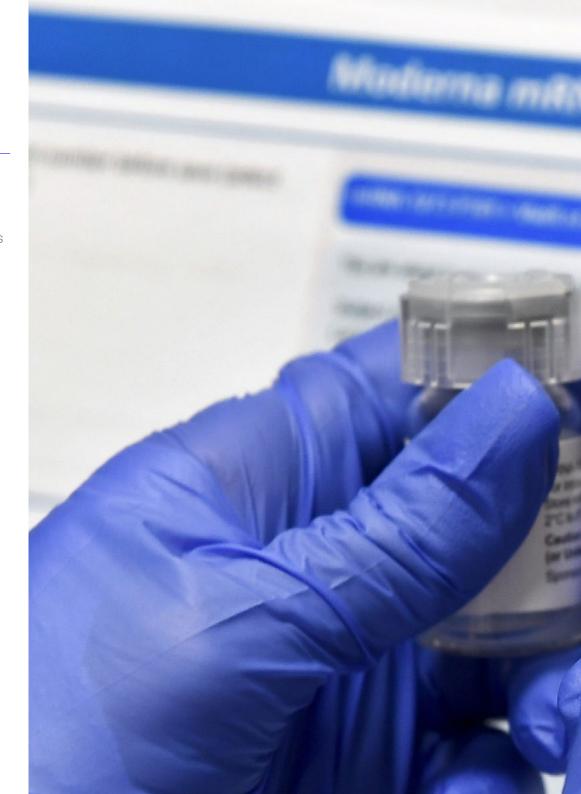


tech 18 | Teaching Objectives



General Objectives

- Apply Artificial Intelligence in the analysis of clinical and genomic data for the personalization of pharmacological treatments
- Develop predictive models to optimize the diagnosis and treatment of diseases in patients
- Integrate AI systems in pharmacovigilance to improve the safety and efficacy of drugs
- Design personalized therapies based on patients' genetic and phenotypic profiles
- Improve the accuracy of pharmaceutical diagnostics using Al algorithms
- Analyze large volumes of data to identify patterns and predict treatment responses
- Implement digital platforms in the development and monitoring of pharmacological treatments
- Foster innovation in pharmacy through the application of advanced AI technologies in patient care





Teaching Objectives | 19 tech



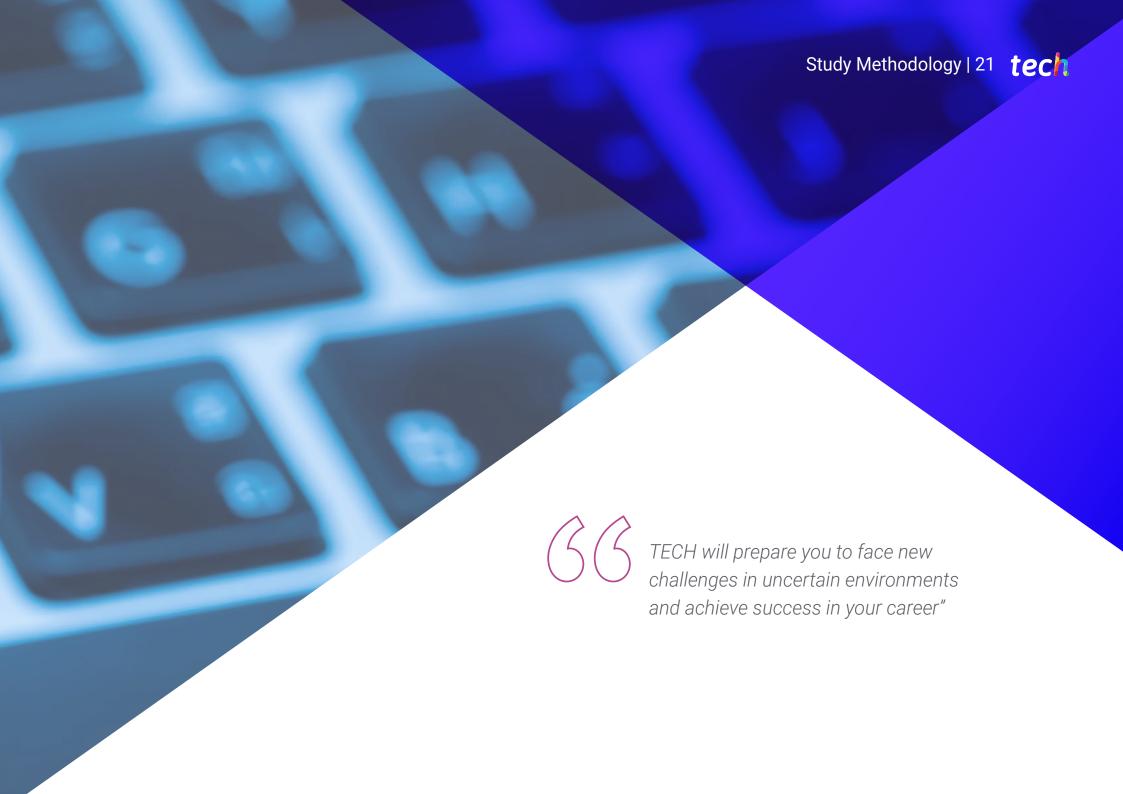
Specific Objectives

- Integrate AI tools to improve accuracy in medical diagnosis based on clinical data
- Apply Al models to personalize therapies based on genetic characteristics and biomarkers of the patients
- Develop predictive systems with AI to anticipate therapeutic responses and optimize treatments
- Implement AI in the real-time monitoring and adjustment of personalized treatments



With a flexible and efficient methodology, you will have access to innovative tools that will make you a leader in AI and modern Pharmacy. With TECH you will prepare yourself to make a difference in the healthcare sector!"



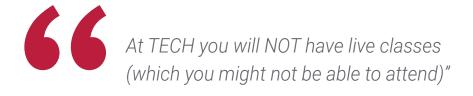


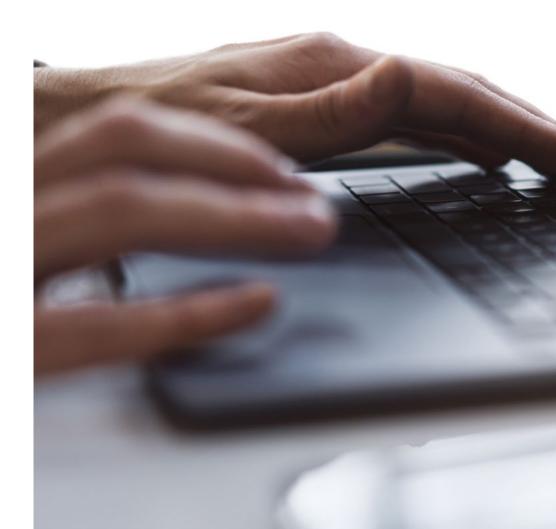
The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.









The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.



TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"

tech 24 | Study Methodology

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



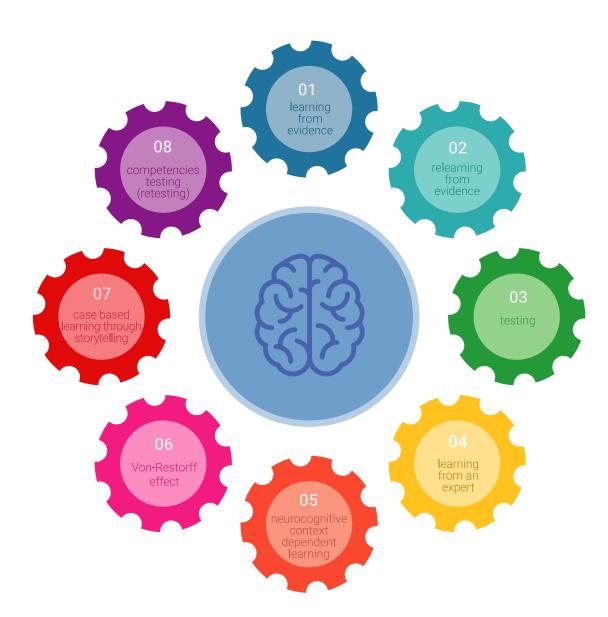
Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.





A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

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

- 1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
- **2.** Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
- 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.

Study Methodology | 27 tech

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

tech 28 | Study Methodology

As such, the best educational materials, thoroughly prepared, will be available in this program:



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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



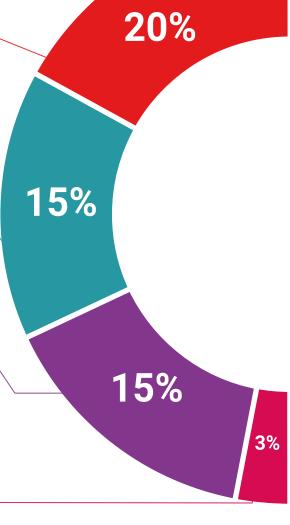
Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



Interactive Summaries

We present 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".





Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.

Case Studies



Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting



We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

Classes



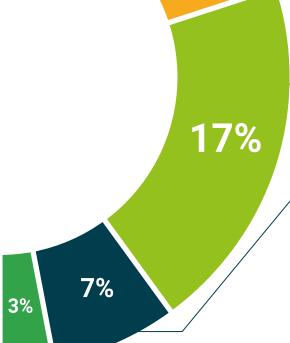
There is scientific evidence suggesting that observing third-party experts can be useful.

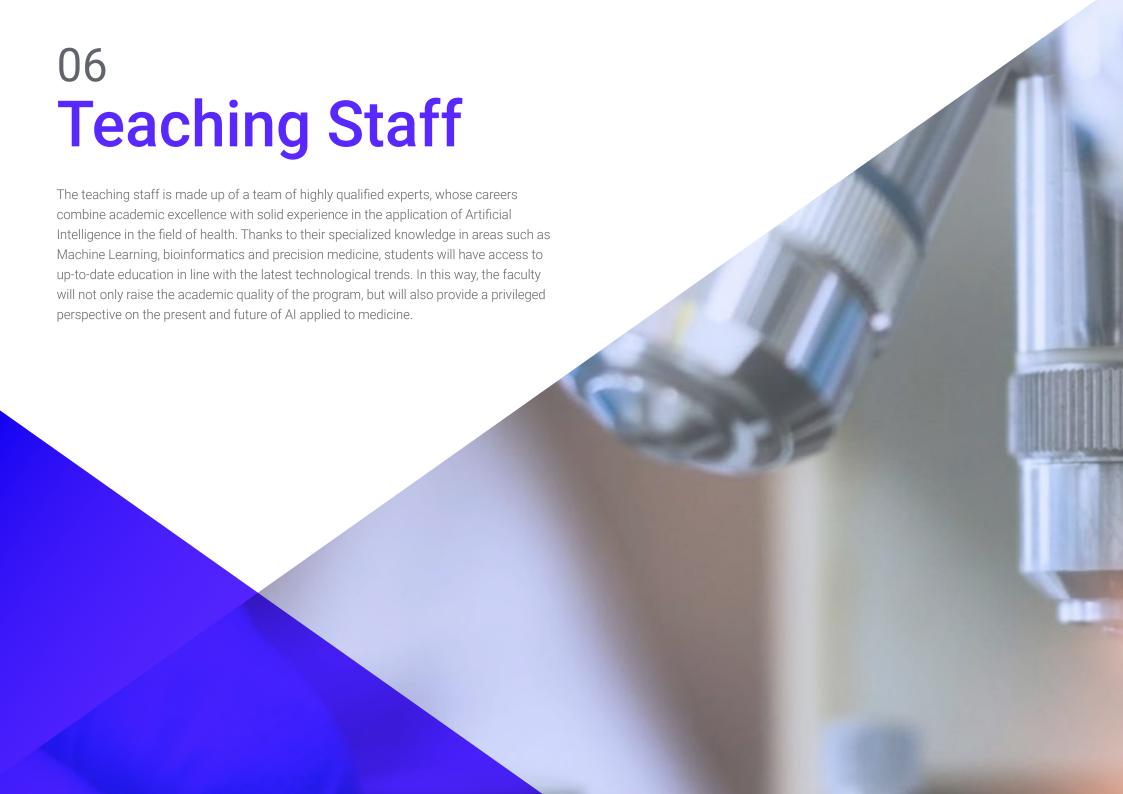
Learning from an expert strengthens knowledge and memory, and generates confidence for future difficult decisions.

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.







tech 32 | Teaching Staff

Management



Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at Al Shephers GmbH
- Consultant and Strategic Business Advisor at Alliance Medical
- Director of Design and Development at DocPath
- PhD in Computer Engineering 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
- Master's Degree in Expert 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

Professors

Ms. Del Rey Sánchez, Cristina

- Talent Management Administrator at Securitas Seguridad España, S.L.
- Extracurricular Activities Center Coordinator
- Tutor and pedagogical interventions with Primary and Secondary Education students
- Postgraduate Degree in Development, Delivery and Tutoring of e-Learning Training Actions
- Postgraduate Degree in Early Childhood Care
- Degree in Pedagogy from the Complutense University of Madrid

Mr. Del Rey Sánchez, Alejandro

- Responsible for implementing programs to improve tactical care in emergencies
- Degree in Industrial Organization Engineering
- Certification in Big Data and Business Analytics
- Certification in Microsoft Excel Advanced, VBA, KPI and DAX
- Certification in CIS Telecommunication and Information Systems

Dr. Carrasco González, Ramón Alberto

- Business Intelligence Manager (Marketing) at Granada Savings Bank and Mare Nostrum Bank
- Information Systems Manager (Data Warehousing and Business Intelligence) at Granada Savings Bank and Mare Nostrum Bank
- · Computer Science and Artificial Intelligence Specialist and Researcher
- PhD in Artificial Intelligence from the University of Granada
- Higher Engineering Degree in Computer Science from the University of Granada

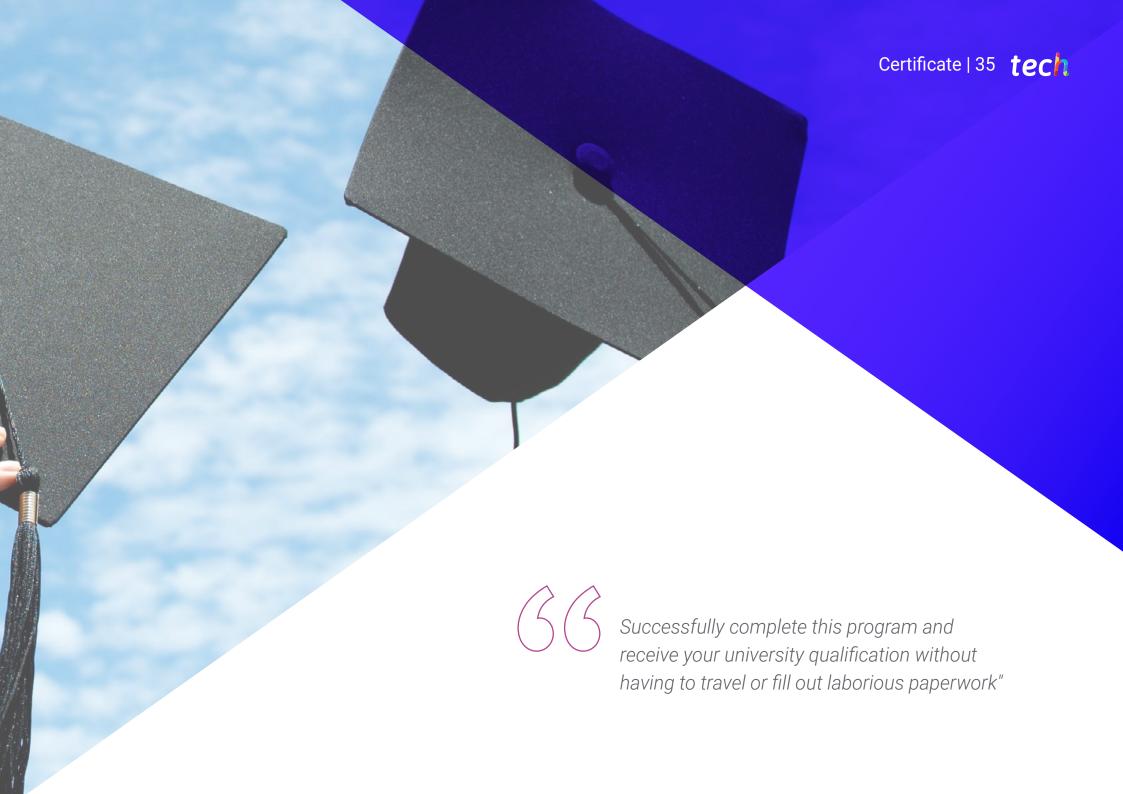
Mr. Martín-Palomino Sahagún, Fernando

- 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 in Marketing and Sales at ESADE
- Telecommunications Engineer from the University Alfonso X El Sabio

Mr. Popescu Radu, Daniel Vasile

- Independent Specialist in Pharmacology, Nutrition and Dietetics
- Freelance Producer of Teaching and Scientific Contents
- Nutritionist and Community Dietitian
- Community Pharmacist
- Researcher
- Master's Degree in Nutrition and Health at the Open University of Cataluña
- Master's Degree in Psychopharmacology from the University of Valencia
- Pharmacist from the Complutense University of Madrid
- Nutritionist-Dietician from the European University Miguel de Cervantes





tech 36 | Certificate

This private qualification will allow you to obtain a **Postgraduate Certificate in Artificial Intelligence in Diagnostics and Personalized Therapies** 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 Artificial Intelligence in Diagnostics and Personalized Therapies

Modality: online

Duration: 6 weeks

Accreditation: 6 ECTS



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



^{*}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.

health confidence people information tutors education information teaching guarantee accreditation teaching institutions technology learning



Postgraduate Certificate Artificial Intelligence in Diagnostics and Personalized Therapies

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