

Postgraduate Diploma

Biomedical Information
Management, Diagnosis
and Application of Personalized
Pharmacological Treatments
with Artificial Intelligence





Postgraduate Diploma

Biomedical Information Management, Diagnosis and Application of Personalized Pharmacological Treatments with Artificial Intelligence

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/us/pharmacy/postgraduate-diploma/postgraduate-diploma-biomedical-information-management-diagnosis-application-personalized-pharmacological-treatments-artificial-intelligence

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01

Introduction

Biomedical Information Management and Personalized Diagnostics are key areas in modern Pharmacy, where the integration of Artificial Intelligence has demonstrated transformative potential. According to the WHO, chronic diseases, such as Cancer and Cardiovascular Diseases, account for more than 70% of global deaths, highlighting the urgent need for more effective and personalized treatment approaches. Taking into account that AI is transforming healthcare, TECH has developed this program that will provide the necessary tools to integrate advanced technologies in the diagnosis and treatment of diseases. Based on a 100% online methodology, specialists will cover everything from the management of large volumes of data to the application of AI to design personalized treatments.



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If you are ready to make a difference in tomorrow's healthcare, this expertly designed online postgraduate course is the next step in your career. Join TECH and lead the transformation of Personalized Pharmacy!”

Biomedical Information Management, Accurate Diagnosis and the Application of Personalized Pharmacological Treatments with Artificial Intelligence are fundamental to transform the field of Pharmacy. In this sense, AI facilitates the integration and analysis of clinical and biomedical data, in addition, it not only allows to recommend safer and more effective treatments, but also to foresee possible drug-drug interactions and to personalize doses according to genetic, historical and metabolic factors.

Under this premise, TECH has developed this program in Biomedical Information Management, Diagnosis and Application of Personalized Pharmacological Treatments with AI that will provide professionals with a solid and cutting-edge training in a crucial field for the future of Pharmacy. Throughout the program, they will know how to manage and analyze large volumes of biomedical data, harnessing the power of Artificial Intelligence to improve the diagnosis and personalization of pharmacological treatments. In this way, graduates will acquire a deep understanding of the technologies that are transforming pharmaceutical care, including the personalization of therapies according to the genetic and biomedical profile of each patient.

In addition, the program will not only provide specialized competencies, but will also prepare pharmacists for key roles in the healthcare sector, where the demand for specialists who integrate AI into the processes and processes of the pharmaceutical industry is increasing. In short, mastery of these topics will not only enhance their professional profile, but will allow them to contribute significantly to the advancement of personalized pharmacy, improving the quality of life of patients and optimizing the use of public health resources.

All of the above is complemented by the 100% online modality that adapts perfectly to the needs of the students, allowing them to train at their own pace, from anywhere and at any time. Likewise, TECH has implemented the Relearning methodology, with which they will develop a deeper understanding of the topics through a dynamic and progressive training approach.

This **Postgraduate Diploma in Biomedical Information Management, Diagnosis and Application of Personalized Pharmacological Treatments 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 with a deep understanding of Biomedical Information Management, Diagnosis and Application of Personalized Pharmacological Treatments with AI
- ♦ 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



Undoubtedly, this program represents a strategic advantage for you who are looking for a promising future in Pharmacy, a sector in constant evolution. Here you will enjoy an academic experience of the highest level"

“

Do you want to integrate Artificial Intelligence to revolutionize pharmacological treatments? With this innovative 100% online postgraduate course you will achieve your goals and stand out in the field of health with the latest technology”

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

TECH will provide you with 99% employability with which you will conquer the job market, backed by an innovative academic quality that will allow you to succeed in the pharmaceutical sector related to AI.

Join TECH and transform your career in Pharmacy with Artificial Intelligence. Be part of the future of pharmacological care with the most specialized program in the academic market.



02

Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it relies on an enormous faculty of more than 6,000 professors of the highest international renown.



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*Study at the world's largest online university
and guarantee your professional success.
The future starts at TECH”*

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".

Forbes

The best online university in the world

The most complete
syllabus

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.

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.

↑
TOP
international faculty

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 most effective methodology

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.

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

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.



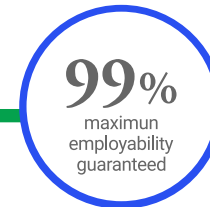
Google Premier Partner

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 top-rated 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.



03 Syllabus

The curriculum of this postgraduate program will provide pharmacists with comprehensive and updated training in the use of advanced technological tools applied to Pharmacy. In this sense, the program will address from the fundamentals of biomedical data analysis, to the implementation of Artificial Intelligence in the design and application of personalized therapies, ensuring a complete and efficient learning. Likewise, emphasis will be placed on topics such as the interpretation of scientific literature, AI-assisted diagnosis, the personalization of pharmacological treatments and the ethical aspects related to the use of these technologies.



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Not only will you benefit from an innovative online methodology, which facilitates flexibility and combines access to interactive multimedia resources, but you will also receive guidance from internationally renowned experts”

Module 1. Management and Analysis of Biomedical Information and Scientific Literature with Artificial Intelligence

- 1.1. Introduction to the Use of AI for Biomedical Information
 - 1.1.1. Importance of Biomedical Information in Pharmacy
 - 1.1.2. Challenges in the Management and Analysis of the Scientific Literature
 - 1.1.3. Role of AI in the Management of Large Volumes of Scientific Data
 - 1.1.4. Examples of AI Tools such as Semantic Scholar in Biomedical Research
- 1.2. Biomedical Information Retrieval with AI
 - 1.2.1. Advanced Searching Techniques in Scientific Databases
 - 1.2.2. AI Algorithms to Improve Search Accuracy and Relevance
 - 1.2.3. Personalization of Results through Machine Learning
 - 1.2.4. Applications such as PubMed AI for Efficient Information Retrieval
- 1.3. Natural Language Processing (NLP) in Scientific Texts
 - 1.3.1. NLP Applications in the Analysis of Biomedical Literature
 - 1.3.2. Automatic Extraction of Key Information from Scientific Articles
 - 1.3.3. Automatic Summarization and Generation of Structured Abstracts
 - 1.3.4. Tools such as SciBERT for Scientific Text Processing
- 1.4. Biomedical Text Mining
 - 1.4.1. Basic Concepts and Techniques in Text Mining
 - 1.4.2. Identification of Trends and Patterns in Scientific Publications
 - 1.4.3. Extraction of Relationships between Biomedical Entities
 - 1.4.4. Examples such as MEDLINE and Text Mining Library for Text Mining
- 1.5. Ontologies and Semantic Annotations in Biomedicine
 - 1.5.1. The Use and Creation of Ontologies in the Health Sciences
 - 1.5.2. Semantic Annotation of Scientific Documents
 - 1.5.3. AI for Semantic Enrichment and Contextual Searching
 - 1.5.4. Tools such as BioPortal and UMLS for Ontological Management
- 1.6. Scientific Literature Recommender Systems
 - 1.6.1. Recommendation Algorithms in Scientific Platforms
 - 1.6.2. Personalization of Content for Researchers and Practitioners
 - 1.6.3. AI in Predicting Future Relevance and Citations
 - 1.6.4. Applications such as Mendeley Suggest and ResearchGate



- 1.7. Visualization of Biomedical Data and Knowledge
 - 1.7.1. Visualization Techniques for Complex Biomedical Data
 - 1.7.2. Knowledge Maps and Research Networks
 - 1.7.3. AI Tools to Visualize Relationships and Trends
 - 1.7.4. Examples such as VOSviewer and Cytoscape in Scientific Visualization
- 1.8. AI-Assisted Knowledge Discovery
 - 1.8.1. Identification of New Hypotheses from Existing Data
 - 1.8.2. Integration of Multidisciplinary Data with AI
 - 1.8.3. Prediction of Unknown Drug Interactions and Pharmacological Effects
 - 1.8.4. Cases such as IBM Watson Discovery and Elsevier's Entellect
- 1.9. Big Data Management in Biomedical Research
 - 1.9.1. Challenges of Big Data in Biomedical Research
 - 1.9.2. Efficient Storage and Processing of Massive Data
 - 1.9.3. AI for Genomic and Proteomic Data Analysis
 - 1.9.4. Tools such as Apache Hadoop and Spark in Biomedicine
- 1.10. Challenges and Future Perspectives in NLP for Scientific Literature
 - 1.10.1. Specific NLP Challenges in Scientific and Biomedical Data
 - 1.10.2. Limitations in Search and Analysis Automation
 - 1.10.3. Recent Advances in NLP for Biomedical Sciences (BioGPT, BioBERT)
 - 1.10.4. Future Applications of AI in Scientific Research and Publication

Module 2. Artificial Intelligence in Diagnostics and Personalized Therapies

- 2.1. Early Diagnosis of Diseases
 - 2.1.1. Importance of Early Diagnosis in the Treatment of Diseases
 - 2.1.2. AI Algorithms for Early Detection of Pathology
 - 2.1.3. AI for Predictive Analysis of Risk Factors
 - 2.1.4. Examples such as PathAI for Automated Diagnosis
- 2.2. AI-Based Personalized Therapies
 - 2.2.1. Introduction to Personalized Medicine and Its Relevance
 - 2.2.2. AI for Personalization of Treatments according to Patient Profile
 - 2.2.3. Predictive Models for Personalized Dose Adjustment
 - 2.2.4. Applications such as Tempus in Personalized Oncology

- 2.3. Biomarker Detection Using AI
 - 2.3.1. Concept and Types of Biomarkers in Medicine
 - 2.3.2. AI Algorithms for the Identification of Key Biomarkers
 - 2.3.3. Importance of Biomarkers in Diagnosis and Treatment
 - 2.3.4. Tools such as Freenome for Biomarker Detection
- 2.4. Genomic Medicine and Pharmacogenomics
 - 2.4.1. Genomics and Pharmacogenomics for Personalization of Therapies
 - 2.4.2. AI Applications in the Analysis of Genetic Profiling
 - 2.4.3. AI in the Study of Genetic Variations for Personalized Medicine
 - 2.4.4. Cases such as 23andMe in Personalized Genetic Analysis
- 2.5. AI in Immunotherapy and Oncology
 - 2.5.1. Introduction to Immunotherapy and Its Impact on Cancer Treatment
 - 2.5.2. Application of AI to Personalize Immune Therapies
 - 2.5.3. AI Models for Optimizing Efficacy of Immunotherapies
 - 2.5.4. Examples such as GNS Healthcare for Immunotherapy in Oncology
- 2.6. Personalized Pharmacological Counseling
 - 2.6.1. Importance of Personalized Pharmacological Counseling
 - 2.6.2. AI for Treatment Recommendations according to Specific Conditions
 - 2.6.3. AI Models to Optimize Drug Selection
 - 2.6.4. Example of IBM Watson for Oncology in Treatment Recommendations
- 2.7. Treatment Response Prediction
 - 2.7.1. AI Techniques for Predicting Responses to Different Treatments
 - 2.7.2. Predictive Models of Efficacy and Safety of Treatments
 - 2.7.3. AI Algorithms for Treatment Personalization
 - 2.7.4. Tools such as Foundation Medicine for Analysis of Treatment Response
- 2.8. Development of Algorithms for Specific Therapies
 - 2.8.1. Principles of Algorithm Development for Targeted Therapies
 - 2.8.2. AI for Identifying and Developing Targeted Therapies
 - 2.8.3. Algorithms Personalized according to Disease Type
 - 2.8.4. Applications such as Owkin in Federated Learning for Oncology

- 2.9. Remote Patient Monitoring
 - 2.9.1. Importance of Remote Monitoring in Chronic Patients
 - 2.9.2. AI for Monitoring Parameters and Vital Signs Remotely
 - 2.9.3. Predictive Models to Anticipate Patient Complications
 - 2.9.4. Tools such as Biofourmis for Remote Monitoring
- 2.10. AI in Portable Diagnostic Devices
 - 2.10.1. Impact of Portable Devices on Health Diagnosis
 - 2.10.2. AI Algorithms in Portable Devices Data Analysis
 - 2.10.3. AI for Real-Time Detection of Health Conditions
 - 2.10.4. Examples such as Butterfly iQ, AI-Assisted Portable Ultrasound

Module 3. Regulation, Safety and Ethics of Artificial Intelligence in Pharmaceuticals

- 3.1. AI Regulations for Pharmaceutical Products
 - 3.1.1. Introduction to Regulatory Standards in AI Applied to Health Care
 - 3.1.2. Main Regulatory Agencies (FDA, EMA) and Their Role in AI
 - 3.1.3. Standards for the Approval of AI Technologies in Pharmaceuticals
 - 3.1.4. Examples of AI Software Certification for Healthcare Products
- 3.2. Healthcare AI Regulatory Compliance
 - 3.2.1. Key Concepts in AI Regulatory Compliance
 - 3.2.2. Legal Requirements for the Development of AI in Pharmacy
 - 3.2.3. AI Audits to Ensure Regulatory Compliance
 - 3.2.4. Examples of AI Compliance under the European MDR
- 3.3. Data Security in AI Applications
 - 3.3.1. Introduction to Data Security in the Healthcare Environment
 - 3.3.2. Security Protocols for the Storage of Medical Data
 - 3.3.3. AI for Threat Detection and Data Protection
 - 3.3.4. Microsoft Azure Tools for Secure Data Management
- 3.4. Privacy and Ethics in AI Applications
 - 3.4.1. Ethical Concepts in Patient Data Management
 - 3.4.2. Responsible AI and Privacy Principles in Pharmacy
 - 3.4.3. Tools for Anonymization of Sensitive Data
 - 3.4.4. Examples of Privacy in Google Health





- 3.5. Transparency of Algorithms in AI for Health
 - 3.5.1. Importance of Transparency in AI Applied to Health
 - 3.5.2. Explainability of Algorithms and Their Interpretation in Healthcare
 - 3.5.3. Methods to Ensure Transparency in AI Models
 - 3.5.4. Application of IBM Explainable AI for Healthcare
- 3.6. Avoiding Biases in AI Systems
 - 3.6.1. Identification of Biases in Medical and Pharmaceutical Data
 - 3.6.2. Techniques for Minimizing Bias in AI Algorithms
 - 3.6.3. Examples of Common Biases in AI for Pharmaceuticals
 - 3.6.4. Use of Google's Fairness Toolkit to Reduce Biases
- 3.7. Auditing AI Systems in Pharmacy
 - 3.7.1. Concept and Objectives of AI Auditing in Health Care
 - 3.7.2. Audit Methods to Validate AI Systems
 - 3.7.3. Audit Criteria to Ensure Quality and Ethics
 - 3.7.4. Example of an AI Audit with TÜV SÜD
- 3.8. Informed Consent in AI Health Data
 - 3.8.1. Importance of Consent in the Use of Personal Data
 - 3.8.2. AI Tools for Informed Consent Management
 - 3.8.3. AI in Obtaining and Secure Storage of Consents
 - 3.8.4. Example of Consent Management in Epic Systems
- 3.9. AI for Pharmacy Fraud Detection
 - 3.9.1. Impact of Fraud in the Pharmaceutical Industry
 - 3.9.2. AI Algorithms for Identification of Fraudulent Activities
 - 3.9.3. AI in the Prevention of Counterfeiting and Illegal Sale of Pharmaceuticals
 - 3.9.4. Example of SAS Fraud Framework for Healthcare
- 3.10. Responsibility and Accountability in AI
 - 3.10.1. Concept of Accountability in AI Applications
 - 3.10.2. Definition of Roles and Responsibilities in AI for Health Care
 - 3.10.3. AI for Tracking Decisions and Actions in Healthcare Processes
 - 3.10.4. Initiatives such as Partnership on AI for Accountability Guidelines

04

Teaching Objectives

This program will offer a comprehensive and transformative academic experience that will train professionals in the use of Artificial Intelligence tools applied to Biomedicine, fostering a deep understanding of the processes of data analysis, assisted diagnosis and treatment personalization. They will also develop skills to interpret and manage highly complex biomedical information, apply advanced algorithms for clinical decision-making and ensure safety and ethics in the use of innovative technologies. Thanks to this, graduates will have acquired scientific knowledge with practical applications that will allow them to provide innovative solutions in biomedical and pharmacological environments.



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You will have at your disposal study material, interactive abstracts and complementary readings that will prepare you to reach your full potential in Biomedicine and pharmacological treatments with AI”



General Objectives

- ♦ Master artificial intelligence tools applied to biomedical information management
- ♦ Analyze biomedical data for informed clinical decision making
- ♦ Interpret relevant scientific literature for the personalization of pharmacological treatments
- ♦ Design innovative strategies for artificial intelligence-assisted diagnostics
- ♦ Apply innovative technologies in the creation of more effective personalized treatments
- ♦ Ensure safety and ethics in the handling of biomedical data with AI
- ♦ Integrate scientific and technological knowledge to solve complex biomedical problems
- ♦ Contribute to the development of advanced solutions in biomedicine and pharmacology

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This program is presented as a unique qualification opportunity to address one of the markets that generates the highest income, from a high-level academic vision. Enroll now!"





Specific Objectives

Module 1. Management and Analysis of Biomedical Information and Scientific Literature with Artificial Intelligence

- ♦ Use AI tools for the analysis of large volumes of biomedical data
- ♦ Develop skills to interpret and synthesize relevant biomedical scientific literature
- ♦ Design biomedical information management systems that optimize clinical research
- ♦ Evaluate the quality and relevance of biomedical data using AI-based techniques

Module 2. Artificial Intelligence in Diagnostics and Personalized Therapies

- ♦ Apply artificial intelligence techniques in the development of accurate medical diagnostics
- ♦ Implement advanced algorithms for the creation of more effective personalized therapies
- ♦ Analyze clinical data to optimize individualized therapeutic decisions
- ♦ Design strategies for continuous improvement in the integration of AI in personalized medicine

Module 3. Regulation, Safety and Ethics of Artificial Intelligence in Pharmaceuticals

- ♦ Analyze the international regulations applicable to the use of artificial intelligence in pharmacy
- ♦ Identify risks associated with the handling of pharmaceutical data and establish security strategies
- ♦ Evaluate ethical aspects in the development and application of AI in pharmaceutical processes
- ♦ Design protocols to ensure accountability and regulatory compliance in pharmaceutical AI

05

Career Opportunities

The evolution of Artificial Intelligence has profoundly transformed the field of Biomedicine, opening up a range of professional opportunities for those who master its application in the analysis of information and the development of personalized treatments. Therefore, this program will position pharmacists in key sectors such as clinical research, advanced pharmacology and technological consultancy applied to health. From collaboration in therapeutic innovation projects to the optimization of data systems in medical institutions, this program will prepare graduates to play strategic roles in an ever-expanding job market.

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Backed by specialized knowledge, you will become a highly valued profile for organizations committed to the advancement of personalized pharmacy and global wellness”

Graduate Profile

Graduates will stand out for their ability to integrate advanced technology and biomedical knowledge in the solution of complex health care challenges. With skills in the analysis of massive data, development of precision diagnostics and design of personalized therapies, these professionals will lead projects that transform medical care. In addition, their preparation will include an ethical and strategic approach that will allow you to collaborate with multidisciplinary teams in research, pharmaceutical development and health technology consulting environments, making you a key player in advancing the Pharmacy of the future.

If you want to transform the pharmaceutical sector with Artificial Intelligence tools and lead the design of innovative solutions in personalized health, TECH has this comprehensive program made for you.

- ♦ **Interdisciplinary Work in Medical and Technology Environments:** Collaborate with multidisciplinary teams by combining expertise in biomedicine, pharmacology and Artificial Intelligence to address complex challenges
- ♦ **Critical Thinking Applied to Health Innovation:** Develop an analytical vision to evaluate, integrate and optimize biomedical data and technological tools in innovative therapeutic projects
- ♦ **Efficient Information Management in Digital Environments:** Organize and analyze large volumes of biomedical data, ensuring accuracy and relevance in the development of personalized solutions
- ♦ **Adaptation to New Technologies and Trends in AI:** Master advanced tools, adapting quickly to technological changes and applying them strategically in the healthcare sector



After completing the program, you will be able to use your knowledge and skills in the following positions:

- 1. Bioinformatics Specialist:** Professional in charge of analyzing and processing large amounts of biological data using advanced AI techniques to discover relevant patterns in biomedical research.
- 2. Digital Health Consultant:** Advisor in the implementation of technological solutions for the improvement of diagnostic and treatment processes in healthcare institutions.
- 3. Pharmacology Data Scientist:** Expert in the collection, analysis and interpretation of clinical and pharmacological data to improve the creation of personalized treatments using AI.
- 4. Pharmaceutical Innovation Project Manager:** Responsible for leading and coordinating research and development projects in the pharmaceutical industry, focused on the integration of AI in the development of new drugs.
- 5. Specialist in Personalized Therapies:** Professional in charge of developing and adapting AI-based drug therapies for the individualized treatment of complex diseases.
- 6. Director of Health Innovation:** Leader in charge of leading cutting-edge projects in the use of emerging technologies, such as AI, in the healthcare sector, particularly in the diagnosis and treatment of diseases.
- 7. Clinical Data Analyst:** Responsible for processing and analyzing clinical data with AI tools to identify patterns and improve decision making in medical treatments.
- 8. Researcher in Artificial Intelligence for Medicine:** Professional dedicated to conduct scientific research that integrates Artificial Intelligence in the development of innovative drugs and medical treatments.



Take advantage of this great academic opportunity and master everything related to pharmaceutical development and healthcare technology consulting"

Academic and Research Opportunities

In addition to all the jobs you will be qualified for by studying this TECH Postgraduate Diploma, you will also be able to continue with a solid academic and research career. After completing this university program, you will be ready to continue your studies associated with this field of knowledge and thus progressively achieve other scientific merits.

06

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



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TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”

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.

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*At TECH you will NOT have live classes
(which you might not be able to attend)”*



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*”

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.

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.



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.

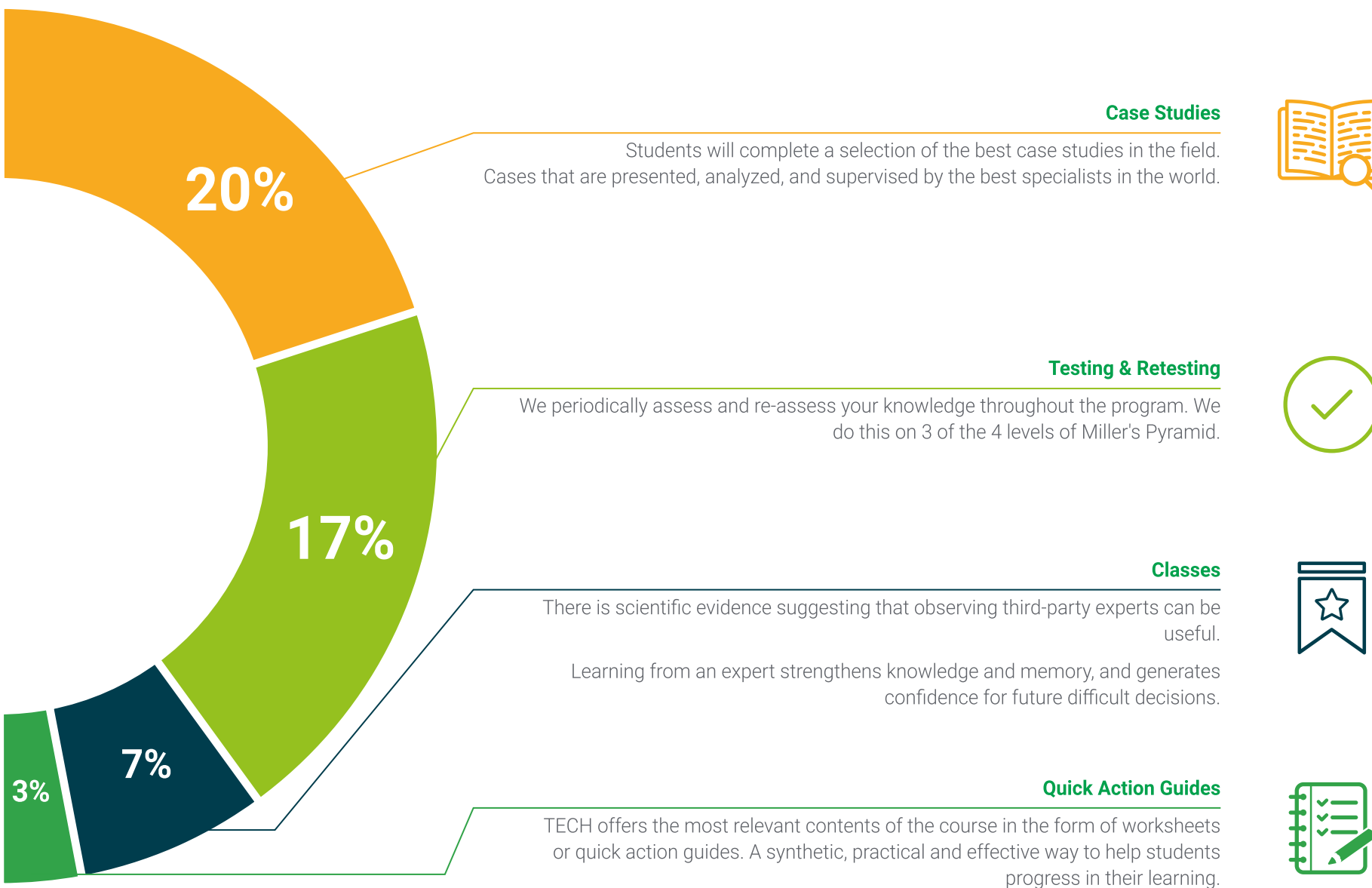
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

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





07

Teaching Staff

The faculty of this program is composed of renowned professionals, both academically and in the industry, who will provide a valuable combination of background and specialized knowledge. Each is an expert in their field, with years of experience in key areas such as bioinformatics, personalized pharmacology, Artificial Intelligence applied to Pharmacy and biomedical data management. In addition, thanks to their extensive experience and links with leading institutions in the industry, the mentors will offer a practical and up-to-date view on the latest trends and advances in the field.





“

Supported by a novel interactive system and with 100% online lessons, TECH offers you the opportunity to expand your knowledge in a simple, agile and efficient way”

Management



Dr. Peralta Martín-Palomino, Arturo

- ♦ CEO and CTO at Prometheus 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
- ♦ Doctorate in Psychology from the University of Castilla La Mancha
- ♦ Doctorate in Economics, Business and Finance from the Camilo José Cela University
- ♦ Doctorate 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 from the 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

Professors

Mr. Popescu Radu, Daniel Vasile

- ♦ Independent Specialist in Pharmacology, Nutrition and Dietetics
- ♦ Freelance Producer of Didactic and Scientific Content
- ♦ Nutritionist and Community Dietitian
- ♦ Community Pharmacist
- ♦ Researcher
- ♦ Master's Degree in Nutrition and Health from 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

Mr. Del Rey Sánchez, Alejandro

- ♦ Responsible for implementation of 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

Ms. Del Rey Sánchez, Cristina

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

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
- ♦ Director of Innovation 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

Dr. Carrasco González, Ramón Alberto

- ♦ Head of Business Intelligence (Marketing) at 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
- ♦ Computer Science and Artificial Intelligence Specialist and Researcher
- ♦ Doctorate in Artificial Intelligence from the University of Granada
- ♦ Senior Engineer in Computer Science from the University of Granada

08 Certificate

The Postgraduate Diploma in Biomedical Information Management, Diagnosis and Application of Personalized Pharmacological Treatments 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 Diploma in Biomedical Information Management, Diagnosis and Application of Personalized Pharmacological Treatments 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 Diploma in Biomedical Information Management, Diagnosis and Application of Personalized Pharmacological Treatments with Artificial Intelligence**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**





Postgraduate Diploma
Biomedical Information
Management, Diagnosis
and Application of Personalized
Pharmacological Treatments
with Artificial Intelligence

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Postgraduate Diploma

Biomedical Information
Management, Diagnosis
and Application of Personalized
Pharmacological Treatments
with Artificial Intelligence