

Internship Program

Production and Development of Individualized Medicines



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university

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of Individualized Medicines

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01 Introduction

Production and Development of Individualized Medicines has come a long way thanks to precision medicine and DNA sequencing technology. Indeed, these approaches make it possible to design personalized treatments based on each patient's unique genetic profile, optimizing efficacy and reducing side effects. In addition, personalized dosage forms are being created, facilitating the administration of exact doses tailored to individual needs. For this reason, TECH has created the present program, in which in 3 weeks specialists will be integrated into a team specialized in the Production and Development of Individualized Medicines, to get up to date on the latest developments and technologies available, therefore being able to bring them to their own daily practice in a comprehensive and efficient way.



With this Internship Program, you will acquire advanced knowledge and skills in Pharmacogenomics and Biotechnology, essential for the design of personalized therapies”





Production and Development of | 05 **tech** Individualized Medicines

The Production and Development of Individualized Medicines has experienced a remarkable progress in recent years, driven by the growing understanding of the human genome and the use of advanced technologies. Therefore, personalized therapies have been implemented that consider the genetic, environmental and lifestyle characteristics of each patient, allowing for more effective treatments with fewer side effects. And since the best way to perfect these skills is through practice, TECH has designed a 120-hour program in a pharmaceutical laboratory of reference in the field of Production and Development of Individualized Medicines.

In this sense, during 3 weeks, graduates will become part of a team of specialists of the highest level, with whom they will work actively in the development of medicines. In this way, they will not only be updated on the latest technological tools, but will also be able to implement the latest procedures for the development of individualized drugs in their practice. In this way, they will participate in a program that will elevate their professional talents to the highest level.

During the stay, students will be supported by an assistant tutor, who will ensure that the requirements for which this Internship Program was designed are met, and who will dedicate 100% of their time to students. Therefore, specialists will work with total guarantee and security in the handling of the most innovative pharmaceutical technology, as well as in the use of the elaboration techniques with the best results to date.

02

Why Study an Internship Program?

Taking this Internship Program in Production and Development of Individualized Medicines will be crucial for those seeking to position themselves at the forefront of modern medicine, as it will provide valuable experience in the use of emerging technologies, such as 3D printing or Artificial Intelligence. Therefore, professionals will be able to develop essential technical skills to design and produce personalized therapies, optimizing treatments based on the genetic and biometric characteristics of each patient. This will not only enhance their individual skills, but will also play a fundamental role in the transformation of healthcare, enabling more effective and safer treatments.



This specialization will provide you with the skills and knowledge to design and develop specific treatments, which consider the genetic and biometric particularities of each patient"

1. Updating from the latest technology available

Technological innovations not only improve the efficacy and safety of drug treatments, but also accelerate the process of developing and approving new drugs, marking a milestone in the evolution of personalized pharmacotherapy. For example, Artificial Intelligence and machine learning are used to analyze large volumes of genetic and clinical data, identifying patterns and predicting responses to treatments. In addition, 3D printing of drugs enables the production of personalized doses and specific drug combinations, tailored to individual patient needs.

2. Gaining in-depth knowledge from the experience of top specialists

The large team of professionals that will accompany specialists throughout the practical period is a first-class and an unprecedented guarantee of updating. With a designated tutor, students will work with real pharmaceutical products in a state-of-the-art environment, which will allow them to incorporate into their practice the most effective procedures and approaches in the Production and Development of Individualized Medicines.

3. Entering first-class environments

TECH carefully selects all available centers for Internship Programs. Thanks to this, specialists will have guaranteed access to a prestigious pharmaceutical laboratory in the area of Production and Development of Individualized Medicines. In this way, they will be able to see the day-to-day work of a demanding, rigorous and exhaustive area, always applying the latest techniques and scientific postulates in its work methodology.



4. Putting the acquired knowledge into daily practice from the very first moment

The academic market is plagued by teaching programs that are poorly adapted to the daily work of specialists and that require long teaching hours, often not very compatible with personal and professional life. For this reason, TECH offers a new model of practical learning, which allows to conduct state-of-the-art procedures in the field of Production and Development of Individualized Medicines and to put it into professional practice in 3 weeks.

5. Opening the door to new opportunities

The innovative approach to individualized medicines, driven by advances in genome sequencing, Artificial Intelligence and 3D bioprinting, is enabling the development of more effective and safer therapies tailored to the unique characteristics of each patient. In fact, the growing demand for personalized treatments is creating an urgent need for professionals specialized in these advanced technologies, generating new opportunities for employment and training in areas such as Pharmacogenomics, Biotechnology and Bioinformatics.



*You will have full practical immersion
at the center of your choice"*

03

Objectives

The objectives of this Internship Program in Production and Development of Individualized Medicines are to provide professionals with a deep and applied knowledge of the most advanced techniques in personalized medicine. Therefore, this program will prepare graduates to integrate Pharmacogenomics, Bioinformatics and emerging technologies, such as 3D printing of drugs, into the pharmaceutical development process. In this way, experts will design and execute experimental protocols, interpreting genetic and clinical data, and applying this knowledge to create personalized therapies that improve the efficacy and safety of treatment.



General Objectives

- Acquire advanced knowledge in Pharmacogenomics and Biotechnology
- Use Next Generation Sequencing (NGS) technologies
- Apply Artificial Intelligence in the analysis of genetic and clinical data
- Develop skills in gene editing using CRISPR
- Manipulate state-of-the-art laboratory equipment
- Implement 3D bioprinting techniques for the production of personalized medicine
- Design specific treatments based on individual patient characteristics
- Interpret complex clinical and biometric data
- Improve the safety and efficacy of personalized treatments
- Contribute to innovation and development in the field of personalized medicine





Specific Objectives

- ◆ Master the use of genome sequencing for the personalization of treatments
- ◆ Apply gene editing techniques to correct specific mutations
- ◆ Use Artificial Intelligence to analyze large genetic and clinical datasets
- ◆ Develop skills in the 3D bioprinting of medicine for personalized production
- ◆ Understand and apply pharmacogenomics principles in the design of individualized therapies
- ◆ Operate advanced laboratory equipment for drug synthesis and evaluation
- ◆ Interpret genetic and biometric test results for treatment personalization
- ◆ Implement research protocols to evaluate the efficacy and safety of new personalized medicines

04 Educational Plan

The Internship Program in Production and Development of Individualized Medicines consists of a practical stay in a prestigious pharmaceutical laboratory, lasting 3 weeks, from Monday to Friday, with 8 consecutive hours of practical specialization with an assistant specialist. In this way, this internship will allow graduates to work with real drugs and pharmaceutical product development tools, alongside a team of reference professionals in this area, applying the most innovative procedures and planning a state-of-the-art treatment, according to the individual needs of each patient.

In this totally practical specialization proposal, the activities are aimed at developing and perfecting the necessary competencies for the Production and Development of Individualized Medicines, which require a high level of qualification, and are oriented to the specific qualification for the exercise of the activity, in a high professional performance.

It is undoubtedly an opportunity to learn by working in a unique environment, equipped with the latest technology in the field of the Production and Development of Individualized Medicines. Therefore, this new way of understanding and integrating the processes of personalized medicine will turn a reference center into the ideal teaching scenario for this innovative experience in the improvement of professional skills.

Practical teaching will be carried out with the accompaniment and guidance of teachers and other learning colleagues who facilitate teamwork and multidisciplinary integration as transversal competencies for medical practice (learning to be and learning to relate).



The procedures described below will be the basis of the specialization, and their realization will be subject to the center's own availability, its usual activity and workload, the proposed activities being the following:

Module	Practical Activity
Research and Development	Research new molecules and compounds for personalized therapies
	Conduct preclinical studies to evaluate efficacy and safety of individualized treatments
	Design experimental protocols to optimize pharmaceutical formulations
	Review and analyze scientific literature relevant to the field
Laboratory and Analysis	Perform detailed physicochemical analysis of pharmaceutical samples
	Conduct microbiological tests to assess contamination and efficacy of preservatives
	Optimize analytical methods to improve accuracy and reproducibility
	Validate analytical methods in accordance with current regulations
Technology and Equipment	Operate advanced equipment for elemental and isotope analysis
	Use 3D bioprinting systems for the manufacture of personalized drugs
	Maintain and calibrate laboratory equipment to ensure its proper functioning
	Manage and control the quality of pharmaceutical materials and products

Module	Practical Activity
Documentation and Regulatory Compliance	Prepare technical and regulatory documentation for submissions to health authorities
	Write scientific reports and research reports
	Conduct internal and external audits to ensure compliance with GMP regulations
	Maintain accurate and up to date records of all laboratory procedures and results
Interdisciplinary Collaboration	Work in multidisciplinary teams to integrate genomic and clinical data in the design of personalized treatments
	Participate in scientific meetings and discussions to share and discuss results and advances
	Collaborate with other departments (e.g. marketing, sales, etc.) to understand and meet market needs
	Effectively communicate findings and results to supervisors and colleagues in different areas



Specialize in a pharmaceutical laboratory that will offer you all the possibilities you are looking for, thanks to an innovative academic program and a team capable of developing your potential to the fullest"

05

Where Can I Do the Internship Program?

In its maxim of offering quality specialization within the reach of most people, TECH has decided to broaden the academic horizons so that this qualification can be provided in various centers around the country. This is a unique opportunity that will allow professionals to continue to grow their career alongside the best specialists in the sector in leading pharmaceutical laboratories.

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You will carry out your practical specialization in a prestigious pharmaceutical laboratory, to put into action everything you have learned from the hand of the best professionals in the sector”





Production and Development of Individualized Medicines | 13 **tech**

The student will be able to do this program at the following centers:



Pharmacy

Infarmade

Country	City
Spain	Seville

Address: C. Torre de los Herberos, 35,
41700, Dos Hermanas, Sevilla

Infarmade is a pharmacological laboratory founded by professors and researchers from the University of Seville.

Related internship programs:

-Production and Development of Individualized Medicines

06

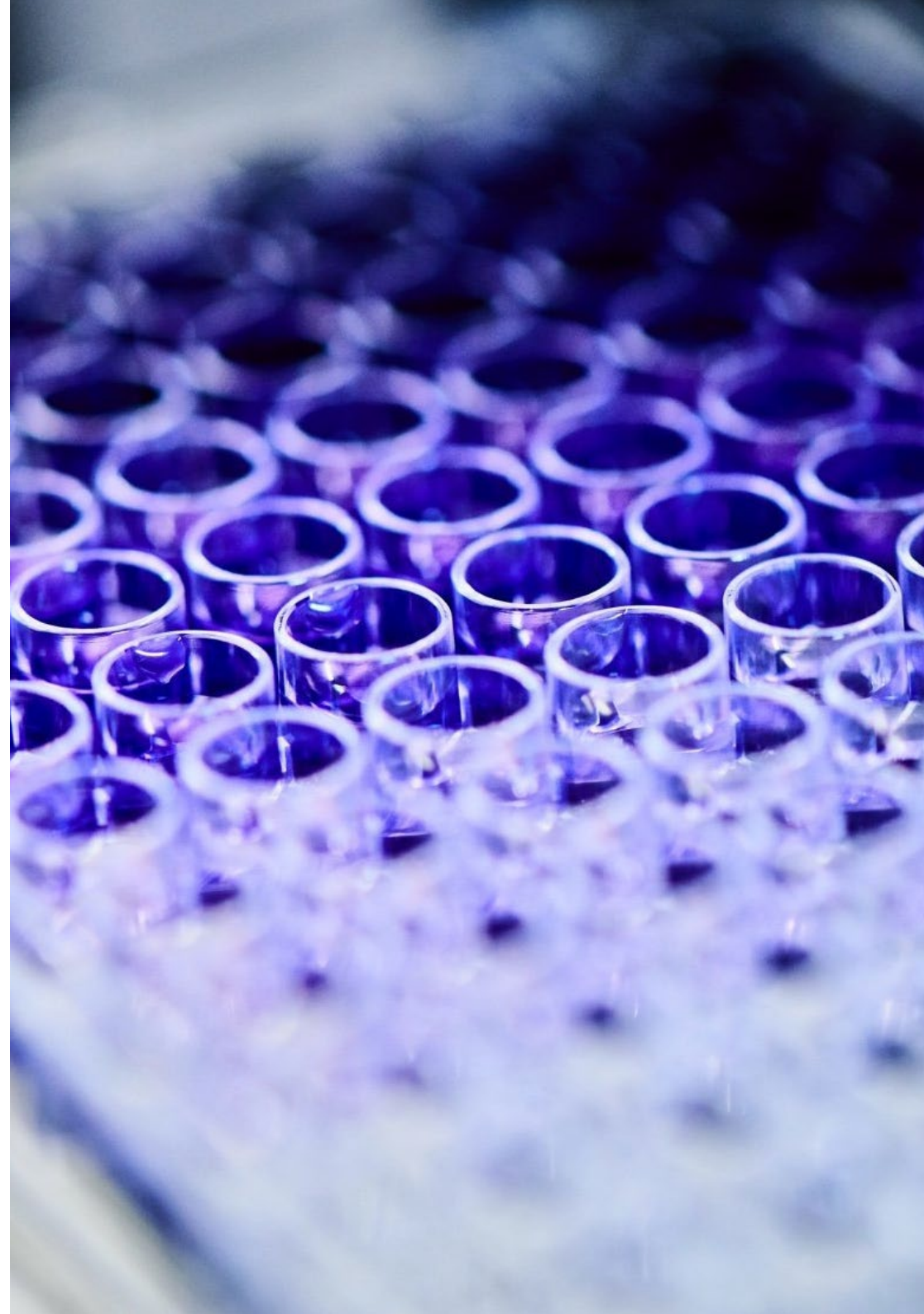
General Conditions

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the students and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the Internship Program period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Internship Program, students will be assigned two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the student does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

07 Certificate

This private qualification will allow you to obtain an **Internship Program's diploma in Production and Development of Individualized Medicines** 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: **Internship Program in Production and Development of Individualized Medicines**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**

Accreditation: **4 ECTS**



future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present quality
development languages
virtual classroom

tech global
university

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