

# Postgraduate Certificate Biopharmaceutics and Pharmacokinetics



## Postgraduate Certificate Biopharmaceutics and Pharmacokinetics

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/in/pharmacy/postgraduate-certificate/biopharmaceutics-pharmacokinetics](http://www.techtute.com/in/pharmacy/postgraduate-certificate/biopharmaceutics-pharmacokinetics)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

The development of industry and the discovery of new synthetic medicines has transformed the concept of medicine. We have gone from an individualized medicine for a specific patient and specific needs, to a global medicine. That is, for a specific disease, but intended for a large number of patients.



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*The Postgraduate Certificate in  
Biopharmaceutics and Pharmacokinetics  
contains the most complete and up to date  
scientific program on the market"*

Industrialized medicine has been a breakthrough in current therapeutics, since many patients have found a remedy for their illnesses.

However, this industrialized drug does not cover all therapeutic needs. For various reasons, there are therapeutic gaps that only the Individualized Medicine can fill.

The Master Formulation or, nowadays, "individualized medicine" is the essence of the pharmaceutical profession. It has been the starting point of human medicine therapeutics, when patient care was individualized.

The master formula, understood as the medicine intended for an individualized patient, prepared by or under the direction of a pharmacist, to expressly comply with a detailed medical prescription of the medicinal substances it includes, requires that the professional activity be adjusted to strict and faithfully reproducible procedural guidelines. In this sense, pharmacists need to be updated and promote continuing education in the knowledge and compliance with the standards for the correct preparation and quality control of master formulas in order to achieve the required level of quality.

The objective of this program is to prepare pharmacists in a discipline unique and exclusive to their profession, training professionals who can respond to therapeutic gaps with the formulation of an individualized drug with the quality and efficacy of an industrialized drug.

This **Postgraduate Certificate in Biopharmaceutics and Pharmacokinetics** contains the most complete and up to date scientific program on the market. The most important features of the program include:

- ◆ Development of clinical cases presented by experts in pharmacology. The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice.
- ◆ Diagnostic and Therapeutic Novelties in Biopharmaceutics and Pharmacokinetics
- ◆ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course.
- ◆ With a special emphasis on evidence-based medicine and research methodologies in Biopharmaceutics and Pharmacokinetics.
- ◆ All this will be complemented with theoretical lessons, course questions, discussion forums on controversial issues and individual reflection papers.
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Update your knowledge through the Postgraduate Certificate in Biopharmaceutics and Pharmacokinetics program*

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*This course may be the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Biopharmaceutics and Pharmacokinetics, you will obtain a Postgraduate Certificate from TECH - Technological University"*

It includes in its teaching staff health professionals belonging to the field of master formulas, who pour into this training the experience of their work, in addition to recognized specialists belonging to scientific societies of reference.

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 training program to train in real situations.

This program is designed around Problem Based Learning, whereby the physician must try to solve the different professional practice situations that arise during the course. This will be done with the help of an innovative interactive video system developed by renowned experts in the field of pharmacology with extensive teaching experience.

*The course includes real case studies and exercises to bring the development of the course closer to the pharmacist's professional practice.*

*Take the opportunity to update your knowledge in Biopharmaceutics and Pharmacokinetics and improve your patient care.*



02

# Objectives

The main objective of the program is the development of theoretical and practical learning, so that the professional can master Biopharmaceutics and Pharmacokinetics in a practical and rigorous way.







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*This refresher program will generate a sense of security in the performance of the professional's praxis, which will help you grow personally and professionally"*



## General Objective

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- Guarantee the correct preparation, by the pharmacist, of magistral formulas and officinal preparations according to current regulations by means of complementary theoretical/practical specialization to that acquired in the degree/licensure, updating knowledge, training skills and developing attitudes.



*Take the opportunity and take the step to get up to date on the latest developments in Biopharmaceutics and Pharmacokinetics"*





## Specific Objectives

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- ♦ Define the evolution of drugs in the body.
- ♦ Explain the chemical, therapeutic and biological equivalence of drugs.
- ♦ Define the principles of clinical pharmacokinetics.
- ♦ Explain release as a limiting factor for absorption.
- ♦ Explain the different absorption mechanisms
- ♦ Describe the physiological factors influencing gastrointestinal absorption.
- ♦ Explain the physicochemical factors that limit absorption.
- ♦ Describe the structure of the skin
- ♦ Define the factors that influence the absorption of substances through the skin.
- ♦ Explain the differences between parenteral aqueous solutions and parenteral delayed solutions.

03

# Course Management

This program includes in its teaching staff health professionals of recognized prestige, who belong to the field of magistral formulation, and who bring to this training the experience of their work.

In addition, renowned specialists, members of prestigious national and international scientific communities, are involved in designing and preparing the program.



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*Learn from leading professionals  
the latest advances in  
Biopharmaceutics and  
Pharmacokinetics"*

## Management



### Giner Perelló, Jose Antonio

- Community pharmacist at the Pharmacy Office of Atzeneta de Albaida (Valencia, Spain).
- Responsible for the master formulation laboratory FARMACIA PERELLÓ with Level of Sterile Pharmaceutical Forms with authorization FOR THIRD PARTY MANUFACTURING
- Degree in Pharmacy from the University of Valencia.
- Diploma in Public Health by EVES
- University Degree Specialist in Clinical Analysis
- Superior Technician in Orthopedics (University of Valencia)
- Doctoral candidate in "Veterinary Master Formulation".
- Member of the Board of Directors of Master Formulation of the Very Illustrious Official College of Pharmacists of Valencia.



04

# Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of education in daily pharmaceutical practice in Biopharmaceutics and Pharmacokinetics, aware of the relevance of the current relevance of the preparation to be able to prepare master formulas with guarantee, with quality teaching through new educational technologies.







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*This Postgraduate Certificate in Biopharmaceutics and Pharmacokinetics contains the most complete and up-to-date scientific program on the market"*

## Module 1. Biopharmaceutics and Pharmacokinetics

- 1.1. New Aspects of Galenic Pharmacy
  - 1.1.1. Introduction
  - 1.1.2. Chemical, Therapeutic and Biological Equivalence of Medicines
  - 1.1.3. Biopharmaceutics and Basic Pharmacokinetics
  - 1.1.4. Pharmaceutical Technology
  - 1.1.5. Clinical Pharmacokinetics
- 1.2. Evolution of Drugs in the Organism
  - 1.2.1. LADME
  - 1.2.2. Kinetics of LADME Processes
  - 1.2.3. Release as a Limiting Factor for Absorption
- 1.3. Absorption Mechanisms
  - 1.3.1. Passive Diffusion
  - 1.3.2. Convective Diffusion
  - 1.3.3. Active Transport
  - 1.3.4. Facilitated Transportation
  - 1.3.5. Ion Pairs
  - 1.3.6. Pinocytosis
- 1.4. Routes of Administration
  - 1.4.1. Oral Route
    - 1.4.1.1. Physiological Factors Influencing Gastrointestinal Absorption
    - 1.4.1.2. Physicochemical Factors Limiting Absorption
  - 1.4.2. Topical Route
    - 1.4.2.1. Skin Structure
    - 1.4.2.2. Factors Influencing the Absorption of Substances through the Skin
  - 1.4.3. Parenteral Route
    - 1.4.3.1. Parenteral Aqueous Solutions
    - 1.4.3.2. Delayed Parenteral Solutions





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*A unique, key, and  
decisive training  
experience to boost  
your professional  
development”*

05

# Methodology

This training provides you with a different way of learning. Our methodology uses a cyclical learning approach: ***Re-learning***.

This teaching system is used in the most prestigious medical schools in the world, and major publications such as the ***New England Journal of Medicine*** have considered it to be one of the most effective.





*Discover Re-learning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH we use the Case Method

In a given clinical situation, what would you do? Throughout the program, you will be presented with multiple simulated clinical cases based on real patients, where you will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Pharmacists learn better, more quickly and more sustainably over time.

*With TECH you can experience a way of learning that is shaking the foundations of traditional universities around the world*



According to Dr. Gervas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching potential or because of its uniqueness or rarity. It is essential that the case is based on current professional life, attempting to recreate the actual conditions in a pharmacist's professional practice.

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*Did you know that this method was developed in 1912 at Harvard for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method*

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

1. Pharmacists who follow this method not only achieve the assimilation of concepts, but also develop their mental capacity through exercises to evaluate real situations and apply their knowledge.
2. The learning process has a clear focus on 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.



## Re-learning Methodology

At TECH we enhance the Harvard case method with the best 100% online teaching methodology available: Re-learning.

Our University is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



*Pharmacists will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning*



At the forefront of world teaching, the Re-learning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best Spanish-speaking online university (Columbia University).

With this methodology we have trained more than 115,000 pharmacists with unprecedented success, in all clinical specialties. Our pedagogical methodology is developed in a highly demanding environment, with a university student body with a high socioeconomic profile and an average age of 43.5 years old.

*Re-learning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (we learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



In this program you will have access to the best educational material, prepared with you in mind:



### Study Material

All teaching material is created specifically for the course by specialist pharmacists who will be teaching the course, so that the didactic development is highly specific and accurate.

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.



### Video Techniques and Procedures

We bring you closer to the latest techniques, to the newest educational advances, to the forefront of current pharmaceutical care procedures. All this, in first person, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



### 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 unique multimedia content presentation training system 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 training.





**Expert-led case studies and case analysis**

Effective learning ought to be contextual. Therefore, we will present you with real case developments in which the expert will guide you through the development of attention and the resolution of different situations: a clear and direct way to achieve the highest degree of understanding.



**Testing & Retesting**

We periodically evaluate and re-evaluate your knowledge throughout the program, through assessment and self-assessment activities and exercises: so that you can see how you are achieving your goals.



**Classes**

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

Learning from an expert reinforces knowledge and memory, and builds confidence in our difficult future decisions.



**Quick Action Guides**

We offer you the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help you progress in your learning.



06

# Certificate

The Postgraduate Certificate in Biopharmaceutics and Pharmacokinetics guarantees you, in addition to the most rigorous and up to date training, access to a Postgraduate Certificate issued by TECH - Technological University.





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*Successfully complete this specialisation  
and receive your university degree  
without travel or laborious paperwork”*

This **Postgraduate Certificate in Biopharmaceutics and Pharmacokinetics** contains the most complete and up to date scientific program on the market.

After the student has passed the evaluations, they will receive their corresponding **Postgraduate Certificate** issued by **TECH - Technological University**

The certificate issued by **TECH - Technological University** will reflect the qualification obtained in the Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

**Title: Postgraduate Certificate in Biopharmaceutics and Pharmacokinetics**

**ECTS: 4**

**Official Number of Hours: 100**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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



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- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Postgraduate Certificate

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