Postgraduate Diploma

Elaboration of Topical Pharmaceutical Dosage Forms

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Postgraduate Diploma
Elaboration of Topical Pharmaceutical Dosage Forms

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

Website: **www.techtitute.com/us/pharmacy/postgraduate-diploma/postgraduate-diploma-elaboration-topical-pharmaceutical-dosage-forms**

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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.

Learn about the latest developments in Elaboration of Topical Pharmaceutical Dosage Forms"

The industrialized medicine has been an advance in the current therapeutic, since many patients have found the remedy to their diseases.

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

The Compounding 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 up-to-date and promote continuous training in the knowledge and compliance with the standards for the correct preparation and quality control of Compounding in order to achieve the required level of quality.

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

This **Postgraduate Diploma in Elaboration of Topical Pharmaceutical Dosage Forms** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of clinical cases presented by pharmacology experts
- 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
- News about the action in the development on the Elaboration of Topical Pharmaceutical Dosage Forms
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- With special emphasis on evidence-based medicine and research methodologies in the Elaboration of Topical Pharmaceutical Dosage Forms
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Availability of content from any fixed or portable device with internet connection

This Postgraduate Diploma in Elaboration of Topical Pharmaceutical Dosage Forms contains the most complete and up-to-date scientific program on the market"

This Postgraduate Diploma is the best investment you can make in the selection of a refresher program for two reasons: in addition to updating your knowledge in Elaboration of Topical Pharmaceutical Dosage Forms, you will obtain a certificate issued by TECH Technological University"

Increase your decision-making confidence by updating your knowledge with this Postgraduate Diploma in Elaboration of Topical Pharmaceutical Dosage Forms.

Seize the opportunity to update your knowledge on Elaboration of Topical Pharmaceutical Dosage Forms and improve patient care.

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

Thanks to its multimedia content developed with the latest educational technology, it will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to train in real situations.

The design of this program is based on Problem-Based Learning, through which the pharmacist must try to solve the different situations of professional practice that are raised throughout the Postgraduate Diploma. For this reason, they will be assisted by an innovative, interactive video system created by renowned and experienced experts in the field of Pharmacology with extensive teaching experience.

02

Objectives

The main objective of the program is the development of theoretical-practical learning, so that professional manages to master in a practical and rigorous way the study of the Elaboration of Topical Pharmaceutical Dosage Forms.

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

General Objectives

- Ensure the correct preparation by the pharmacist of Compounding and officinal preparations according to current regulations
- Update knowledge, skills and attitudes developed in this sector

Make the most of this opportunity and take the step to get up to date on the latest developments in the Elaboration of Topical Pharmaceutical Dosage Forms"

Specific Objectives

Module 1. Biopharmaceutics and Pharmacokinetics

- Define the evolution of medicines in the body
- Explain the chemical, therapeutic and biological equivalence of medicines
- Define the principles of clinical pharmacokinetics
- Explain release as a limiting factor of absorption
- Explain the different absorption mechanisms
- Describe physiological factors influencing gastrointestinal absorption
- Explain the physical-chemical 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 delayed parenteral solutions

Module 2. Topical Pharmaceutical Dosage Forms

- Establish suitable laboratory conditions for product preparation
- Explain the registration of raw materials as well as the processing parts
- Explain the proper elaboration of the patient information leaflet
- Define the basic principles of packaging in Compounding
- Explain the quality control to be carried out in the preparation of pharmaceutical forms
- Explain the use of active ingredients for each of the pharmaceutical forms
- Explain the current legislation on the elaboration and quality control of Compounding and officinal preparations
- Explain resources and sources of consultation in the Compounding laboratory
- Describe the proper handling of the equipment
- Proper use of measurement systems
- Explain significant differences and peculiarities in the elaboration of different topical pharmaceutical forms
- Perform the operations entrusted with the elaboration and/or control according to the established norms of correct elaboration and quality control of Compounding and officinal preparation
- Make the corresponding records
- Explain what the emulsion sign consists of
- Explain what is involved in the testing of organoleptic characteristics, final weight/volume

Module 3. Pharmaceutical Forms of Administration in Mucous Membranes

- Explain the correct weighing process in the Elaboration of Individualized Formulas
- Explain the correct spraying process and the tools to carry it out
- Define the factors influencing spraying
- Explain the rheological properties of the substances to be sprayed
- Explain the different screening procedures
- Describe the mixing and homogenization process
- Explain the types of sounds according to their humidity
- Define the different sterilization systems and their application
- Explain the different filtration systems and modes in Compounding
- List the stages of the freeze-drying process

Module 4. Excipients and Bases Used in Compounding

- Differentiate the different types of water used in Compounding
- Develop knowledge around simple excipients
- Delve into the bases of compound excipients

03

Course Management

This program includes in its teaching staff health professionals of recognized prestige, who belong to the field of Compounding, and who pour into this program the experience of their work. In addition, members of prestigious national and international scientific societies participate in its design and development.

Learn from reference professionals, the latest advances in Elaboration of Topical Pharmaceutical Dosage Forms"

Management

Dr. Sánchez Guerrero, Amelia

- Head of Hospital Pharmacy Service at the U.H Puerta de Hierro Majadahonda
- Doctorate degree. PhD Complutense University (Madrid)
- Degree in Pharmacy. Complutense University, (Madrid)
- Member of the Teaching Commission. Puerto de Hierro U.H Majadahonda
- Chairman of the Pharmacy and Therapeutics Committee. Puerto de Hierro U.H Majadahonda
- Know, understand and value your pharmacist within the hospital. Correo Farmacéutico Award for one of the Best Pharmacy Initiatives of the Year 2017 in the Pharmaceutical Care and Health Education section. Madrid
- Know, understand and value your pharmacist within the hospital. Sanitaria 2000 Award "Visibility of the hospital pharmacist in the hospital setting" organized by the SEFH and Redacción Médica. IV Global Meeting of Hospital Pharmacy. Córdoba

Professors

Dr. Santiago Prieto, Elvira

- Head of the non-hazardous sterile, non-sterile and nutritional drug processing area of the Pharmacy Service of Puerta de Hierro U.H Madrid
- Attending pharmacist. Puerto de Hierro U.H - Majadahonda
- Specialist Pharmacist in Hospital Pharmacy, hired by the Foundation for Biomedical Research of the Puerta de Hierro University Hospital. 2013-2014
- Resident Pharmacist. Specialization in Hospital Pharmacy. Puerto de Hierro U.H - Majadahonda. 2009-2013
- Degree in Pharmacy. Faculty of Pharmacy. Complutense University of Madrid
- Master's Degree in Pharmaceutical Sciences. Speciality: "Community pharmacy and quality of care". UCM

Ms. Rodríguez Marrodán, Belén

- FEA Specialist in Hospital Pharmacy. Pharmacy Department. Puerto de Hierro U.H Majadahonda
- Degree in Pharmacy from the Complutense University of Madrid
- Specialist in Hospital Pharmacy. Ministry of Education and Culture
- Member of the Working Group on Safety in the Use of Medication in Pediatrics. Puerto de Hierro U.H Majadahonda
- Member of the Clinical Research Ethics Committee (CEIm). Puerto de Hierro U.H Majadahonda
- Hospital Pharmacy Resident Tutor. Puerto de Hierro U.H Majadahonda
- Member of the Medicines Committee. Spanish Association of Pediatrics
- SMFH Secretariat. Madrid Society of Hospital Pharmacists
- Member of the Quality of Care and Patient Safety Working Group. Spanish Society of Hospital Pediatrics
- Diploma in Pharmaceutical Oncology. University of Valencia

Dr. García Sanz, Elena

- Assistant in the Hospital Pharmacy Service of the Puerta de Hierro U.H Majadahonda
- Degree in Pharmacy. Complutense University of Madrid
- Master's Degree in Pharmaceutical Care in the Pharmaceutical Care environment. University of Valencia
- Doctor of Pharmacy. Complutense University of Madrid
- Member of the Procurement Group of the Council. General Subdirectorate of Pharmacy and PS of the Council
- Associate Professor of Student Internships 5th year Pharmacy. Complutense University, (Madrid)

Dr. Gumiel Baena, Inés

- Inpatient pharmaceutical care. Puerta de Hierro U. Hospital Majadahonda (Madrid)
- Degree in Pharmacy. Complutense University of Madrid, Spain. 2010-2015
- Speciality in Hospital Pharmacy. Puerto de Hierro University Hospital Majadahonda, Madrid - 2016 - 2020
- Master's Degree in Health Products. University of Granada. Feb-Dec 2019
- Pharmacokinetics. Severo Ochoa University Hospital
- Primary Care Pharmacy. Northwest Assistance Directorate. SERMAS
- General Subdirectorate of Pharmacy and sanitary products. Ministry of Health of SERMAS
- Antibiotic optimization program. Getafe University Hospital

04

Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable of the implications of training in the daily pharmaceutical praxis in the Elaboration of Topical Pharmaceutical Dosage Forms, aware of the relevance of the current situation to be able to develop individualized pharmaceutical forms in a safe and efficient way and committed to the teaching of quality through the new educational technologies.

This Postgraduate Diploma in Elaboration of Topical Pharmaceutical Dosage Forms 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. Pharmaceutic Technology
- 1.1.5. Clinical Pharmacokinetics

1.2. Evolution of Medicines in the Body
- 1.2.1. LADME
- 1.2.2. Kinetics of LADME Processes
- 1.2.3. Release as a Limiting Factor of Absorption

1.3. Absorption Mechanisms
- 1.3.1. Passive Diffusion
- 1.3.2. Convective Diffusion
- 1.3.3. Active Transport
- 1.3.4. Facilitated Transport
- 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 Affecting 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

Module 2 Topical Pharmaceutical Dosage Forms

2.1. Solutions
- 2.1.1. Aqueous Solutions
- 2.1.2. Alcoholic Solutions
- 2.1.3. Hydroalcoholic Solutions
- 2.1.4. Liposome Solutions or Liposomes
  - 2.1.4.1. Liposomes and Types
  - 2.1.4.2. Composition of Liposomes
  - 2.1.4.3. Functions of Liposomes
  - 2.1.4.4. Production of Liposomes Pharmacy and Industry
  - 2.1.4.5. Quality Control
- 2.1.5. Foams
- 2.1.6. Problems in the Production of Solutions

2.2. Emulsions
- 2.2.1. Definition
- 2.2.2. Emulsion Components
- 2.2.3. Types of Emulsifiers
- 2.2.4. Production
- 2.2.5. HLB Balance
- 2.2.6. Quality Control
- 2.2.7. Problems and Solutions in the Production Process

2.3. Gels
- 2.3.1. Mechanisms for Elaborating a Gel
- 2.3.2. Classification of Gelling Substances
- 2.3.3. Quality Control
- 2.3.4. Problems and Solutions in the Production Process

2.4. Ointments and Pastes
- 2.4.1. Definition
- 2.4.2. Types
- 2.4.3. Quality Control
- 2.4.4. Problems and Solutions in Paste Processing

2.5. Transdermal Creams
- 2.5.1. Definition
- 2.5.2. Mechanism of Action
- 2.5.3. Most Common Active Ingredients in Transdermals
- 2.5.4. Production
  - 2.5.4.1. PLO Gel
  - 2.5.4.2. PEN Type TD Creams
- 2.5.5. Uses
  - 2.5.5.1. Palliative Pain Therapy
  - 2.5.5.2. HRT Therapy
- 2.5.6. Quality Control

2.6. Application in Dermatology of Pharmaceutical Forms for Topical Administration
- 2.6.1. Skin Structure and Functions
  - 2.6.1.1. Epidermis
  - 2.6.1.2. Dermis
  - 2.6.1.3. Hypodermis
- 2.6.2. Common Pathologies
- 2.6.3. Compounding Frequently Used in Dermatology

2.7. Application in Podiatry of Pharmaceutical Forms for Topical Administration
- 2.7.1. The Foot
- 2.7.2. Common Pathologies
- 2.7.3. Compounding Frequently Used in Podiatry

2.8. Application in Otorhinology of Pharmaceutical Forms for Topical Administration
- 2.8.1. Introduction
- 2.8.2. Common Pathologies
- 2.8.3. Compounding Frequently Used in Otorhinology

Module 3 Pharmaceutical Forms of Administration in Mucous Membranes

3.1. Oral Mucosa
- 3.1.1. Features
- 3.1.2. Pathologies

3.2. Application in Dentistry
- 3.2.1. Introduction
- 3.2.2. Common Pathologies
- 3.2.3. Common Compounding

3.3. Vaginal Mucosa
- 3.3.1. Features
- 3.3.2. Ovules
  - 3.3.2.1. Production
  - 3.3.2.2. Excipients
  - 3.3.2.3. Quality Control
- 3.3.3. Pathologies
- 3.3.4. Usual Compounding in Gynecology

3.4. Rectal Mucosa
- 3.4.1. Enemas
  - 3.4.1.1. Production
  - 3.4.1.2. Excipients
  - 3.4.1.3. Quality Control
- 3.4.2. Suppositories
  - 3.4.2.1. Production
  - 3.4.2.2. Excipients
  - 3.4.2.3. Quality Control

3.4.3. Enemas
3.4.3.1. Production
3.4.3.2. Excipients
3.4.3.3. Quality Control
3.4.4. Suppositories and Ovules
3.4.4.1. Production
3.4.4.2. Excipients
3.4.4.3. Quality Control

Module 4 Excipients and Bases Used in Compounding

4.1. Water, the Most Commonly Used Excipient
4.1.1. Types of Water Used in Compounding
4.1.1.1. Purified Water
4.1.1.2. Water for Injectables
4.1.2. Procurement
4.2. Simple Excipients
4.2.1. Non-Aqueous Excipients
4.2.2. Other Commonly Used Excipients
4.2.3. Excipients of Obligatory Declaration
4.3. Compound Excipients
4.3.1. Solid Oral Forms
4.3.2. Liquids Oral Forms
4.3.3. Compound Bases

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

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

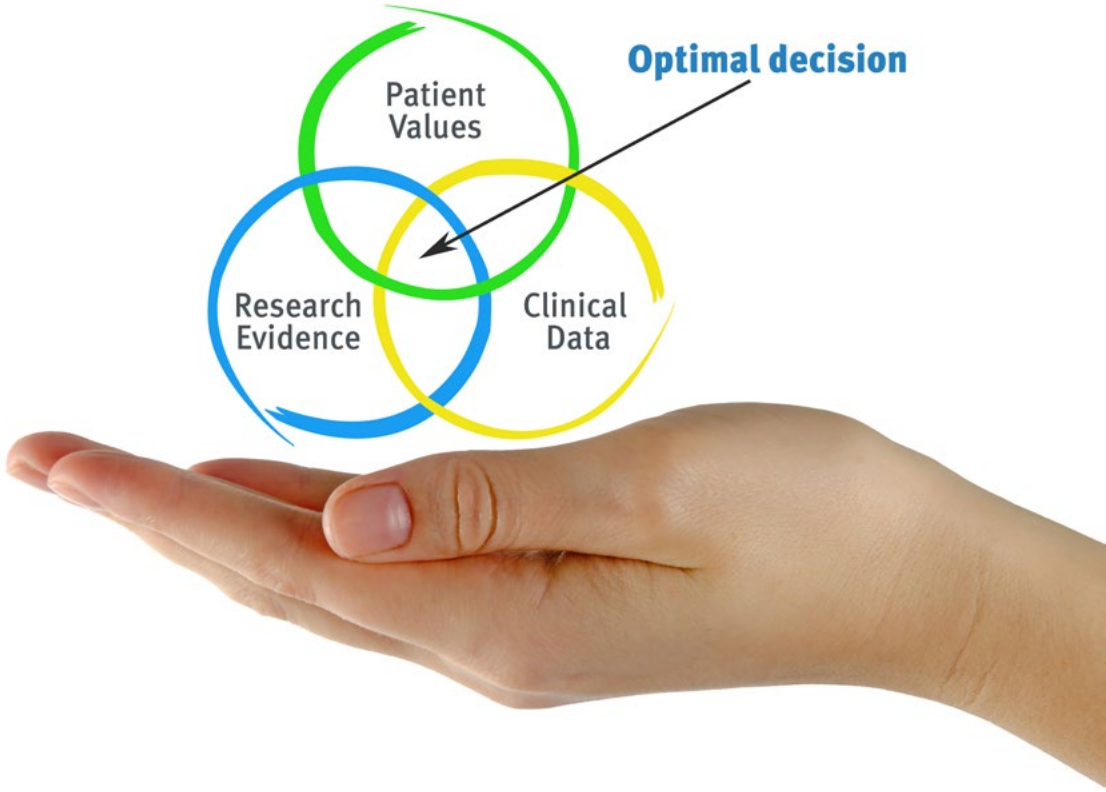
This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

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

At TECH we use the Case Method

What should a professional do in a given situation? Throughout the program, students will be confronted with multiple simulated clinical cases based on real patients, in which they will have to investigate, establish hypotheses and ultimately, 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 will experience a way of learning that is shaking the foundations of traditional universities around the world.



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

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

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

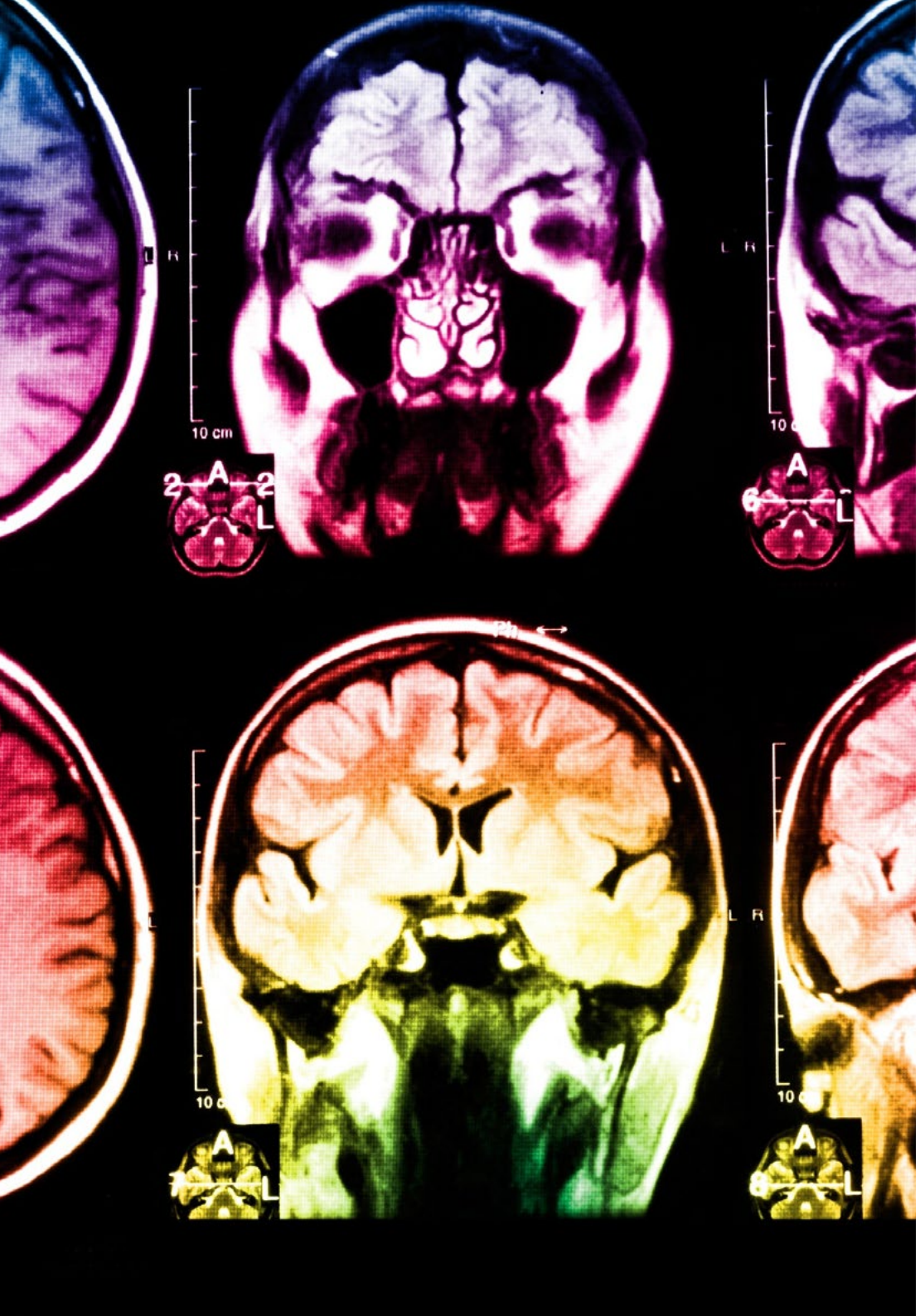
1. Pharmacists who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts 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.

Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

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 Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 115,000 pharmacists have been trained with unprecedented success in all clinical specialties, regardless of the surgical load. This 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.

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

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

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

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

Study Material

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

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Video Techniques and Procedures

TECH introduces students to the latest techniques, to the latest educational advances, to the forefront of current pharmaceutical care procedures. All of this, first hand, and explained and detailed with precision to contribute to assimilation and a better understanding. And best of all, you can watch them as many times as you want.

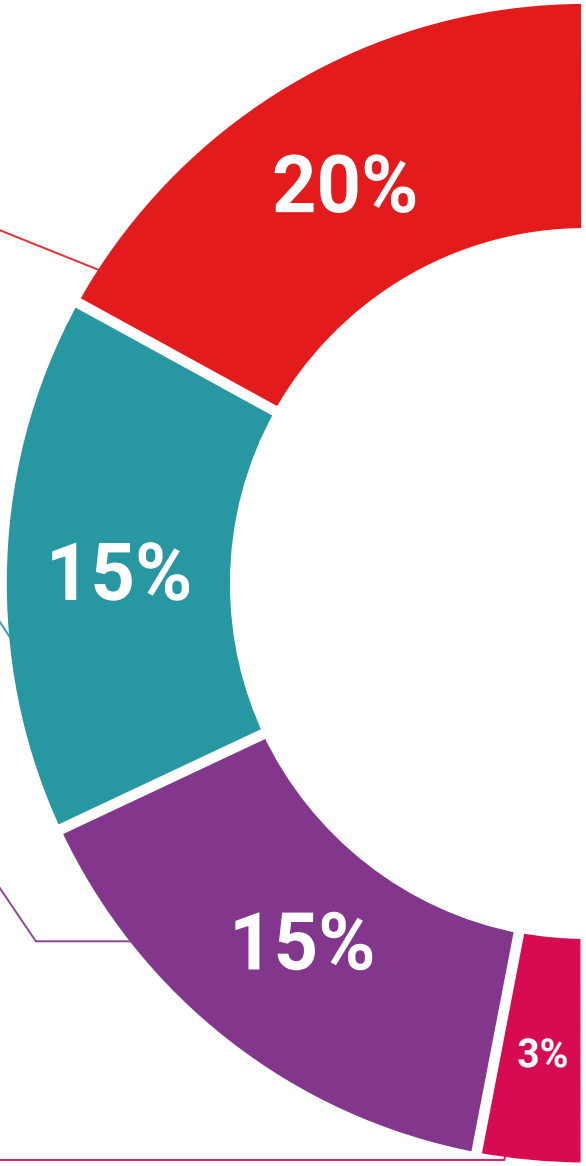
Interactive Summaries

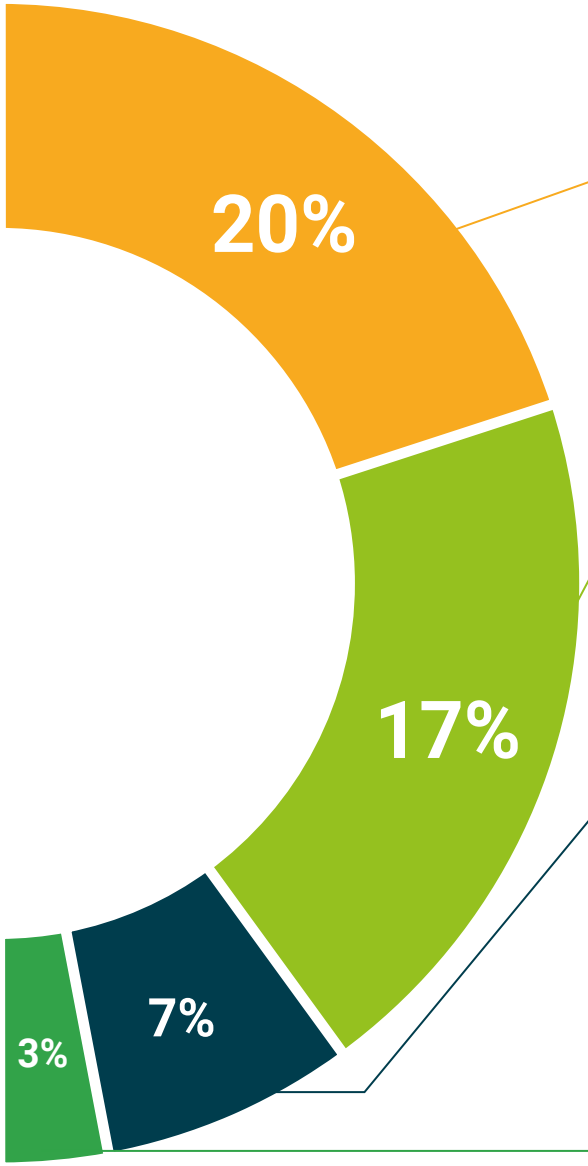
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





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 focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.

06

Certificate

The Postgraduate Diploma in Elaboration of Topical Pharmaceutical Dosage Forms guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.

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

This **Postgraduate Diploma in Elaboration of Topical Pharmaceutical Dosage Forms** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** via tracked delivery*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Elaboration of Topical Pharmaceutical Dosage Forms**

Official Nº of Hours: **425 h.**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Elaboration of Topical Pharmaceutical Dosage Forms

This is a qualification awarded by this University, equivalent to 425 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates

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

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