

Postgraduate Certificate Metabolomics





Postgraduate Certificate Metabolomics

- » 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/metabolomics

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01

Introduction

Nutrition plays a fundamental role in people's state of health, which is why it is important for professionals in this area to have a high level of specialization. On this occasion, TECH has designed a specific program for pharmacists with the highest quality content and scientific rigor.



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Give your career a boost thanks to this training in Metabolomics and you will notice how you advance in your daily practice”

This Postgraduate Certificate details everything a pharmacist needs to know about Metabolomics. Thus, the material is organized in such a way as to advance knowledge without leaving doubts or gaps in information. It is the best training on the market, because it offers the opportunity to learn online all the innovation in the field of Nutritional Genomics.

The objective of this program is to understand and delve into the principles of Metabolomics and Proteomics. To this end, the key techniques and the main applications that Metabolomics and Proteomics could have in the field of nutrition are explained.

Thus, the Postgraduate Certificate presents state-of-the-art microbiota data for application and use in clinical practice towards a precise and more individualized patient treatment.

The program places special emphasis on the microbiota as a tool for preventive and more personalized nutrition. The main enterotypes, metabolomic profiles and how they associate with nutrition-related diseases are presented.

This Postgraduate Certificate provides students with specific tools and skills to successfully develop their professional activity related to Nutritional Genomics and Precision Nutrition.

Being an online program, the student is not constrained by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their work or personal life with their academic life as they wish.

This **Postgraduate Certificate in Metabolomics** 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 in Nutritional Genomics and Precision Nutrition.
- ♦ The graphic, schematic and eminently practical contents of the course are designed to provide all the essential information required for professional practice.
- ♦ Practical exercises where self-assessment can be used to improve learning.
- ♦ Special emphasis on innovative methodologies in the field of Metabolomics.
- ♦ 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.



Pharmacists are often the closest professionals to patients. Therefore, they need to increase their knowledge in all areas related to Nutritional Genomics"

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This Postgraduate Certificate is the best investment you can make in selecting a refresher program to update your knowledge in Metabolomics”

Its teaching staff includes professionals belonging to the field of nutrition, who contribute their work experience to this training, as well as renowned specialists from reference 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 training programmed to train in real situations.

The design of this program focuses on Problem-Based Learning, which means the student must try to solve the different real-life situations of that arise throughout the academic program. To do so, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Metabolomics.

This program offers training in simulated environments, which provides an immersive learning experience designed to train for real-life situations.

This 100% online program's degree will allow you to combine your studies with your professional work while increasing your knowledge in this field.



02 Objectives

The main objective of the program is the development of theoretical and practical learning, so that the pharmacist can master in a practical and rigorous way the study of Nutritional Genomics and Precision Nutrition.



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This refresher program will provide you with a sense of confidence in your daily work, which will help you grow both personally and professionally”



General Objectives

- ◆ Acquire theoretical knowledge of human population genetics.
- ◆ Acquire knowledge of Genomic and Precision Nutrition to be able to apply it in clinical practice.
- ◆ Learn about the trajectory of this innovative field and the key studies that contributed to its development.
- ◆ Know in which pathologies and conditions of human life Nutritional Genomics and Precision Nutrition can be applied.
- ◆ Be able to assess individual response to nutrition and dietary patterns in order to promote health and disease prevention.
- ◆ Learn how nutrition influences gene expression in humans.
- ◆ Learn about new concepts and future trends in the field of Genomic and Precision Nutrition.
- ◆ Adapt personalized dietary and lifestyle habits according to genetic polymorphisms.
- ◆ Provide health professionals with all the updated knowledge in the field of Genomic and Precision Nutrition in order to know how to apply it in their professional activity.
- ◆ Put all the updated knowledge in perspective. Where we are now and where we are going so that the student can:





Specific Objectives

- ◆ Know the Principles of Metabolomics and Proteomics
- ◆ Delve into the Microbiota as a Tool for Preventive and Personalized Nutrition



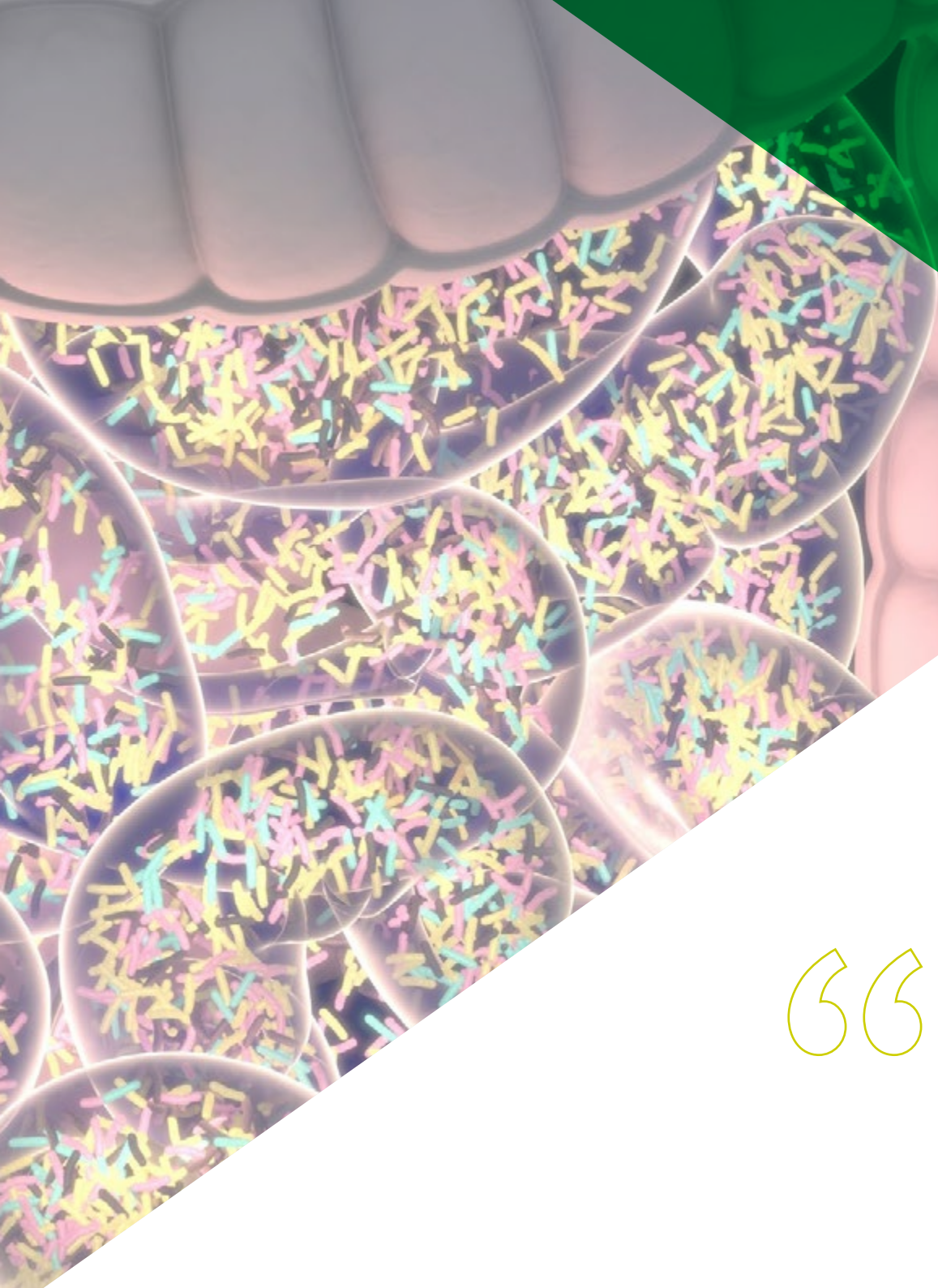
*Realistic goals that will
turn into immediate
job advancements"*

03

Course Management

The program includes in its teaching staff experts in Metabolomics, who contribute their years of work experience to this training. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.



A detailed microscopic image showing several cells. The cells are filled with a dense population of small, rod-shaped bacteria, each color-coded in yellow, pink, and cyan. The cells themselves have a translucent, purple-hued membrane. The background is a soft, out-of-focus pinkish-purple.

“

Leading professionals in the field have come together to teach you the latest advances in Metabolomics”

Management



Dr. Konstantinidou, Valentini

- ♦ D. in Biomedicine
- ♦ Lecturer in Nutrigenetics
- ♦ Founder of DNANUTRICOACH®
- ♦ Dietitian- Nutritionist
- ♦ Food Technologist

Professors

Dr. García Santamarina, Sarela

- ♦ Dr. in Biomedical Research, Pompeu Fabra University, Barcelona, Spain, 2008-2013.
- ♦ Master's Degree in Molecular Biology of Infectious Diseases, London School of Hygiene & Tropical Medicine, London, UK, 2006-2007
- ♦ Master's Degree in Biochemistry and Molecular Biology, Autonomous University of Barcelona, Spain, 2003-2004
- ♦ Degree in Chemistry Major in Organic Chemistry, University of Santiago de Compostela, Spain, 1996-2001
- ♦ Postdoctoral Researcher EIPOD Marie Curie. Mentoring: Dr. Athanasios Typas, Dr. Peer Bork, and Dr. Kiran Patil. Project: "Effects of drugs on intestinal flora". European Molecular Biology Laboratory (EMBL), Heidelberg, Germany. Since 2018

Mr. Anglada, Roger

- ♦ Graduate in Multimedia, Catalunya Open University (Universitat Oberta de Catalunya)
- ♦ Higher Technician in Analysis and Control, Institute of Secondary Education Narcís Monturiol, Barcelona
- ♦ Senior research support technician at the Genomics Service of the Pompeu Fabra University where he is responsible for the equipment and devices for sequencing and real-time PCR, providing support to users from different centers both in the design and interpretation of the results
- ♦ Co-author of several scientific publications since 2002. He combines his work with lectures and teaching both at Pompeu Fabra University and in different programs and courses



04

Structure and Content

The structure of the contents has been designed by a team of professionals knowledgeable about the implications of methodology in daily practice, aware of the current relevance of training in Nutritional Genomics and Precision Nutrition, and committed to quality teaching through new educational technologies.





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We have the most complete and up-to-date programme on the market. We strive for excellence and for you to achieve it too"

Module 1. Metabolomics-Proteomics

- 1.1. Proteomics
 - 1.1.1. Principles of Proteomics
 - 1.1.2. The Flow of Proteomics Analysis
- 1.2. Metabolomics
 - 1.2.1. Principles of Metabolomics
 - 1.2.2. Targeted Metabolomics
 - 1.2.3. Non-Targeted Metabolomics
- 1.3. The Microbiome/Microbiota
 - 1.3.1. Microbiome Data
 - 1.3.2. Human Microbiota Composition
 - 1.3.3. Enterotypes and Diet
- 1.4. Main Metabolomic Profiles
 - 1.4.1. Application to Disease Diagnosis
 - 1.4.2. Microbiota and Metabolic Syndrome
 - 1.4.3. Microbiota and Cardiovascular Diseases Effect of the Oral and Intestinal Microbiota
- 1.5. Microbiota and Neurodegenerative Diseases
 - 1.5.1. Alzheimer's Disease
 - 1.5.2. Parkinson's Disease
 - 1.5.3. ALS
- 1.6. Microbiota and Neuropsychiatric Diseases
 - 1.6.1. Schizophrenia
 - 1.6.2. Anxiety, Depression, Autism
- 1.7. Microbiota and Obesity
 - 1.7.1. Enterotypes
 - 1.7.2. Current Studies and State of Knowledge





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*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.





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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. 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 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.

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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 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 Harvard 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

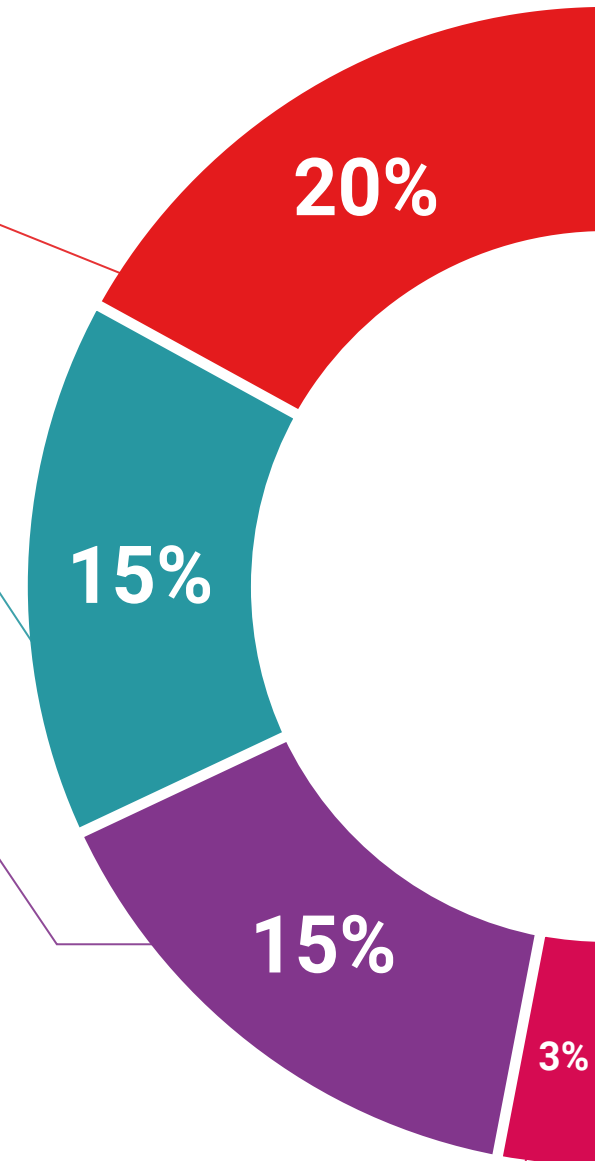
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

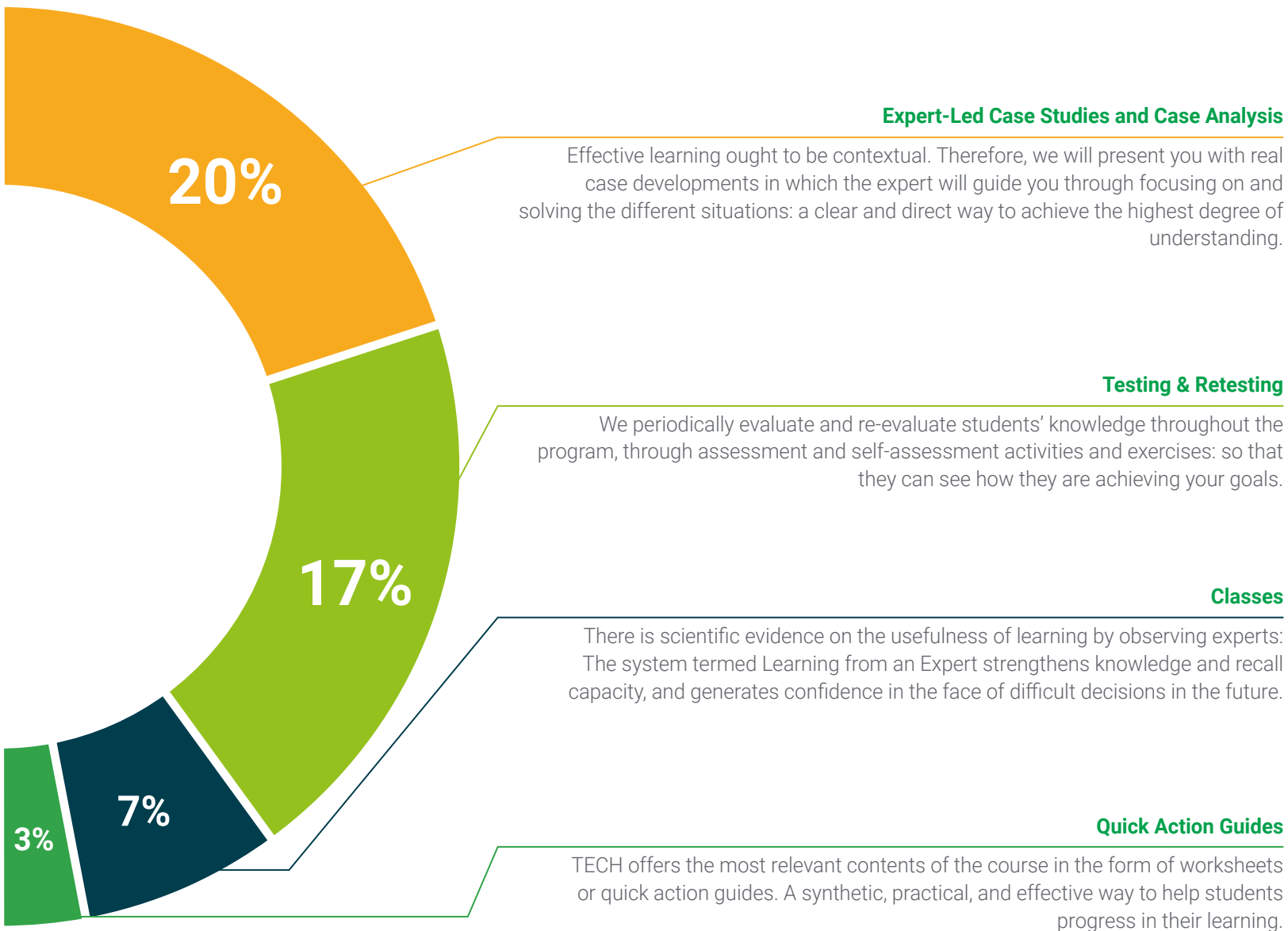
This unique multimedia content presentation training system was awarded by Microsoft as a "European Success Story".



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.





06 Certificate

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



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*Successfully complete this program and
receive your certificate without travel or
cumbersome paperwork”*

This **Postgraduate Certificate in Metabolomics** 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 **ertificate certificate** issued by **TECH Technological University** via tracked delivery*.

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

Title: **Postgraduate Certificate in Metabolomics**

Official N° of Hours: **150 h.**



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



Postgraduate Certificate Metabolomics

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