

Postgraduate Certificate Brain Biochemistry for Teachers





Postgraduate Certificate Brain Biochemistry for Teachers

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 8 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitude.com/us/education/postgraduate-certificate/brain-biochemistry



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01

Introduction

In the teaching profession, understanding brain biochemistry is a skill that directly translates into a greater and more effective ability to carry out specific interventions with students who suffer from some type of mental illness. This knowledge provides the necessary tools to plan teaching strategies realistically and appropriately, ensuring the best opportunities and optimal outcomes. This program has been specifically designed for teachers who wish to strengthen their capacity to make effective interventions, with a clear focus on the school of the future.





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Learn everything you need to know about brain biochemistry and how it determines the approaches that must be developed to respond effectively to students with mental illness”

Understanding how the brain matures—and which areas develop earlier or later—is the key to designing realistic and effective educational planning that addresses the real needs of students with mental illness. Likewise, knowing the implications of biochemical alterations in mental illness is essential for conducting a closer, more accurate analysis of the behavior of the system that encompasses the mind, consciousness, and each individual's lived reality.

This Postgraduate Certificate provides real support for understanding students with mental illness and for detecting, at an early stage, what is happening in their brains, allowing for timely and effective intervention.



Increase your capacity for analysis and recognition in the field of mental illness in the classroom, with the working tools of a specialist"

This **Postgraduate Certificate in Brain Biochemistry for Teachers** contains the most complete and up-to-date educational program on the market. The most important features include:

- ♦ The development of over 75 clinical cases presented by 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
- ♦ New diagnostic and therapeutic developments in the assessment, diagnosis and intervention of the biological and neurological processes that explain mental illness
- ♦ It contains practical exercises where the self-assessment process can be carried out to improve learning
- ♦ An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- ♦ With special emphasis on evidence-based psychology and research methodologies in psychology
- ♦ All of this will be complemented by 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

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Enhance your analytical and diagnostic skills in the field of mental illness in the classroom, acquiring the working capacity of a specialist”

The teaching staff includes professionals from the field of Psychology, who bring to this Postgraduate Certificate the expertise of their practice, as well as renowned specialists from leading scientific societies.

Thanks to its multimedia content, developed with the latest educational technology, professionals will benefit from situated and contextual learning—simulated environments designed to provide immersive learning experiences that prepare them for real-life 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. To assist with this, the professional will have the support of an innovative interactive video system created by recognized experts in the field of clinical neuropsychology, with extensive teaching experience.

A Postgraduate Certificate created with the best educational resources in online learning, designed to become a professional growth experience of the highest value for education professionals.

Take advantage of this opportunity to understand the processes of brain biochemistry and how they affect children and young people who experience them in the educational context.



02 Objectives

This program was created with the aim of strengthening teaching practice through the support of specialized knowledge in clinical neuropsychology. This translates into a deeper capacity for understanding and, consequently, the ability to intervene appropriately in the different situations that arise in the classroom—regarding the functioning of the brain in relation to emotions and development—using the approaches of clinical neuropsychology.



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Our objective is to provide you with high-quality training that allows you to achieve your goals and take a significant step forward in your professional career”



General Objectives

- Develop a comprehensive understanding of the overall functioning of the brain, as well as the biochemistry that activates or inhibits it
- Interpret brain activity as a map of mental disorders
- Describe the relationship between the brain and the mind
- Explore technologies that generate changes in the brain to help overcome mental illness
- Understand and apply current psychopharmacology, integrating this knowledge with psychological tools that can improve mental health



Take advantage of this opportunity and take the step to update yourself on the latest advances in Brain Biochemistry for Teachers"





Specific Objectives

- ♦ Understand and master the specific biochemical and anatomical activity associated with each mental disorder
- ♦ Gain mastery of the biochemical antagonists and agonists affecting global brain function
- ♦ Acquire pharmacological knowledge for the treatment of mental illness
- ♦ Develop skills in designing psychological models that help improve biochemical and anatomical imbalances.
- ♦ Engage in multidisciplinary intervention in mental disorders
- ♦ Understand the regulators of human behavior
- ♦ Learn to use imaging tools in neurological research
- ♦ Develop psychological tools aimed at modifying brain biochemistry and neuroanatomy
- ♦ Understand that basic emotion depends on activated biochemistry and neuroanatomy

03

Course Management

The design of this program has been carried out in accordance with the standards of excellence of our university. With a stimulating and comprehensive approach, this training course will allow you to learn in a dynamic and consistent manner, leading you to achieve your goals with ease and efficiency.



“

*This Postgraduate Certificate in
Brain Biochemistry contains the
most complete and up-to-date
scientific program on the market”*

Management



Dr. Martínez Lorca, Alberto

- ♦ Specialist in Nuclear Medicine. Rey Juan Carlos University Hospital - Quirón. Madrid. Spain

Coordinator



Dr. Aguado Romo, Roberto

- ♦ Psychologist specialized in clinical psychology
- ♦ European specialist psychologist in psychotherapy
- ♦ Managing Director of evaluation and psychotherapy centers in Madrid, Bilbao, and Talavera de la Reina
- ♦ Author of Time-Limited Psychotherapy
- ♦ Researcher at CerNet, Emotional Network, and European Institute for Time-Limited Psychotherapies

Teachers

Fernández, Ángel

- ♦ European specialist psychologist in Psychotherapy from the EFPA
- ♦ Health Psychologist. Master's Degree in Clinical and Health Psychology
- ♦ Director of the Evaluation and Psychotherapy Center of Madrid
- ♦ Tutor in charge of the Psychodiagnosis and Psychological Intervention area of the CEP
- ♦ Author of the T.E.N. technique
- ♦ Head of studies on the Master's Degree in Time-Limited Psychotherapy and Health Psychology
- ♦ Specialist in Clinical Hypnosis and Relaxation

Ms. González, Mónica

- ♦ Psychologist in charge of the Department of Child and Adolescent Psychology in the Quirón Hospital and Avatar Psychologists in Marbella
- ♦ Master's degree in Time-Limited Psychotherapy and Health Psychology by the European Institute of Time-Limited Psychotherapy
- ♦ Kaisser, Carlos. M.D. Otolaryngologist
- ♦ Head of the Otolaryngology department at Segovia General Hospital
- ♦ Member of the Royal Academy of Medicine of Salamanca
- ♦ Master's Degree in Time-Limited Psychotherapy and Health Psychology
- ♦ Expert in Psychosomatic Medicine

Ms. Martínez-Lorca, Manuela

- ♦ Doctorate in Psychology from the University of Castilla-La Mancha
- ♦ Health Psychologist
- ♦ Lecturer in the Department of Psychology at the UCLM. Master in Time-Limited Psychotherapy and Health Psychology by the European Institute of Time-Limited Psychotherapies
- ♦ Specialist in Clinical Hypnosis and Relaxation

Ms. Roldan, Lucia

- ♦ Health Psychologist
- ♦ Cognitive-behavioral intervention specialist
- ♦ Master's Degree in Time-Limited Psychotherapy and Health Psychology
- ♦ Expert in energy therapy intervention

04

Structure and Content

The design of this program has been developed in line with the standards of excellence of our university. With a stimulating and comprehensive approach, this training course will allow you to learn in a dynamic and consistent manner, leading you to achieve your goals with ease and efficiency.

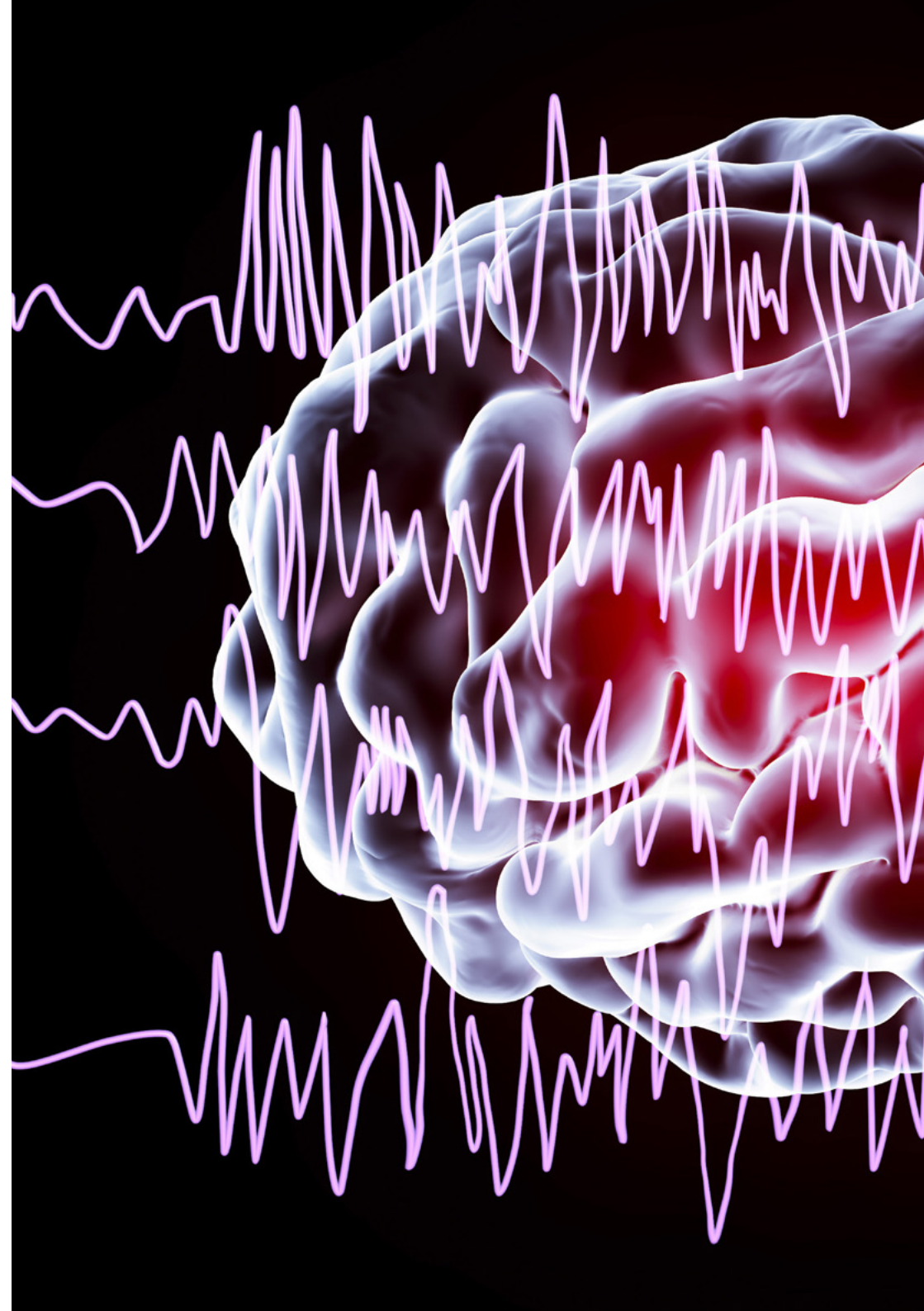


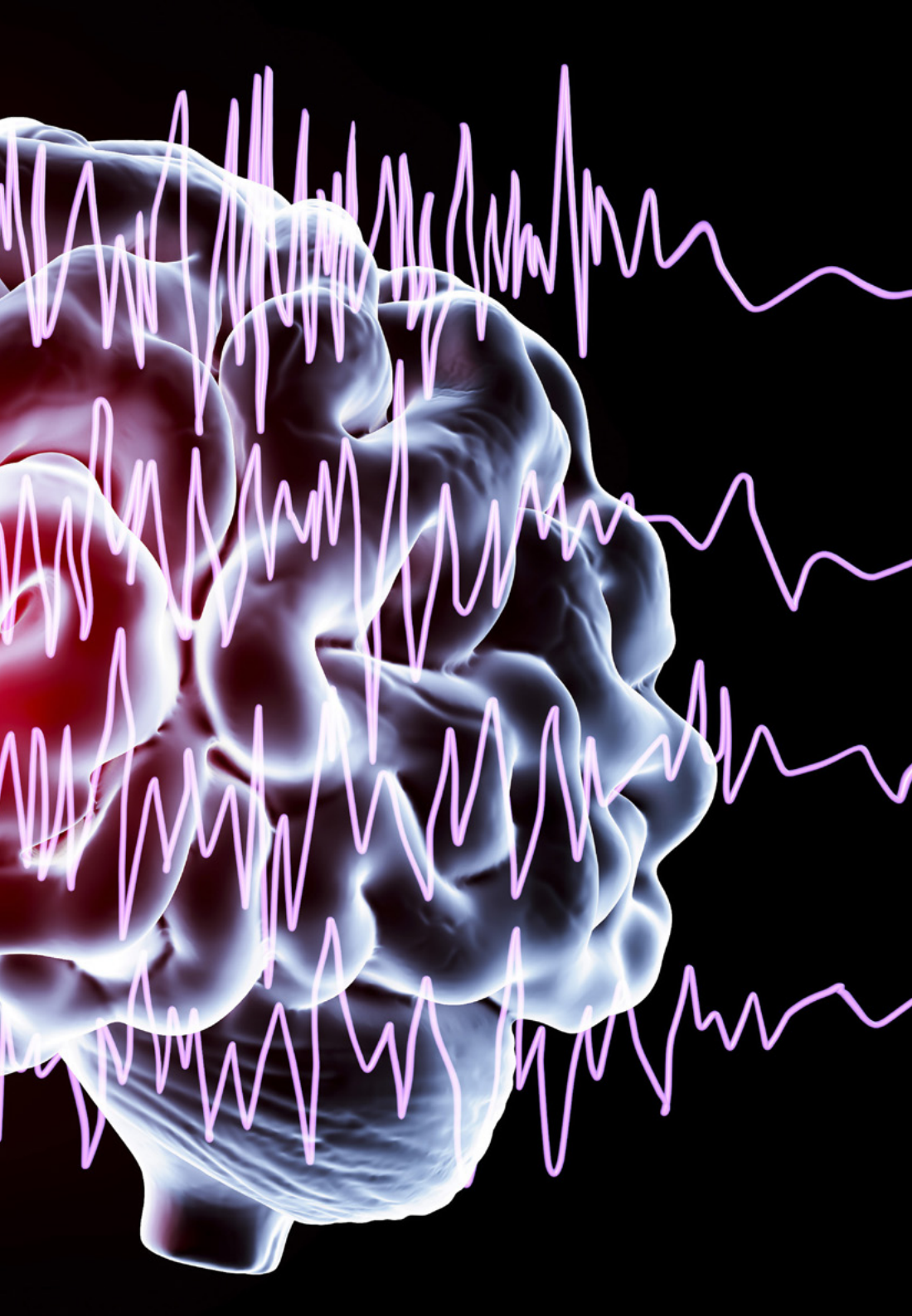
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With the objective of offering maximum applicability, this syllabus has been designed to respond to the training needs of teaching professionals in this area”

Module 1. Principles of Brain Biochemistry

- 1.1. The Neurone and its Composition
 - 1.1.1. Axon
 - 1.1.2. Cellular Body or Soma
 - 1.1.3. Dendrites
- 1.2. Nervous Impulse
 - 1.2.1. Sodium / Potassium Pump
 - 1.2.1.1. Resting Potential
 - 1.2.1.2. Action Potential Generation
 - 1.2.1.3. GABA-Glutamate-Glutamine Cycle
- 1.3. Electric and Chemical Synapses
- 1.4. Neurotransmitters
 - 1.4.1. G.A.B.A.
 - 1.4.2. Acetylcholine. (Ach)
 - 1.4.3. Catecholamines
 - 1.4.3.1. Adrenaline. (A)
 - 1.4.3.2. Noradrenaline. (NA)
 - 1.4.3.3. Dopamine (DA)
 - 1.4.3.3.1. DAe
 - 1.4.3.3.2. DAi
 - 1.4.4. Indolamines:
 - 1.4.4.1. Serotonin. (5-HT)
 - 1.4.5. Gastrointestinal Polypeptides
 - 1.4.6. Protanglandins
 - 1.4.7. Glycerine
 - 1.4.8. Enkephalins and Endorphins
 - 1.4.9. Adenylate Cyclase (ATP)





- 1.5. Neurotransmission Process
- 1.6. Neurotransmitter Synthesis
- 1.7. Neurotransmitter Storage
- 1.8. Release into the Intersynaptic Space
- 1.9. Interaction with the Postsynaptic Receptor
- 1.10. Neurotransmitter Reuptake
- 1.11. General Circulation Diffusion
- 1.12. Inactivation by the M.A.O
- 1.13. Rivers of Chemistry Flooding our Brains
- 1.14. Chemical Families and Interactions Between Them
- 1.15. Hormonal System
 - 1.15.1. Adrenaline
 - 1.15.2. Melatonin
 - 1.15.3. Adrenocorticotropin
 - 1.15.4. Norepinephrine



A unique, essential, and decisive learning experience to enhance your professional development"

05

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.

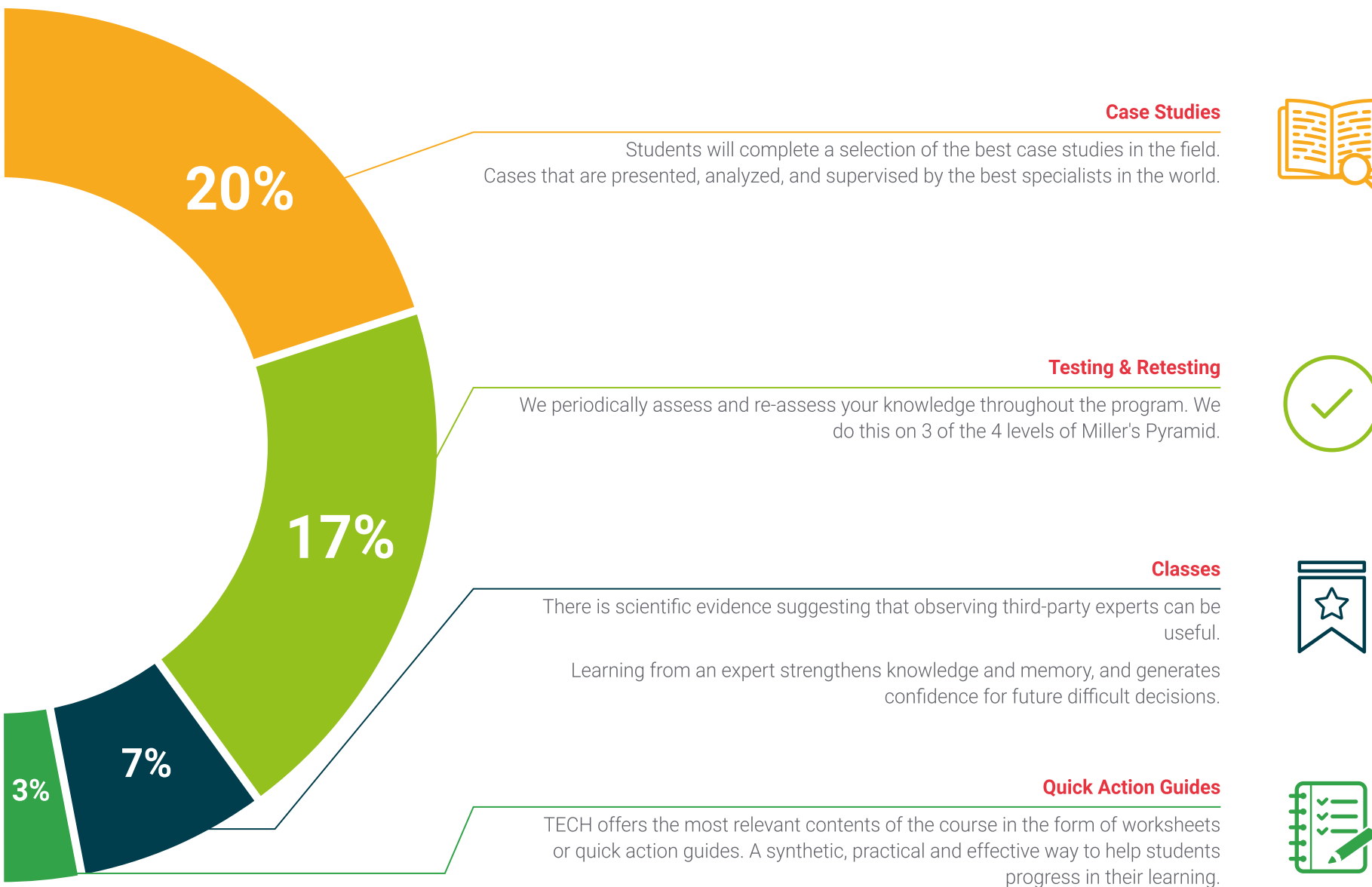
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

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





06 Certificate

The Postgraduate Certificate in Brain Biochemistry for Teachers guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Postgraduate Certificate issued by TECH Global University.



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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 diploma for the **Postgraduate Certificate in Brain Biochemistry for Teachers** 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.

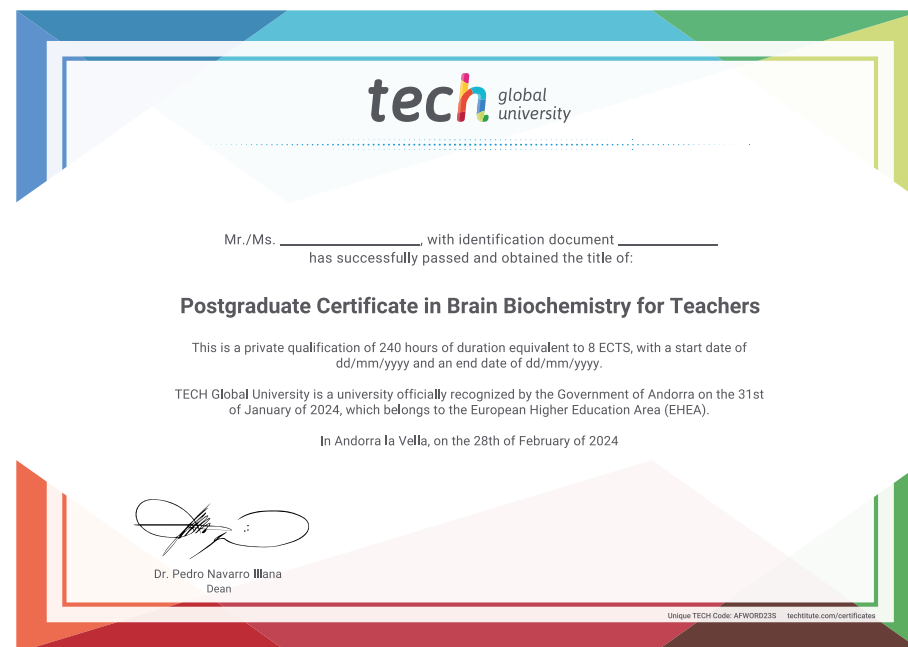
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Brain Biochemistry for Teachers**

Modality: **online**

Duration: **6 weeks**

Accreditation: **8 ECTS**



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



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