

# Postgraduate Certificate

## Sleep-Related Neurological Disorders in Adults





## Postgraduate Certificate Sleep-Related Neurological Disorders in Adults

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

Website: [www.techtitute.com/us/medicine/postgraduate-certificate/sleep-related-neurological-disorders-adults](http://www.techtitute.com/us/medicine/postgraduate-certificate/sleep-related-neurological-disorders-adults)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 20*

05

Methodology

---

*p. 24*

06

Certificate

---

*p. 32*

# 01

# Introduction

Sleep-wake control is a fundamental function of the brain and there are a number of neurological disorders that interfere with this function, causing disruption of normal sleep and leading to significant consequences. On the other hand, sleep disturbances influence and can condition the evolution of many of these disorders, worsening their evolution, prognosis and in some cases, contributing to their onset.

This program emphasizes the important question of the relationship between memory and sleep and the latest findings on this subject and clearly explains how we process sensory information during sleep and what is known about motor control during sleep.





“

*A unique opportunity to specialise  
in a high demand professional field"*

There is an increasing multidisciplinary interest in Sleep Medicine, a rapidly growing discipline. Whether approached from a global point of view or from "partial specialisation" depending on the original field of medicine or specific area of interest, it is always vital to have rigorous and up-to-date generic knowledge in all areas. This Postgraduate Certificate more than fulfills this objective, from an eminently practical point of view. Its approach sets it apart from many other courses on this very transverse discipline, which are often criticised for being too "descriptive" and "theoretical", therefore, not entirely useful in resolving many situations that arise in clinical management.

In recent times, research is highlighting the importance of the close bidirectional relationship between sleep disorders and neurodegenerative processes. In the program, this relationship and its implications are explained in an understandable and rigorous way, based on the latest scientific evidence, by accredited clinical experts in the field. Thus, the mechanisms of onset and implications of REM sleep behavior disorder (RBD), a frequent early biomarker of these disorders, sometimes years before the onset of other signs or symptoms, are included. Also noteworthy is the inclusion in the program of the main novelties regarding the pathophysiology of Alzheimer's disease and its relationship with sleep, the most frequent sleep disorders in these diseases, their implications, the attitude to follow in terms of diagnosis and therapeutic management. Also noteworthy is the inclusion in the program of novel disorders with an immunological and neurodegenerative basis, such as anti-IGLON 5 syndrome.

With the clear objective of combining scientific evidence and practical utility, this Diploma in Neurological Disorders Related to Sleep in Adults has a broad, updated and unbeatable program, prepared by a varied team of professional experts (physicians, psychologists, biologists, engineers, etc.), who provide their proven experience in the form of explanations, practical examples, entertaining, clarifying, abundant graphic-audiovisual support, absolutely essential in the teaching of this thriving discipline.

This **Postgraduate Certificate in Sleep-Related Neurological Disorders in Adults** contains the most complete and up-to-date scientific program on the market.

The most important features include:

- ◆ Developing practical cases presented by experts in Sleep Medicine
- ◆ The graphic, schematic, and practical contents provide students with scientific and practical information on the disciplines that are essential for professional practice
- ◆ Updates on Sleep Medicine and safety
- ◆ Practical exercises, where the self-assessment process can be carried out to improve learning
- ◆ Its emphasis on innovative methodologies in Sleep Medicine
- ◆ 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



*We offer a complete program for you to develop in the field of Sleep-Related Neurological Disorders in Adults. Think no more and enrol with us"*

“

*This Postgraduate Certificate is the best investment you can make in selecting a refresher program to update your knowledge in Sleep-Related Neurological Disorders in Adults"*

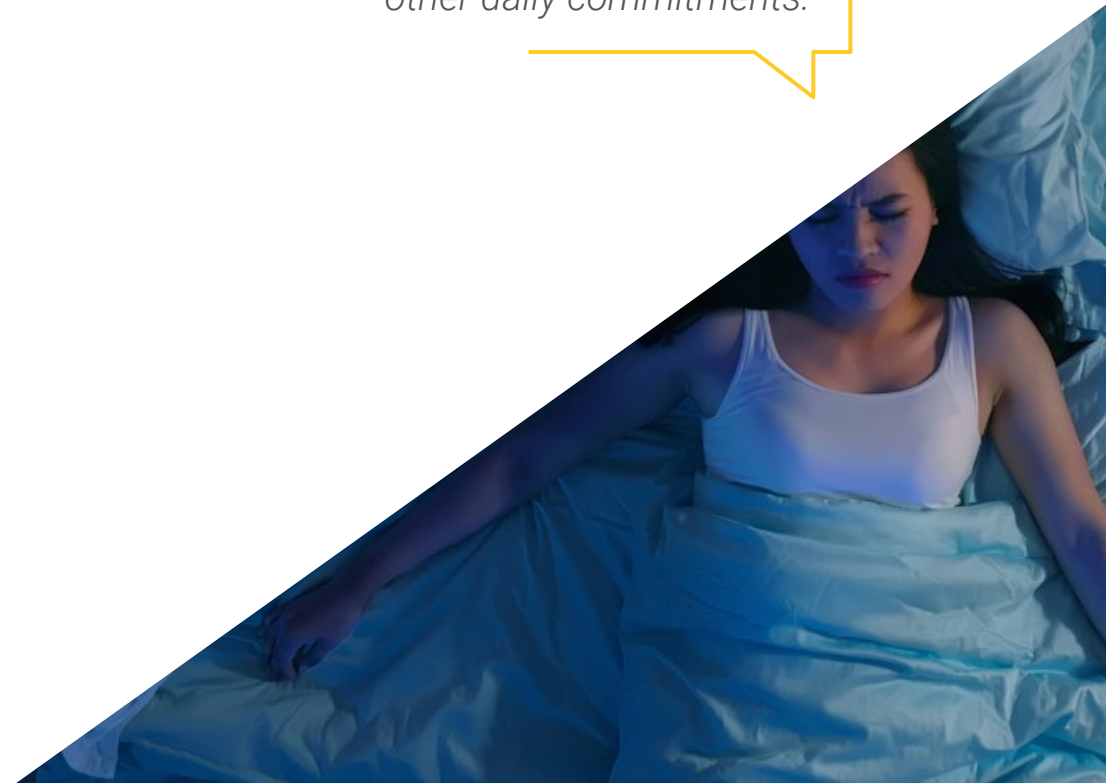
The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

Its 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 education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*We offer you an interactive video system which makes it easier for you to study this Postgraduate Certificate.*

*Our 100% online training and our original educational methodology allow you to combine your studies with your other daily commitments.*



# 02 Objectives

The main objective of the program is the development of theoretical and practical learning, so that the doctor is able to master the latest techniques in the field in a practical and rigorous manner.







“

*Our main objective is to help our students to achieve academic and professional excellence”*



## General objective

---

- ♦ Master and/or update the necessary skills and knowledge for adequate practice in the field of Sleep Medicine at a global level, from the clinical and instrumental points of view



*Train yourself for success with the help of this Postgraduate Certificate with which you will learn to develop yourself in the field of Sleep-Related Neurological Disorders in Adults"*





## Specific objectives

---

- ◆ Master knowledge and understanding of the latest findings on the mechanisms by which memory is consolidated during sleep, as well as on the processing of information (sensory and motor)
- ◆ Deepen understanding of the concepts of neurobiology, neuroanatomy and neurophysiology of REM sleep behaviour disorder, its relationship with the different alpha-synucleopathies, as well as the relationship with different disease phenotypes and therapeutic implications
- ◆ Learn what other sleep disturbances can be found in these diseases, their management and prevention
- ◆ Learn about the main sleep disorders in the different dementias, in terms of their significance, diagnosis and therapeutic management
- ◆ Master skills in the knowledge of which other neurological disorders either affect sleep, or are characterised by predominantly manifesting themselves during sleep, how they do so and what can be done. These disorders include certain forms of epilepsy, headaches and neurodegenerative autoimmune processes such as anti-IGLON 5 syndrome, among others
- ◆ Gain an in-depth understanding of what alterations occur in sleep disorders and what they involve in specific groups of neurological processes, such as neuromuscular diseases, the most common neurological autoimmune, cerebrovascular and traumatic brain injury

03

# Course Management

The program's teaching staff includes leading experts in marketing management, who bring years of their own work experience to this programme. Additionally, other recognized experts participate in its design and preparation, completing the program in an interdisciplinary manner.



“

*The leading professionals in the field have come together to offer you the most comprehensive knowledge in this field, so that you can develop with total guarantees of success"*

## International Guest Director

Dr. Craig Canapari is an eminent specialist in **Pediatric Pulmonology and Sleep Medicine**. He has been internationally recognized for his commitment to the study and treatment of sleep disorders in children, as well as his work in the field of **pulmonary diseases**. Throughout his extensive professional career, Dr. Canapari has had an outstanding praxis focused on treating pediatric patients with chronic and life-threatening respiratory diseases.

As director of the **Pediatric Sleep Medicine Program** at Yale-New Haven Children's Hospital, Dr. Canapari has been dedicated to the management of various disorders such as **Sleep Apnea and Obstructive Sleep Apnea**. He also treats those suffering from general pulmonary problems, including cough, shortness of breath and asthma, as well as those suffering from **Muscular Dystrophy**. In this field, he is noted for his interdisciplinary approach, combining **Pneumology, Neurology and Psychiatry** in the research and treatment of these complex disorders.

In addition to his clinical expertise, Dr. Canapari is a celebrated researcher who has collaborated with other **Harvard** professionals to develop innovative tools, such as a smart phone application to assist parents in sleep training. His tireless efforts have also focused on how the use of CPAP machines can help children with **Obstructive Sleep Apnea** improve their quality of life. His in-depth knowledge in this area has led him to publish the book *It's Never Too Late to Sleep Train: The Low-Stress Way to High-Quality Sleep for Babies, Kids, and Parents*.

To this must be added his exceptional work as an Assistant Professor of **Pediatrics**, specializing in **Respiratory Medicine**, at the **Yale School of Medicine**. There he contributes to both clinical care and the training of future **pediatric and pediatric pulmonology professionals**.



## Dr. Canapari, Craig

---

- ♦ Director of the Pediatric Sleep Medicine Postgraduate Certificate Program at Yale-New Haven Children's Hospital
- ♦ Attending Physician in Pediatric Pulmonology and Sleep Medicine at Yale-New Haven Children's Hospital
- ♦ Assistant Professor of Pediatrics, Respiratory Medicine, Yale School of Medicine, Yale University School of Medicine
- ♦ Doctor of Medicine, University of Connecticut School of Medicine
- ♦ Specialist in Pediatric Pulmonology and Sleep Medicine

“

*Thanks to TECH you will be able to learn with the best professionals in the world"*

## Management



### Dr. Larrosa Gonzalo, Óscar

- ♦ Specialist in Clinical Neurophysiology, San Rafael Hospital
- ♦ Expert in Sleep Medicine (CEAMS accredited, first national exam, 2013)
- ♦ Coordinator and founder of the Sleep Medicine Unit of MIPsalud, Madrid. Specialist and clinical consultant in sleep medicine at the Center of Neurological Diseases in Madrid and at the Multidisciplinary Unit for Sleep Disorders in San Rafael Hospital in Madrid, Spain
- ♦ Member of the Spanish Sleep Society (SES), founding member and former coordinator of its working group on Sleep Behaviour and Behavioural Disorders
- ♦ Member of the Spanish Society of the Neurophysiology Clinic (SENEC), founding member and former coordinator of its working group on sleep disorders
- ♦ Honorary Member, medical advisor and recommended specialist of the Spanish Restless Legs Syndrome Association (AESPI)
- ♦ Director of the Online Course "RESTLESS LEGS SYNDROME (WILLIS-EKBOM DISEASE)", (AESPI/Information without borders) for healthcare professionals, July 2016 - July 2017



## Professors

### Dr. Milán Tomás, Ángela

- ◆ Medical Specialist in Neurology
- ◆ Expert in Sleep Medicine, (CEAMS accreditation).
- ◆ Clinical Collaborator in Neurology, monographic consultations in Dementias and sleep disorders, at the Clínica Universidad de Navarra, Madrid, Spain.
- ◆ Associate Professor at University of Navarra.
- ◆ Clinical-research Fellow at Sunnybrook Health Sciences Centre, Toronto (Canada), in cognitive neurology and movement disorders. (2016-2018)
- ◆ Research Fellow at University of Toronto (Canada) in Sleep Medicine (2014-2016)

### Dr. Escobar Ipuz, Fredy A.

- ◆ Specialist in Clinical Neurophysiology at the Virgen de la Luz Hospital in Cuenca, Spain.
- ◆ MIR Specialist in Clinical Neurophysiology Navarra Clinical University
- ◆ accredited European Expert in Sleep Medicine by the ESRS (European Sleep Research Society). Master's Degree in Epilepsy at the University of Murcia. Training and education in EEG-Childhood Epilepsy and in Epilepsy-Sleep by the ILAE (The International League Against Epilepsy. Virtual Epilepsy Academy) Training and expert in Sleep Medicine by CEAMS (Spanish Committee for Accreditation in Sleep Medicine).
- ◆ Member of the Spanish Sleep Society (SES), European Sleep Society (ESRS), American Association of Sleep Medicine (AASM) and the American Epilepsy Association (AES).

### Dr. Fernández Arcos, Ana

- ◆ AdSalutem Sleep Institute Attending Physician
- ◆ Coordinator of the Sleep Study Group of the Spanish Society of Neurology and member of the Spanish Sleep Society.
- ◆ MIR specialist in Neurology at the Hospital de la Santa Creu i Sant Pau, Barcelona.
- ◆ PhD in Medicine and Translational Research and Master in Sleep Disorders at the University of Barcelona.
- ◆ European Expert in Sleep Medicine, accredited by the ESRS (European Sleep Research Society).

### Dr. Herrero San Martín, Alejandro

- ◆ F.E.A. of Neurology at Hospital 12 de Octubre and Neurologist attached to the multidisciplinary sleep unit, 12 de Octubre Hospital
- ◆ Collaborator in practical teaching UCM
- ◆ Master's Degree in Sleep: Physiology and Medicine University of Murcia.
- ◆ Training from expert in Sleep Medicine by CEAMS (Spanish Committee for Accreditation in Sleep Medicine).
- ◆ Member of the Spanish Neurology Society (SEN) and the Spanish Society of the Sleep (SES).

**Dr. Urrestarazu Bolumburu, Elena**

- ◆ Consulting Clinical Neurophysiology Service. Monographic consultations on sleep disorders, Navarra University Clinic
- ◆ Full Professor at the University of Navarra
- ◆ MIR Specialist in Neurology, Clínica Universidad de Navarra. Pamplona
- ◆ MIR Specialist in Clinical Neurophysiology, Navarra Clinical University Pamplona
- ◆ Research Fellow in Epilepsy Montreal Neurological Institute (McGill University). Montreal, Canada
- ◆ Expert accreditation in Sleep Medicine by the European Sleep Research Society (ESRS) and expert training in Sleep Medicine by the CEAMS (Spanish Committee for Accreditation in Sleep Medicine).
- ◆ Member of the Spanish Society of Neurology (SEN), Spanish Society of Clinical Neurophysiology (SENFC), Spanish Sleep Society (SES), European Sleep Research Society (ESRS), American Academy of Sleep Medicine (AASM) and World Sleep Society.

**Dr. Sánchez del Río, Margarita**

- ◆ Clinical Collaborator in Neurology, monographic consultations of headaches, Clínica Universidad de Navarra, Madrid, Spain.
- ◆ Associate Professor at University of Navarra.
- ◆ Specialist (MIR) in Neurology at Fundación Jiménez Díaz Hospital, Madrid.
- ◆ Clinical-Research Fellow in Headache Jefferson Headache Center. Thomas Jefferson University Hospital. Philadelphia. Research Fellow in Migraine Stroke and Neurovascular Regulation Laboratory. Department of Neurology. Department of Neurology. Harvard Medical School. Boston
- ◆ Member of the executive committee of the European Headache Federation (EHF) and of the International Headache Society (IHS) committee; Member of the ad hoc committee of the Headache Study Group (S.E.N).

**Dr. Gómez Ibañez, Asier**

- ◆ Clinical collaborator of the Department of Neurology. Navarra University Clinic. Madrid (Spain)
- ◆ Associated Clinical Professor Faculty of Medicine. Navarra University. Pamplona (Spain)
- ◆ Clinical Fellow EEG/Epilepsy Program. University Hospital. London Health Science Centre (LHSC). Western University. London (Canada)
- ◆ Specialist in Neurology from the Clinical University of Navarra
- ◆ Specific technical training in EEG and video-EEG. Spanish Society of Neurology. Diploma in EEG (Canadian Society of Clinical Neurofisiologists)
- ◆ Member of the Spanish Neurology Society, Spanish Society of Epilepsy and the American Epilepsy Society.



04

# Structure and Content

The structure of the syllabus has been designed by a team of professionals with knowledge of the implications of medical preparation, who are aware of the relevance of the up-to-date specialization, and are committed to quality teaching using new educational technologies.





“

*A comprehensive teaching program, structured in well-developed teaching units, oriented towards efficient and swift learning”*

## Module 1. Sleep-Related Neurological Disorders in Adults

- 1.1. Sleep, Learning and Memory
  - 1.1.1. Short-term and Long-term Memory Consolidation During Sleep
  - 1.1.2. Synaptic Homeostasis
  - 1.1.3. Hypnotoxins and the Glymphatic System During Sleep
  - 1.1.4. Aging, Memory and Sleep
- 1.2. Processing of Information and Sleep
  - 1.2.1. Sensory Processing
  - 1.2.2. Motor Control During Sleep
- 1.3. Neurodegeneration and Sleep (I): Alzheimer's Disease (AD)
  - 1.3.1. Pathophysiology of AD and the Glymphatic System
  - 1.3.2. Circadian Disorders in AD
  - 1.3.3. Therapeutic Management of Sleep Disorders in AD
- 1.4. Neurodegeneration and Sleep (II): REM Sleep Behaviour Disorder and Alpha-synucleopathies
- 1.5. Neurodegeneration and Sleep (III): Other Degenerative Diseases
  - 1.5.1. Sleep Disorders in Frontotemporal Dementia
  - 1.5.2. Sleep Disorders in Huntington's Disease
  - 1.5.3. Sleep Disorders in Other Neurodegenerative Processes
- 1.6. Neurological Autoimmune Diseases and Sleep Disorders
  - 1.6.1. Multiple Sclerosis: Sleep and Fatigue
  - 1.6.2. Other Demyelinating Diseases and Sleep Disorders
  - 1.6.3. Autoimmune Encephalitis and Sleep
  - 1.6.4. Anti-IGLON 5 Disease
- 1.7. Neuromuscular Diseases and Sleep
  - 1.7.1. Amyotrophic Lateral Sclerosis and Other Motor Neuron Diseases
  - 1.7.2. Myopathies and Sleep Disorders



- 1.8. Headaches and Sleep
  - 1.8.1. Relationship between Sleep and Headaches
  - 1.8.2. Hypnic Headaches
  - 1.8.3. Migraines and Sleep
- 1.9. Epilepsy and Sleep (author: Dr. Asier Gómez Ibañez)
- 1.10. Other Neurological Diseases and Their Relationship with Sleep
  - 1.10.1. Cerebrovascular Disease and Sleep
  - 1.10.2. Head Trauma, Concussion and Sleep
  - 1.10.3. Peripheral Nervous System Diseases and Sleep

“

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



05

# Methodology

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

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 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

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is abundant scientific evidence on the effectiveness of the method. Specialists learn better, faster, 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, trying to recreate the real conditions in the physician'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. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate 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.



## Re-Learning Methodology

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

This 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, a real revolution with respect to the mere study and analysis of cases.

*Professionals will learn through real cases and by resolving 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, more than 250,000 physicians have been trained with unprecedented success in all clinical specialties regardless of surgical load. Our pedagogical methodology is developed in a highly competitive 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 (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 produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

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.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### 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 exclusive multimedia content presentation training Exclusive 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, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: A clear and direct way to achieve the highest degree of understanding.



#### Testing & Re-testing

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 your goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts: The system termed Learning from an Expert strengthens knowledge and recall capacity, and generates confidence in the face of difficult decisions in the future.



#### 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 Certificate in Sleep-Related Neurological Disorders in Adults, in addition to the most rigorous and updated training, access to a Postgraduate Certificate 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 Certificate in Sleep-Related Neurological Disorders in Adults** 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 Certificate** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Certificate in Sleep-Related Neurological Disorders in Adults**

Official N° of Hours: **150 h.**



\*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.



**Postgraduate Certificate**  
Sleep-Related Neurological  
Disorders in Adults

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

# Postgraduate Certificate

## Sleep-Related Neurological Disorders in Adults

