





# Professional Master's Degree Neuroeducation and Physical Education

Course Modality: Online
Duration: 12 months

Certificate: TECH Technological University

Official No of hours: 1,500 h.

We b site: www.techtitute.com/in/education/professional-master-degree/master-neuroeducation-physical-education

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### tech 06 | Introduction

In recent times, neurosciences have become a revolutionary way of understanding almost all areas of the human body. Its logic is indisputable: the brain, moderator, organizer and creator holds the keys to these processes. New scientific procedures for brain exploration have opened the door to a deeper understanding of all these cognitive processes.

In this scenario, the subject of Physical Education is among the teaching subjects that benefit from these advances, taking a leap towards a new way of understanding the discipline. At this point, Neuroeducation in Physical Education becomes a powerful working tool. That is why TECH has designed this Professional Master's Degree, which will allow the teaching professional to acquire intensive learning on the bases of neuroscience, motor practices that affect brain development or educational tools and strategies that favor Physical Neuroeducation.

Likewise, through a theoretical-practical approach, students will learn about invisible training in brain development and the benefits of sports practice for the prevention of diseases such as Alzheimer's or Parkinson's disease. The multimedia material will favor the acquisition of knowledge in a more dynamic and visual way.

The professional is, therefore, facing an excellent opportunity to progress in their professional career through a university education provided in a convenient and 100% online format. As such, students only need a computer, tablet or cell phone, with which they can connect from anywhere and at any time to the entire syllabus available on the virtual platform. Thanks to this, you will have the possibility to distribute the teaching load according to your needs. This Professional Master's Degree is flexible, highly useful and compatible with professional and personal responsibilities.

This **Professional Master's Degree in Neuroeducation and Physical Education** contains the most complete and up-to-date program on the market. The most important features include:

- Case studies presented by experts in Neuroeducation and Physical Education
- 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
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- 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



Thanks to this program you will be able to effectively use gamification and gamification strategies to promote neurophysical learning in children"



Advance your professional career with a university education that will guide you to successfully apply the latest advances in Neuroeducation"

The program's teaching staff includes professionals from sector who contribute their work experience to this training program, as well as renowned specialists from leading 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.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

Access 24 hours a day to the most up-to-date content on Neuroeducation and put it into practice in your sessions. Enroll now.

Incorporate the neuroscience approach to the area of Physical Education and provide your students with the cognitive and emotional development of this new form of intervention.





## tech 10 | Objectives



### **General Objectives**

- Know the basis and main elements of Neuroeducation
- Integrate the new contributions in brain science in teaching-learning processes
- Discover how to enhance brain development through motor action
- Implement the innovations of Neuroeducation in the subject of Physical Education
- Achieve specialized training as a Neuroeducation professional in the field of motor action



Take the opportunity and take the step to get up to date on the latest developments in Neuroeducation and Physical Education"





#### Module 1. Fundamentals of Neurosciences

- Describe the functioning of the nervous system
- Explain the basic anatomy of structures related to learning
- Define the basic physiology of learning-related structures
- Identify the main brain structures related to motor skills
- Define the plastic brain and neuroplasticity
- Explain the effects of environment on brain development
- Describe the changes in the infant's brain
- Explain the evolution of the adolescent brain
- Define the characteristics of the adult brain

#### Module 2. Neuroeducation

- Define the principles of Neuroeducation
- Explain the main neuromyths
- Explain strategies for early stimulation and interventions
- Define the theory of attention
- Explain emotion from a neurological point of view
- Explain learning from a neurological point of view
- Explain memory from a neurological point of view

## Module 3. The Incidence of Emotions in Neuroeducational Processes Based on Motor Action

- Explain the emotional brain
- Describe the emotional process from a neuroscientific perspective
- Describe the main brain structures that make up the emotional process
- Define the role of emotion in the processes of learning and memory
- Describe the brain reward system
- Explain the basis of emotion education
- Describe emotional competencies
- Explain emotional chemistry in response to motor action
- Define the role of motor action in emotional changes

#### Module 4. The Social Brain in Motor Action from a Neuroscientific Perspective

- Describe mirror neurons
- Explain complex social functions
- Describe the role of motor action in the development of social health
- Explain the social relationship in personal wellbeing
- Explain the implication of mental health and interpersonal relationships
- Define the relevance of cooperation from a neuroeducational perspective
- Explain the importance of climate in learning environments

## tech 12 | Objectives

## Module 5. Impact of Motor Action on Brain Learning Processes and on Health Development

- Explain the main neurotransmitters and hormones related to motor practice and learning ability
- Apply strategies for disease prevention and improvement of quality of life in terms of cardiovascular and other risk diseases
- Describe the different motor tasks that have an impact on brain development

#### Module 6. Physical Neuroeducation and Learning

- Explain the relevance of body-brain language together with embodied cognition
- Establish the importance of mental health with exercise
- Explain the development of cognitive functions through the practice of physical exercise
- Know the positive influence of motor skills in students with learning difficulties

#### Module 7. Motor Practices Affecting Brain Development

- Know the importance of expressive, artistic activities and brain development from a socioemotional perspective
- Identify outdoor activities and brain development
- Establish the anaerobic and aerobic physical activities that promote brain development in young people





### Objectives | 13 tech

#### Module 8. Invisible Training in Brain Development

- Understand the role of the main myokines in relation to exercise and health
- Identify new postulates for disease prevention and improvement of quality of life in cardiovascular risk diseases (obesity, diabetes or metabolic syndrome)
- Analyze the relevance of body posture from a neuroscientific point of view

#### Module 9. Pedagogical Models and Evaluation in Physical Neuroeducation

- Know the conceptual approach of the terms related to methodology in Physical Education
- Carry out an assessment of the teaching-learning process in Physical Neuroeducation
- Learn about cooperative learning models and apply them in the sports field

## Module 10. Methodologies, Methods, Tools and Teaching Strategies Favoring Physical Neuroeducation

- Learn about new teaching methodologies through the Flipped Classroom
- Use gamification and gamification strategies to promote children's neurophysical learning
- Know other methods, tools and didactic strategies that would be promoted through Physical Neuroeducation





## tech 16 | Skills



#### **General Skills**

- Understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study
- Be able to face the complexity of making judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments
- Know how to communicate conclusions, knowledge, and supporting arguments to specialized and non-specialized audiences in a clear and unambiguous way
- Acquire the learning skills that will enable the professional to continue studying in a manner that will be largely self-directed or autonomous



Delve into the invisible training of brain development and motor learning and get up to date on intervention processes through Neuroeducation and Physical Education"





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- Explain the basic anatomy of structures related to learning
- Define the basic physiology of learning-related structures
- Identify the main brain structures related to motor skills
- Define the plastic brain and neuroplasticity
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- Explain learning from a neurological point of view
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- Describe the main brain structures that make up the emotional process

- Define the role of emotion in the processes of learning and memory
- Describe the brain reward system
- Explain the basis of emotion education
- Describe emotional competencies
- Explain emotional chemistry in response to motor action
- Define the role of motor action in emotional changes
- Describe mirror neurons
- Explain complex social functions
- Describe the role of motor action in the development of social health
- Explain the social relationship in personal wellbeing
- Explain the implication of mental health and interpersonal relationships
- Define the relevance of cooperation from a neuroeducational perspective
- Explain the importance of climate in learning environments
- Explain the main neurotransmitters and hormones related to motor practice and learning ability
- Apply strategies for disease prevention and improvement of quality of life in terms of cardiovascular and other risk diseases
- Describe the different motor practices that have an impact on brain development





#### Management



#### Dr. Pellicer Royo, Irene

- Degree in Physical Activity and Sports Science
- Master's Degree in Medical Sciences applied to Physical Activity and Sport
- Certificate in Management and Administration of Sports Entities
- Master's Degree in Emotional Education and Well-being
- Postgraduate in Neuroeducation Learning to our full potential

#### **Professors**

#### Dr. Navarro Ardoy, Daniel

- PhD. Exercise Physiology Applied to Health Physical activity and health program Faculty of Medicine
- Degree in Physical Activity and Sports Science

#### Dr. Rodríguez Ruiz, Celia

- Specialization in clinical psychology and child psychotherapy
- Specialization in Cognitive Behavioral Therapy in Childhood and Adolescence
- Degree in Pedagogy
- Degree in Psychology





#### Dr. De la Serna, Juan Moisés

- Doctor in Psychology
- Master's Degree in Neurosciences and Behavioral Biology
- University Specialist in Clinical Hypnosis
- Director of the Open Forum in Psychology and Neurosciences
- Diploma in Didactic Methodology
- Expert in Project Management Occupational Trainer



Take the opportunity to learn about the latest advances in this area in order to apply it to your daily practice"





## tech 24 | Structure and Content

#### Module 1. Fundamentals of Neurosciences

- 1.1. The Nervous System and Neurons
  - 1.1.1. Introduction
  - 1.1.2. The Nervous System and Neurons
- 1.2. Basic Anatomy of Learning-Related Structures
  - 1.2.1. Structures Related to Learning
  - 1.2.2. Basic Anatomy of Learning-Related Structures
- 1.3. Psychological Processes Related to Learning
  - 1.3.1. Psychological Processes of Learning
- 1.4. The Main Brain Structures Related to Motor Skills
  - 1.4.1. Motricity and Main Brain Structures
- 1.5. The Plastic Brain and Neuroplasticity
  - 1.5.1. What is Brain Plasticity?
  - 1.5.2. Neuroplasticity
- 1.6. Epigenetics
  - 1.6.1. Definition of Epigenetics
- 1.7. Effects of the Environment on Brain Development
  - 1.7.1. Environment and Brain Development
- 1.8. Changes in the Infant's Brain
  - 1.8.1. Infant Brain
- 1.9. Evolution of the Adolescent Brain
  - 1.9.1. Adolescent Brain
- 1.10. Adult Brain

#### Module 2. Neuroeducation

- 2.1. Introduction to Neuroeducation
  - 2.1.1. Definition and Development
- 2.2. Main Neuromyths
  - 2.2.1. Neuromyths in Neuroeducation
- 2.3. Attention
  - 2.3.1. Concept and Development
- 2.4. Emotion
  - 2.4.1. Concept and Development



### Structure and Content | 25 tech

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2.5.1. Concept and Development

#### 2.6. The Learning Process

2.6.1. Concept and Development

#### 2.7. Memory

- 2.7.1. Concept and Development
- 2.8. Stimulation and Early Interventions
  - 2.8.1. Stimulation
  - 2.8.2. Early Intervention
- 2.9. Importance of Creativity in Neuroeducation
  - 2.9.1. Creativity and Neuroeducation
- 2.10. Methodologies that Allow the Transformation of Education in Neuroeducation 2.10.1. Methodology

## **Module 3.** The Incidence of Emotions in Neuroeducational Processes Based on Motor Action

- 3.1. Concept of Emotion and Main Emotional Theories
  - 3.1.1. Main Emotional Theories
- 3.2. Education of Emotions
  - 3.2.1. Emotional Education
- 3.3. Emotional Intelligence
- 3.4. The Role of Emotion in the Body and Motor Action
  - 3.4.1. Motor Action and Emotions
- 3.5. The Emotional Brain
  - 3.5.1. Fundamentals and Development
- 3.6. Emotional Processing in Brain Structures
  - 3.6.1. Brain Structures of Emotion
- 3.7. Amygdala and Emotional Processes
  - 3.7.1. Amygdala and Emotion
- 3.8. Positive Emotions and the Brain's Reward System
  - 3.8.1. Brain and Positive Emotion
- 3.9. Emotional Chemistry in Response to Motor Action
  - 3.9.1. Emotional Chemistry and Motor Action
- 3.10. Emotional Health through Motor Action
  - 3 10 1 Emotional Health and Motor Action

#### **Module 4**. The Social Brain in Motor Action from a Neuroscientific Perspective

- 4.1. The Human Being: A Social Being
  - 4.1.1. Approach
- 4.2. The Social Brain
  - 4.2.1. Definition and Development
- 4.3. Mirror Neurons
  - 4.3.1. Structure and Operation
- 4.4. Complex Social Functions
  - 4.4.1. Complex Social Functions
- 4.5. Integral Health from a Social Competence Perspective
  - 4.5.1. Health and Social Competence
- 4.6. Role of Motor Action in the Development of Social Health
  - 4.6.1. Social Health and Motor Action
- 4.7. Social Relationship in Personal Well-Being
  - 4.7.1. Social Relationship and Well-Being
- 4.8. Mental Health and Interpersonal Relationships
  - 4.8.1. Mental Health and Interpersonal Relationships
- 4.9. Relevance of Cooperation from a Neuroeducational Perspective
  - 4.9.1. Cooperation and Neuroeducation
- 4.10. Climate in Learning Environments
  - 4.10.1. Climate and Learning

### tech 26 | Structure and Content

## **Module 5.** Impact of Motor Action on Brain Learning Processes and on Health Development

- 5.1. Impact of Motor Action on Learning Processes
  - 5.1.1. Motor Action and Learning
- 5.2. Motor Action and Neurotrophic Factors BDNF
  - 5.2.1. BDNF
- 5.3. Motor Action, Neurotransmitters and Hormones
  - 5.3.1. Motor Action
  - 5.3.2. Neurotransmitters and Hormones
- 5.4. The Importance of the Cerebellum in Coordination and Cognitive Processes
  - 5.4.1. Cerebellum
- 5.5. Impact of Motor Action on Memory Processes
  - 5.5.1. Memory Processes and Motor Action
- 5.6. The Prefrontal Cortex, Seat of the Brain's Executive Functions
  - 5.6.1. Executive Functions
- 5.7. Impact of Motor Action with Executive Processes: Decision-Making
  - 5.7.1. Decision-Making
- 5.8. Impact of Motor Action with Executive Processes: Pause and Reflection Response
  - 5.8.1. Pause and Reflection Response
- 5.9. Motor Action and Predisposition to Learning
  - 5.9.1. Motor Action and Learning
- 5.10. Impact of Motor Action on Neuroprotective Processes
  - 5.10.1. Neuroprotection

#### Module 6. Physical Neuroeducation and Learning

- 6.1. Body-Brain Language and Embodied Cognition
  - 6.1.1. Embodied Cognition
- 6.2. Mental Health and Exercise
  - 6.2.1. Mental Health and Exercise
- 6.3. Development of Cognitive Functions through Physical Exercise
  - 6.3.1. Cognitive Functions and Physical Exercise
- 6.4. Executive Attention and Exercise
  - 6.4.1. Executive Attention and Physical Exercise

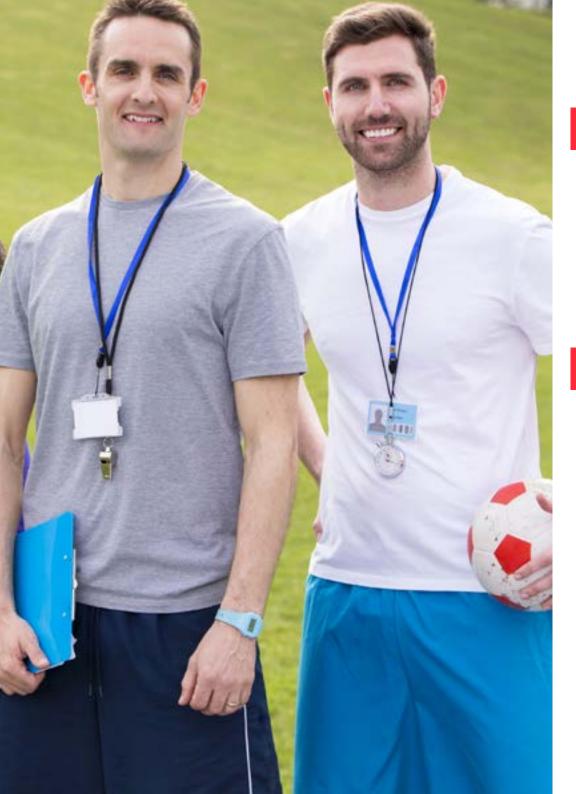
- 6.5. Working Memory in Motor Action
  - 6.5.1. Working Memory
- 6.6. Improvement of Cognitive Performance derived from Motor Action
- 6.7. Academic Results and their Relationship to Physical Practice
- 6.8. Positive Influence of Motor Skills on Students with Learning Difficulties
- 6.9. Pleasure, a Fundamental Element in Physical Neuroeducation
- 6.10. General Recommendations for the Implementation of Didactic Proposals

#### Module 7. Motor Practices Affecting Brain Development

- 7.1. Body Wisdom
- 7.2. Aerobic Exercise
- 7.3. Anaerobic Exercise
- 7.4. Play
- 7.5. Muscular Strength
- 7.6. Coordination Activities
- 7.7. Relaxation and Meditation Activities
- 7.8. Expressive and Artistic Activities and Brain Development from a Social-Emotional Perspective
- 7.9. Natural Environment Activities and Brain Development
- 7.10. Global Proposals for Physical Neuroeducation

#### Module 8. Invisible Training in Brain Development

- 8.1. Invisible Training Concept
- 8.2. The Role of Main Myokines in Relation to Exercise and Health
- 8.3. Nutrition
- 8.4. Relevance of Sleep in Learning
- 8.5 Active Breaks
- 8.6. Prevention of Harmful Habits
- 8.7. Body Posture from a Neuroscientific Perspective
- 3.8. Disease Prevention and Improvement of the Quality of Life in terms of Cardiovascular Risk Diseases (Obesity, Diabetes or Metabolic Syndrome)
- .9. Prevention of Diseases and Improvement of the Quality of Life derived from the Physical Practice at a Mental Level (Alzheimer's, Parkinson's, etc.)
- 8.10. Prevention and Amelioration of Carcinogenic Processes due to Motor Action



### Structure and Content | 27 tech

## **Module 9.** Pedagogical Models and Evaluation in Physical Neuroeducation

- 9.1. Conceptual Approach of the Terms Related to Methodology in Physical Education
- 9.2. Assessment of the Teaching-Learning Process in Physical Neuroeducation
- 9.3. Assessment of Student Learning with a focus on Physical Neuroeducation
- 9.4. Cooperative Learning
- 9.5. Sports Education Model (SEM)
- 9.6. Personal and Social Responsibility Model
- 9.7. Comprehensive Sport Initiation Model (TGfU)
- 9.8. Ludotechnical Model
- 9.9. Adventure Education Model
- 9.10. Other Models

## **Module 10**. Methodologies, Methods, Tools and Teaching Strategies Favoring Physical Neuroeducation

- 10.1. Flipped Classroom or Inverted Classroom
- 10.2. Problem-Based and Challenge-Based Learning
- 10.3. Project-Based Learning
- 10.4. Case Method and Service Learning
- 10.5. Learning Environments
- 10.6. Motor Creativity or Corporal Synectics
- 10.7. Game-Based Learning
- 10.8. Gamification
- 10.9. Other Methods, Tools and Didactic Strategies Favoring Physical Neuroeducation
- 10.10. Methodological Guidelines and Recommendations for the Design of Programs, Units and Sessions Based on Physical Neuroeducation



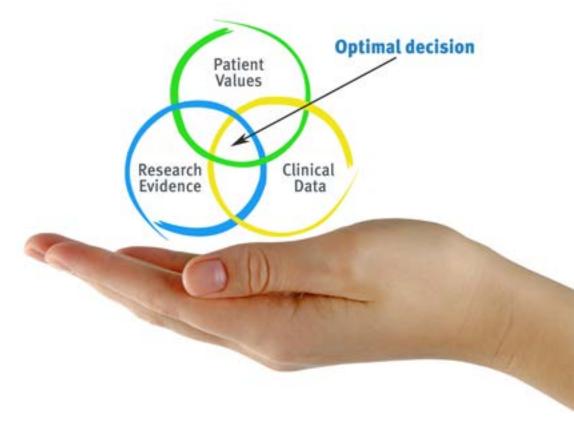


## tech 30 | Methodology

#### At TECH Education School we use the Case Method

In a given situation, what should a professional do? Throughout the program students will be presented with multiple simulated cases based on real situations, where they will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method.

With TECH, educators can experience a learning methodology that is shaking the foundations of traditional universities around the world.



It is a technique that develops critical skills and prepares educators to make decisions, defend their arguments, and contrast opinions.



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:

- Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
- 2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
- **3.** Ideas and concepts are understood more efficiently, given that the example situations are based on real-life teaching.
- **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.



## tech 32 | Methodology

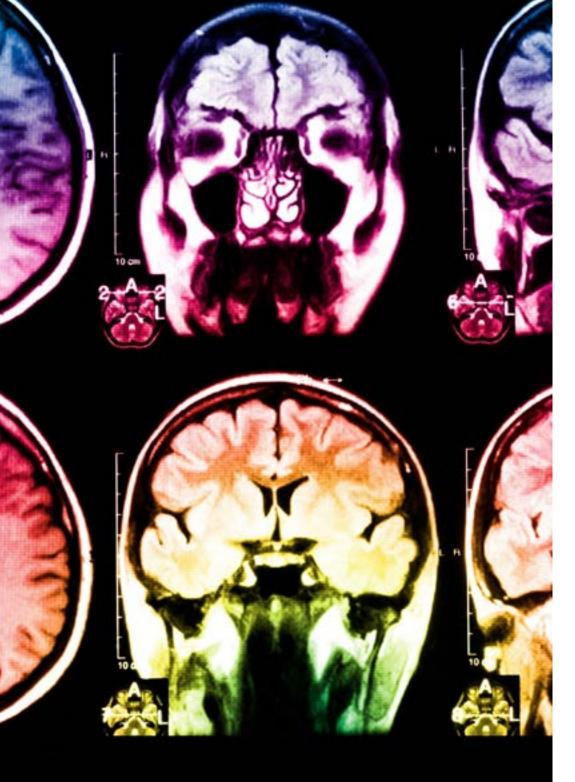
#### Relearning Methodology

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 case studies 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.

Educators 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.





### Methodology | 33 tech

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 we have trained more than 85,000 educators with unprecedented success in all specialties. All this in a highly demanding environment, where the students have a strong socio-economic 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 relearn). Therefore, we combine each of these elements concentrically.

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

## tech 34 | Methodology

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



#### **Study Material**

All teaching material is produced by the specialist educators who teach the course, specifically for the course, so that the teaching content is really 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.



#### **Educational Techniques and Procedures on Video**

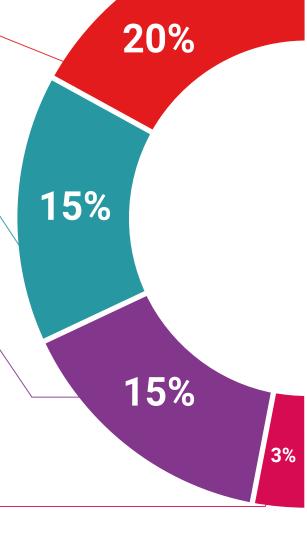
TECH introduces students to the latest techniques, with the latest educational advances, and to the forefront of Education. All this, first-hand, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### **Interactive Summaries**

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 & 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 your goals.



#### Classes

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

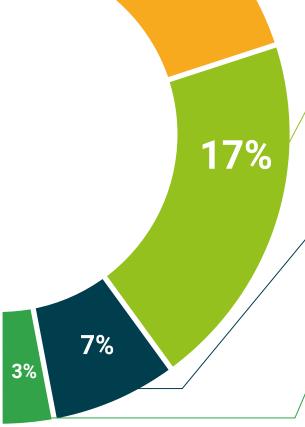




#### **Quick Action Guides**

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.





20%





### tech 38 | Certificate

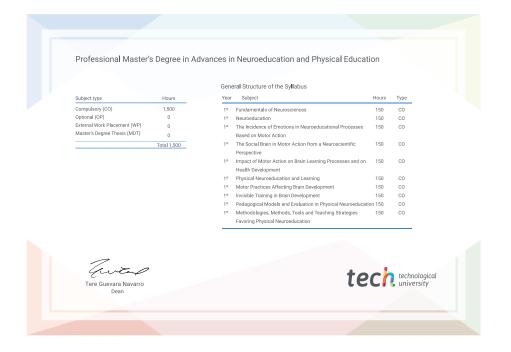
This **Professional Master's Degree in Neuroeducation and Physical Education** contains the most complete and updated program on the market.

After the student has passed the evaluations, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Professional Master's Degree in Neuroeducation and Physical Education**Official N° of hours: **1,500 h.** 





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



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