

# Postgraduate Certificate Ethic, Innovation, and Research in NIMV





## Postgraduate Certificate Ethic, Innovation, and Research in NIMV

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/medicine/postgraduate-certificate/ethic-innovation-research-nimv](http://www.techtitute.com/us/medicine/postgraduate-certificate/ethic-innovation-research-nimv)

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# 01

# Introduction

Research methodologies in the field of NIMV have undergone significant development in recent years, with the aim of finding cutting-edge techniques that contribute to improving the quality of life of people with respiratory difficulties. Likewise, as a result of the popularization of this ventilatory support modality, the ethical considerations of its use in delicate clinical contexts have also been updated. Therefore, pulmonologists with practical and research concerns should be aware of these advances in order to optimize their professional update. For this reason, TECH has designed this program, which provides the specialist with an avant-garde vision of the use of NIMV in emergency situations or research design, online and without leaving home.





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Through this course, you will delve into the updated ethical considerations of the use of NIMV in patients with limited decision-making capacity or in emergency situations”

The development of IRCUs and their use in Non-Invasive Mechanical Ventilation has led to the creation of advanced ventilators and new modes of ventilation to preserve the physical integrity of patients. This circumstance has also had an impact on the updating of ethical recommendations regarding its management in various complex clinical situations, as well as on the improvement of protocols for the design of NIMV investigations. Therefore, the multidisciplinary physician must keep up to date in order not to be left behind with respect to the evolution of this health field.

In view of this situation, TECH has created this degree, which will provide the specialist with a complete update on Ethics, Innovation and Research in NIMV. During 6 weeks of intensive study, you will delve into the updated ethical considerations of the use of Non-Invasive Mechanical Ventilation in emergency situations, in patients with limited decision-making capacity or in those who are at the end of life. Likewise, it will delve into the advances and challenges of NIMV in sleep apnea.

Because this Postgraduate Certificate is taught completely online, the specialist will obtain an effective update through the development of their own study schedules. Furthermore, this program is designed by active specialists in Pneumology, who perform practical and research work closely linked to the field of Non-Invasive Mechanical Ventilation. Therefore, the knowledge provided to students will be in tune with the most advanced aspects of the sector.

This Postgraduate Certificate in Ethic, Innovation, and Research in NIMV contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ The development of practical cases presented by specialists in Pulmonology
- ♦ 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 self-assessment can be used 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



The Postgraduate Certificate in Ethics, Innovation and Research in NIMV will give you an in-depth knowledge of state-of-the-art ventilators and updated modes of ventilation"

“

Get up to date in Ethics, Innovation and Research in NIMV through didactic contents designed by the best specialists in Pneumology”

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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 education programmed to learn 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 during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

Update yourself at your own pace and without teaching constraints through the Relearning methodology provided by TECH.

Identify, thanks to this qualification, the recent advances and challenges in the use of NIMV in sleep apnea.



# 02

# Objectives

This Postgraduate Certificate has been designed to facilitate the updating of health professionals in the field of Ethics, Innovation, and Research in NIMV. Through this academic experience, you will explore the latest ethical considerations regarding the use of Non-Invasive Ventilation in end-of-life patients or recommendations for designing clinically rigorous studies. This update will be preserved by accomplishing the following general and specific objectives.





A close-up photograph of a microscope lens, showing the intricate details of the glass and metal components. The image is partially obscured by a diagonal white and blue graphic overlay.

“

Incorporate the latest advancements  
in Ethics, Innovation, and Research in  
NIMV into your daily practice”



## General Objectives

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- Understand the importance and role of Non-Invasive Mechanical Ventilation in the treatment of acute and chronic respiratory pathologies
- Acquire knowledge of the updated indications and contraindications for the use of Non-Invasive Mechanical Ventilation, as well as the different types of devices and ventilation modes
- Develop skills and competencies in monitoring patients with Non-Invasive Mechanical Ventilation, including data interpretation and the detection and prevention of complications
- Explore cutting-edge technologies used in the telemonitoring of patients with Non-Invasive Mechanical Ventilation and the ethical and legal aspects related to its use
- Delve into the key differences in Non-Invasive Mechanical Ventilation in Pediatrics
- Delve your understanding of the ethical aspects related to the management of patients requiring NIV





## Specific Objectives

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- Understand ethical principles in the use of NIMV, as well as relevant regulations and legal considerations, and the civil and criminal liability of healthcare professionals
- Gain in-depth knowledge of ethical and legal considerations in decision-making for patients with limited decision-making capacity and patients at the end of life
- Explore new technologies in mechanical ventilation, NIMV in sleep apnea, and home NIMV
- Deepen your understanding of the latest research in NIMV management

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Update yourself in Ethics, Innovation, and Research in NIMV in just 6 weeks without the need to give up your daily obligations”

03

# Course Management

Motivated by the goal of creating top-quality programs, TECH Technological University has assembled a renowned teaching staff consisting of specialists in Pulmonology to develop this program. These medical professionals actively practice in leading hospitals and are also continuously involved in research on Non-Invasive Mechanical Ventilation. Therefore, the knowledge they will provide to students in this Postgraduate Certificate will be aligned with the latest advancements in this field.





“

Delves into the updated keys of Ethics, Innovation and Research in NIMV together with excellent researchers in this field”

## International Guest Director

With a relevant trajectory in the field of Pulmonology and Clinical Research, Dr. Maxime Patout distinguishes himself as an internationally renowned physician and scientist. As such, his involvement and contribution have led him to position himself as Clinical Director in Public Assistance in prestigious hospitals in Paris, standing out for his leadership in the management of Complex Respiratory Diseases. With this, it is worth mentioning his work as Coordinator of the Department of Functional Explorations of Breathing, Exercise and Dyspnea at the famous Hospital de la Pitié-Salpêtrière.

In the field of Clinical Research, Dr. Patout has made valuable contributions in leading areas such as Chronic Obstructive Pulmonary Disease, Lung Cancer and Respiratory Physiology. Accordingly, in his role as a Research Fellow at Guy's and St Thomas' NHS Foundation Trust, he has conducted groundbreaking studies that have expanded and improved the treatment options available to patients.

In this line, his versatility and leadership as a physician give him a vast experience in fields such as Biology, Physiology and Pharmacology of Circulation and Respiration. Therefore, he stands out as a renowned specialist in the Pulmonary and Systemic Diseases unit. In addition, his recognized competence in the Anti-Infectious Chemotherapy unit also places him as an outstanding reference in the field, being a regular advisor to future health professionals.

For all these reasons, his outstanding expertise in the field of Pulmonology has led him to be an active member of prestigious international organizations such as the European Respiratory Society and the French-Language Society of Pneumology, where he continues to contribute to scientific progress. So much so, that he shows an active participation in symposiums that enhance his medical excellence and constant updating in his field.



## Dr. Patout, Maxime

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- Clinical Director in Public Care at the Salpêtrière Hospital, Paris, France
- Clinical Research Fellow at Guy's and St Thomas' NHS Foundation Trust
- Coordinator of the Breathing, Exercise and Dyspnea Functional Examination
- Service at the Pitié-Salpêtrière Hospital
- Doctor of Medicine, University of Rouen
- Master's Degree in Biology, Physiology and Pharmacology of the Circulation and Respiration at the University of Paris
- University Expert in Pulmonary and Systemic Diseases from the University of Lille
- University Expert in Anti-infectious Chemotherapy, University of Rouen
- Medical Specialist in Pulmonology from the University of Rouen
- Member of: European Respiratory Society, French-language Society of Pneumology



Thanks to TECH, you will be able to learn with the best professionals in the world”

## Management



### Dr. Landete Rodríguez, Pedro

- ♦ Co-coordinator of the Basic Ventilation Department at La Princesa University Hospital
- ♦ Pulmonologist at La Princesa University Hospital
- ♦ Pulmonologist at Blue Healthcare
- ♦ Researcher in several research groups
- ♦ Professor in undergraduate and postgraduate university studies
- ♦ Author of numerous scientific publications in international journals and participant in several book chapters
- ♦ Speaker at international medical congresses
- ♦ Doctor Cum Laude by the Autonomous University of Madrid

## Professors

### Dr. Muñoz Corroto, Cristina

- ♦ Doctor and teaching collaborator
- ♦ Specialist in Pulmonology at the Hospital Universitario Reina Sofía
- ♦ Teaching collaborator in university studies of Medicine
- ♦ Speaker at national and international Pulmonology Congresses
- ♦ Expert in Thoracic Ultrasound from the University of Barcelona





# 04

## Structure and Content

The syllabus of this program has been developed with the premise of allowing the specialist to become acquainted with the latest advancements in Ethics, Innovation, and Research in NIMV. Each of its topics is supported by a wide range of didactic materials in various textual and multimedia formats, enabling students to choose the ones that best suit their academic preferences. Furthermore, its 100% online format will enable you to study 24 hours a day from anywhere you choose.



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This Postgraduate Certificate features a fully online delivery method that allows you to study without the need for inconvenient trips to a study center”

## Module 1. Ethics, Innovation, and Research

- 1.1. Ethics and Legality in Non-Invasive Mechanical Ventilation
  - 1.1.1. Ethical Principles in Non-Invasive Mechanical Ventilation
  - 1.1.2. Patient Confidentiality and Privacy
  - 1.1.3. Professional and Legal Responsibility of Healthcare Personnel
  - 1.1.4. Regulations and Guidelines for Non-Invasive Mechanical Ventilation
  - 1.1.5. Civil and Criminal Liability in Non-Invasive Mechanical Ventilation
- 1.2. Use of NIMV in Emergency Situations
  - 1.2.1. NIMV in Emergency Situations: Assessing Risks and Benefits in the Context of a Pandemic
  - 1.2.2. Selecting Patients for NIMV in Emergency Situations: How to Choose the Most Suitable Patients?
  - 1.2.3. NIMV in Emergency Situations: Practical and Logistical Aspects in a High-Demand Environment
  - 1.2.4. The Role of Nursing Staff in the Application and Monitoring of NIMV in Emergency Situations
  - 1.2.5. Ethical and Legal Considerations in the Application of NIMV in Emergency Situations During and After the Pandemic
- 1.3. Use of NIMV in Patients with Limited Decision-Making Capacity
  - 1.3.1. Ethical Considerations in Decision-Making for Patients with Limited Decision-Making Capacity in NIV
  - 1.3.2. Role of the Multidisciplinary Team in Assessment and Decision-Making
  - 1.3.3. Importance of Effective Communication with Family or Caregivers in Decision-Making
  - 1.3.4. Assessment of the Patient's Quality of Life and Capacity to Tolerate NIMV
  - 1.3.5. Analysis of the Potential Consequences of NIMV in Patients with Limited Decision-Making Capacity and Its Impact on Medical Decision-Making
- 1.4. Use of Non-Invasive Mechanical Ventilation in End-of-Life Patients
  - 1.4.1. The Role of the Palliative Care Team in the Decision to Use NIMV at the End of Life
  - 1.4.2. Ethical Considerations in the Use of NIMV in End-of-Life Patients
  - 1.4.3. Psychological Impact on Patients and Families when Using NIMV at the End of Life
  - 1.4.4. Identifying Candidates for NIMV at the End of Life
  - 1.4.5. Alternatives to NIMV in Palliative Care





- 1.5. Effective Communication in Non-Invasive Mechanical Ventilation
  - 1.5.1. Importance of Effective Communication in Healthcare
  - 1.5.2. Techniques for Effective Communication with Patients and Their Families
  - 1.5.3. Non-Verbal Communication in Non-Invasive Mechanical Ventilation
  - 1.5.4. Effective Communication in Planning the Discharge of Patients with Chronic NIMV
- 1.6. Education and Training of Healthcare Personnel, Patients, and Families in Home NIMV Management
- 1.7. Conflict Situations in the Management of Non-Invasive Mechanical Ventilation
  - 1.7.1. Challenges in the Application of NIMV in Morbidly Obese Patients
  - 1.7.2. Intolerance to Non-Invasive Mechanical Ventilation: Causes and Alternatives
  - 1.7.3. Approach to NIMV in Patients with Advanced Neuromuscular Disorders
- 1.8. NIMV in Patient Care in the Context of Palliative Care
  - 1.8.1. Indications and Ethical Considerations
  - 1.8.2. NIMV in Patients with Terminal Illness: When to Initiate and Discontinue
- 1.9. Innovation in Non-Invasive Mechanical Ventilation
  - 1.9.1. New Technologies in NIMV: Advanced Ventilators and Ventilation Modes
  - 1.9.2. NIMV in Sleep Apnea: Advances and Challenges
  - 1.9.3. NIMV at Home: Implications and Self-Care Recommendations
- 1.10. Research in Non-Invasive Mechanical Ventilation Management
  - 1.10.1. Study Design in Non-Invasive Mechanical Ventilation Management
  - 1.10.2. Research
    - 1.10.2.1. Efficacy and Safety of NIMV
    - 1.10.2.2. Patient Quality of Life and Satisfaction
    - 1.10.2.3. Implementation and Dissemination of Guidelines and Recommendations for NIMV Management
  - 9.1. Ethics and Legality in Non-Invasive Mechanical Ventilation



Take this excellent academic program and get the possibility of studying through didactic formats that completely adapt to your academic preferences"

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 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 an abundance of 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. 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, trying to recreate the real conditions in the physician'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. 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.



## Relearning Methodology

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

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 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 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 strong socioeconomic profile and an average age of 43.5 years old.

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 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

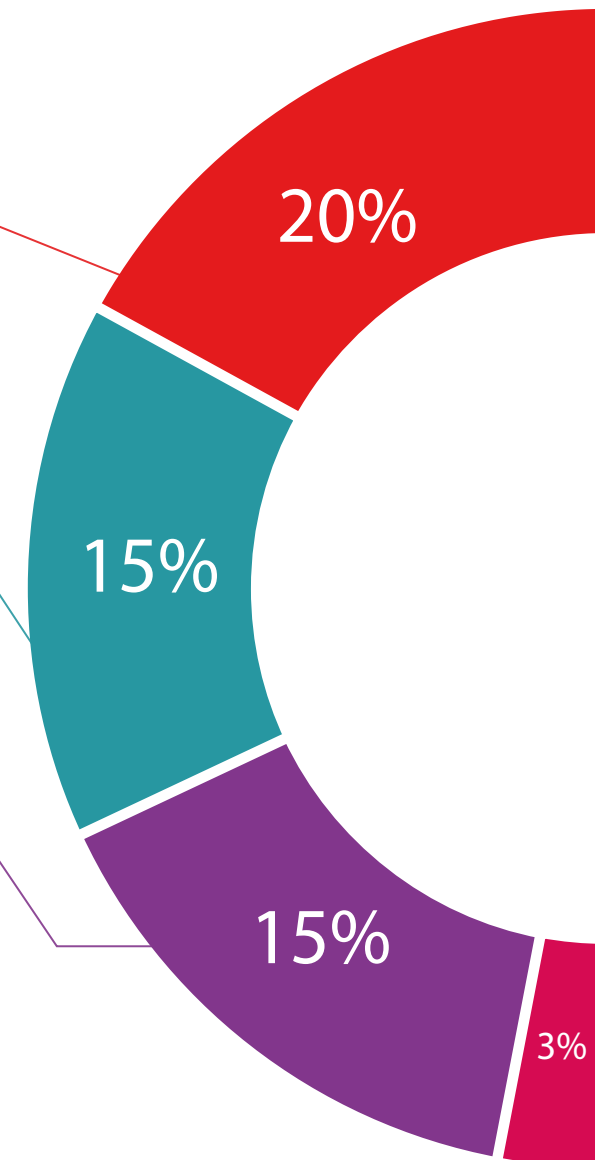
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

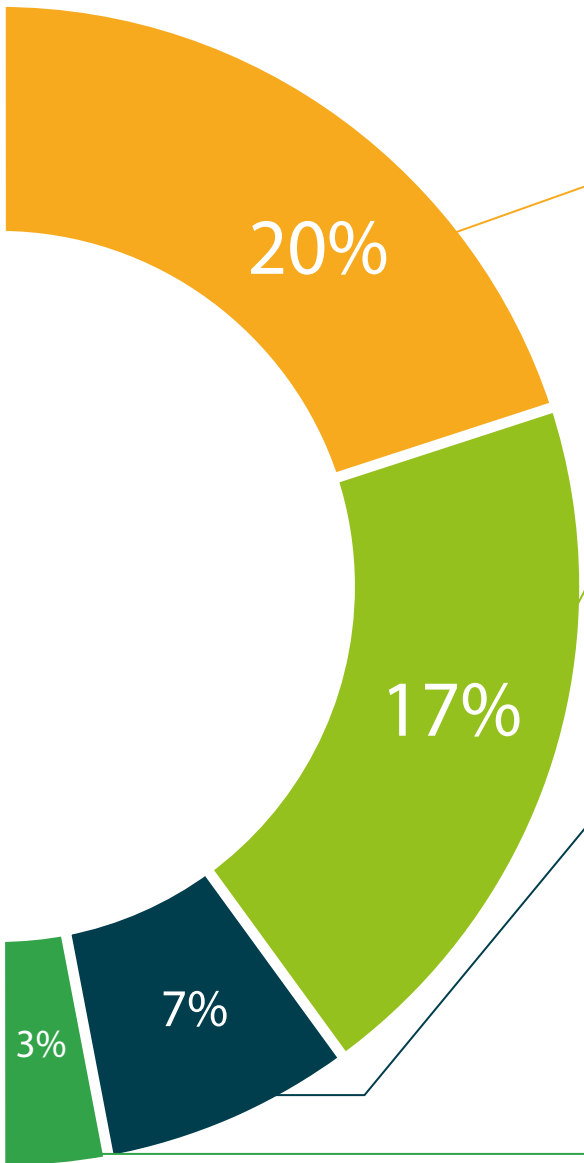
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### 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 their goals.



Classes

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



Quick Action Guides

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



06

# Certificate

The Postgraduate Certificate in Ethic, Innovation, and Research in NIMV guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This Postgraduate Certificate in Ethic, Innovation, and Research in NIMV contains the most complete and up-to-date scientific 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 Ethic, Innovation, and Research in NIMV

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.



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



**Postgraduate Certificate**  
**Ethic, Innovation, and**  
**Research in NIMV**

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# Postgraduate Certificate

## Ethic, Innovation, and Research in NIMV