

# Postgraduate Certificate Ventilatory Parameters in NIMV for Nursing





## Postgraduate Certificate Ventilatory Parameters in NIMV for Nursing

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

Website: [www.techtute.com/in/nursing/postgraduate-certificate/ventilatory-parameters-nimv-nursing](http://www.techtute.com/in/nursing/postgraduate-certificate/ventilatory-parameters-nimv-nursing)

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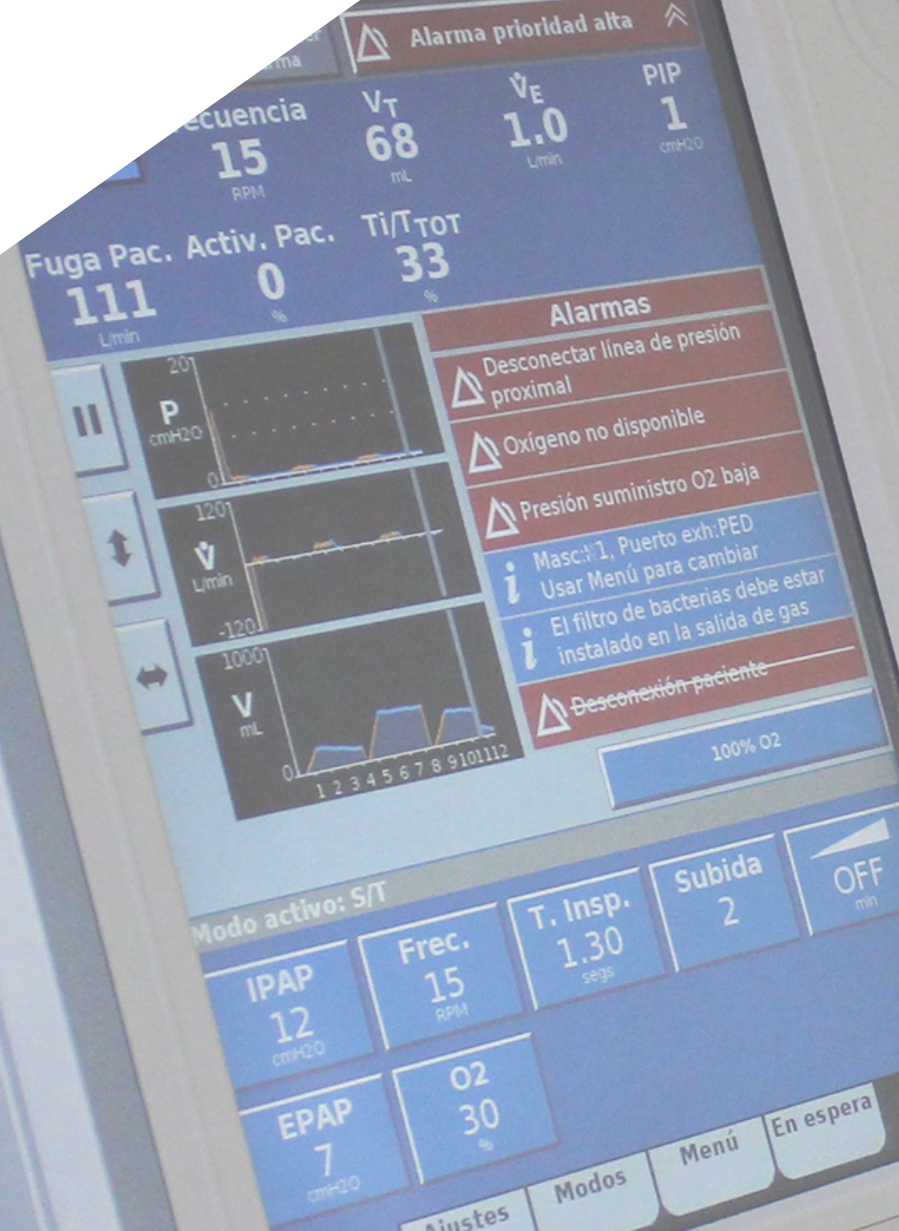
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# 01

# Introduction

Proper calibration of ventilatory parameters is essential to ensure the effectiveness of the application of Non-Invasive Mechanical Ventilation and to guarantee the well-being of the patient suffering from complex respiratory difficulties. Consequently, strategies for their optimization are constantly evolving, requiring the nurse to keep up to date with the latest advances in pressure, volume, flow and  $Ti/Ttot$  adjustment. In this sense, TECH has created this 100% online program, which offers the student the update they need in this healthcare field. In addition, it will give you maximum flexibility, allowing you to combine to perfection an elite education with your personal and professional life.



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*Through this program, you will delve into the state-of-the-art techniques for the application of NIMV ventilatory parameters”*

The configuration of ventilatory parameters plays a fundamental role in the application of Non-Invasive Mechanical Ventilation. In this line, it provides valuable information on the interaction between the patient and the ventilation device, offering the possibility of adapting it to preserve the patient's quality of life. Because of this, the techniques for its adjustment are undergoing constant improvement, in order to apply the best care to people suffering from various respiratory conditions.

Therefore, keeping up to date in this field is essential for nurses seeking to perform state-of-the-art healthcare practice. As such, these professionals must be aware of the latest scientific evidence on recommendations regarding pressure, volume, flow and  $Ti/Ttot$  settings.

Likewise, they are required to identify state-of-the-art mechanisms for assessing patient tolerance and adaptation to Non-Invasive Mechanical Ventilation.

To achieve this, TECH has developed the Postgraduate Certificate in Ventilatory Parameters in NIMV for Nurses, which will be taught in a 100% online format to allow the student to enjoy the didactic content at any time and from any place they wish. In addition, they will benefit from the revolutionary *Relearning* study method, which ensures effective knowledge acquisition adapted to the academic pace of the nurse.

This **Postgraduate Certificate in Ventilatory Parameters in NIMV for Nursing** contains the most complete and up-to-date scientific program on the market. The most important features include:

- ♦ 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 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



*Likewise, they will delve into the state-of-the-art Strategies for assessing patient tolerance and adaptation to Non-Invasive Mechanical Ventilation”*

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*Complete your health update without leaving your home thanks to the 100% online methodology offered by this TECH program"*

The program's teaching staff includes professionals from the sector who contribute their work experience to this 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.

*Improve your knowledge of the different ventilatory modes and the selection of the most appropriate one for each clinical situation.*

*Optimize your Studies through-of-the-art study formats, such as the interactive summary or the explanatory video.*



# 02 Objectives

This program aims to provide the nurse with state-of-the-art knowledge in the field of Ventilatory Parameters in NIMV. In this way, you will be prepared to make clinical decisions supported by the latest scientific evidence. In addition, you will complete this updating process by means of the most innovative didactic formats in the pedagogical panorama.







“ Adopt in your daily practice  
the recent advances in NIMV  
ventilatory parameter settings”



## 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
- ♦ Know the updated indications and contraindications for the use of Non Invasive Mechanical Ventilation, as well as the different types of devices and modes of ventilation
- ♦ Acquire skills and competences in the monitoring of the patient with Non Invasive Mechanical Ventilation, including the interpretation of the data obtained and the detection and prevention of complications
- ♦ Investigate the state-of-the-art technologies used in the telemonitoring of patients with Non Invasive Mechanical Ventilation and the ethical and legal aspects related to their use
- ♦ Delve into the main differences in Non Invasive Mechanical Ventilation in Pediatrics
- ♦ Delve into the ethical aspects related to the management of patients requiring NIMV





## Specific Objectives

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- ◆ Define and clarify the terminology and basic concepts of NIMV
- ◆ Describe the different ventilatory modes used in NIMV, including spontaneous, assisted and controlled mode
- ◆ Identify the different types of interfaces used in NIMV, explaining their selection and setting
- ◆ Delve into the different alarms and patient safety measures in NIMV
- ◆ Detect patients suitable for NIMV and explain the strategies for initiation and parameter according to evolution

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*Delve into strategies for effective synchronization of patient and ventilator to preserve physical well-being”*

03

# Course Management

This program has a faculty composed of recognized experts in the field of Pulmonology. These professionals, who actively practice in prestigious hospitals, have extensive knowledge in the management of Non-Invasive Mechanical Ventilation. Therefore, the knowledge that the nurse will acquire will be kept up to date with the most recent advances in this field.





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*TECH has selected the best specialists in Pulmonology to teach this program, in order for you to obtain knowledge with great practical applicability on the adjustment of NIMV"*

## Management



### Dr. Landete Rodríguez, Pedro

- Head of the Intermediate Respiratory Care Unit of the Hospital Emergencias Nurse Isabel Zendal
- Co-coordinator of the Basic Ventilation Unit of the Hospital Universitario de La Princesa
- Pulmonologist at the Hospital Universitario de La Princesa
- Pulmonologist at Blue Healthcare
- Researcher in several research groups
- Professor in undergraduate and postgraduate university studies
- Author of scientific numerous publications International journals and participation in book chapters
- Speaker at international medical congresses
- Doctorate *Cum Laude* by the Autonomous University of Madrid



## Professors

### Dr. Rodríguez Jerez, Francisco

- ◆ Pulmonologist at HUCSC
- ◆ Intermediate Respiratory Care Unit Coordinator, San Cecilio University Clinical Hospital
- ◆ Head of the Non-Invasive Mechanical Ventilation Unit at the Central University Hospital of Asturias
- ◆ FEA of the Pulmonology Department at San Cecilio University Clinical Hospital
- ◆ Lecturer in undergraduate university studies related to Health Sciences
- ◆ Coordinator of the NIMV and IRCU skills course at the San C University Clinical Hospital
- ◆ Member of the Tuberculosis and Respiratory Infections Area (TIR) in the Spanish Society of Pulmonology and Thoracic Surgery
- ◆ Reviewer for the journals Respiratory Care and BRNreview



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

# 04

## Structure and Content

The content that integrates this Postgraduate Certificate offers the nurse a dive into the latest findings related to the configuration of pressure, volume, flow and  $T_i/T_{tot}$  parameters, through didactic materials available in an extensive virtual library. In addition, the student will have flexible access to these resources, since the program is taught through a 100% online modality.







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*TECH's Relearning methodology will allow you to enjoy the teaching contents according to your own study pace in order to optimize your updating process"*

## Module 1. Non-Invasive Mechanical Ventilation and Ventilatory Parameter Settings in Non-Invasive Mechanical Ventilation

- 1.1. NIMV
  - 1.1.1. Terminology in NIMV
  - 1.1.2. What Does Each Parameter Used in NIMV Measure?
- 1.2. Indications and Contraindications
  - 1.2.1. Indications in Acute Hypoxemic Respiratory Failure
  - 1.2.2. Indications in Acute Global/Hypercapnic Respiratory Failure
  - 1.2.3. Indications in Chronic Respiratory Failure
  - 1.2.4. Other Indications for NIMV
  - 1.2.5. Contraindications for NIMV
- 1.3. Ventilatory Modes
  - 1.3.1. Spontaneous Mode
  - 1.3.2. Assisted Mode
  - 1.3.3. Controlled Mode
- 1.4. Interfaces: Types, Selection and Setting
  - 1.4.1. Face Mask
  - 1.4.2. Nasal Mask
  - 1.4.3. Mouth Interface
  - 1.4.4. Oronasal Interface
  - 1.4.5. Helmet
- 1.5. Ventilatory Parameters: Pressure, Volume, Flow and  $T_i/T_{tot}$ 
  - 1.5.1. Inspiratory and Expiratory Pressure Setting
  - 1.5.2. Adjustment of the Respiratory Frequency
  - 1.5.3. Adjustment of  $T_i/T_{tot}$
  - 1.5.4. PEEP Setting
  - 1.5.5.  $FiO_2$  Setting
- 1.6. Breathing Cycles and Trigger
  - 1.6.1. Trigger Setting and Ventilator Sensitivity
  - 1.6.2. Current Volume and Inspiratory Time Setting
  - 1.6.3. Inspiratory and Expiratory Flow Setting





- 1.7. Patient-Ventilator Synchronization
  - 1.7.1. Delayed Triggering
  - 1.7.2. Self-trigger
  - 1.7.3. Ineffective Inspiratory Efforts
  - 1.7.4. Mismatch in Inspiratory Time between the Patient and the Ventilator
  - 1.7.5. Double Triggering
- 1.8. Alarms and Patient Safety
  - 1.8.1. Types of Alarms
  - 1.8.2. Handling Alarms
  - 1.8.3. Patient Security
  - 1.8.4. Evaluation of the Effectiveness of NIMV
- 1.9. Patient Selection and Initiation Strategies
  - 1.9.1. Patient Profile
  - 1.9.2. NIMV Initiation Parameters in Acute Patients
  - 1.9.3. Initiation Parameters in Chronic Patients
  - 1.9.4. Adjustment of Parameters according to Evolution
- 1.10. Evaluation of the Patient's tolerance and Adaptation to Non-Invasive Mechanical Ventilation
  - 1.10.1. Criteria for Good Clinical Response
  - 1.10.2. Criteria for Bad Clinical Response
  - 1.10.3. Adjustments for Tolerance Improvement
  - 1.10.4. Tips to Improve Adaptation

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*Enroll in this program and enjoy the most updated didactic contents of the educational panorama on Ventilatory Parameters in NIMV for Nursing”*

# 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.



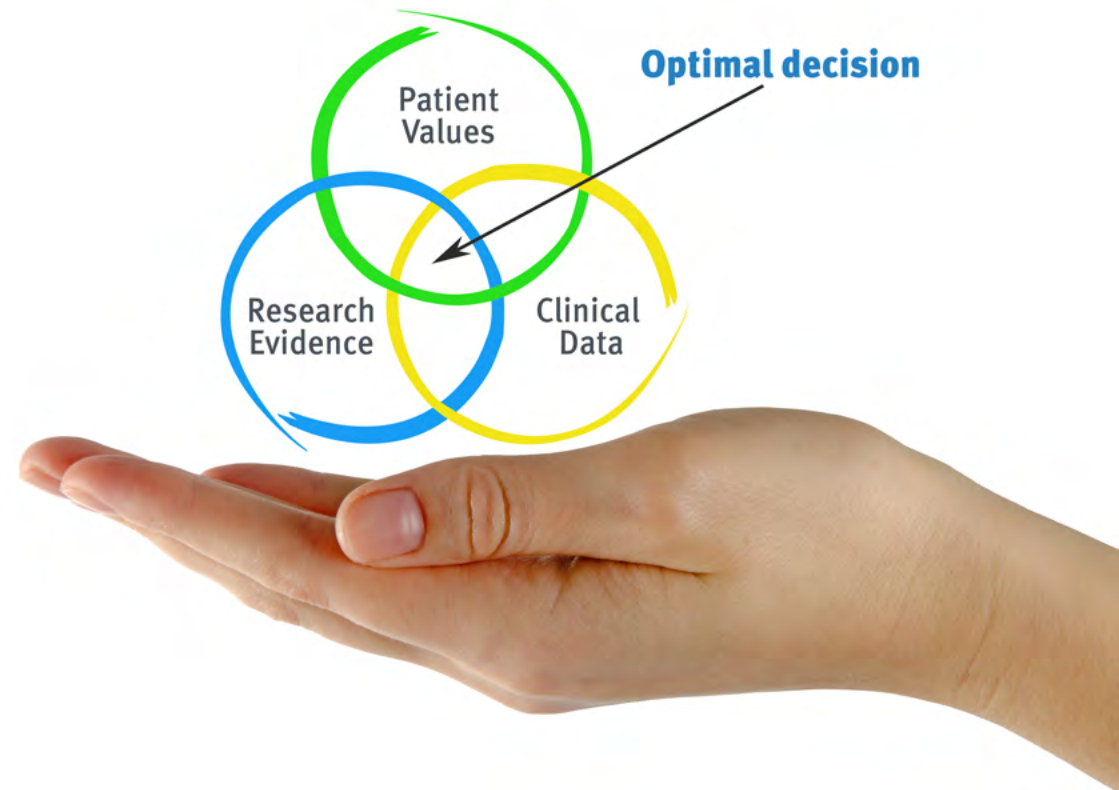
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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## At TECH Nursing School we use the Case Method

In a given situation, what should a professional do? 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. Nurses learn better, faster, and more sustainably over time.

*With TECH, nurses can experience a learning methodology 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, in an attempt to recreate the real conditions in professional nursing 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. Nurses 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 has a clear focus on practical skills that allow the nursing professional to better integrate knowledge acquisition into the hospital setting or primary care.
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 case studies with a 100% online learning system based on repetition combining a minimum of 8 different elements in each lesson, which is a real revolution compared to the simple study and analysis of cases.



*The nurse will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we have trained more than 175,000 nurses with unprecedented success in all specialities regardless of practical workload. 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 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.



### Nursing Techniques and Procedures on Video

We introduce you to the latest techniques, to the latest educational advances, 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 them as many times as you want.



### Interactive Summaries

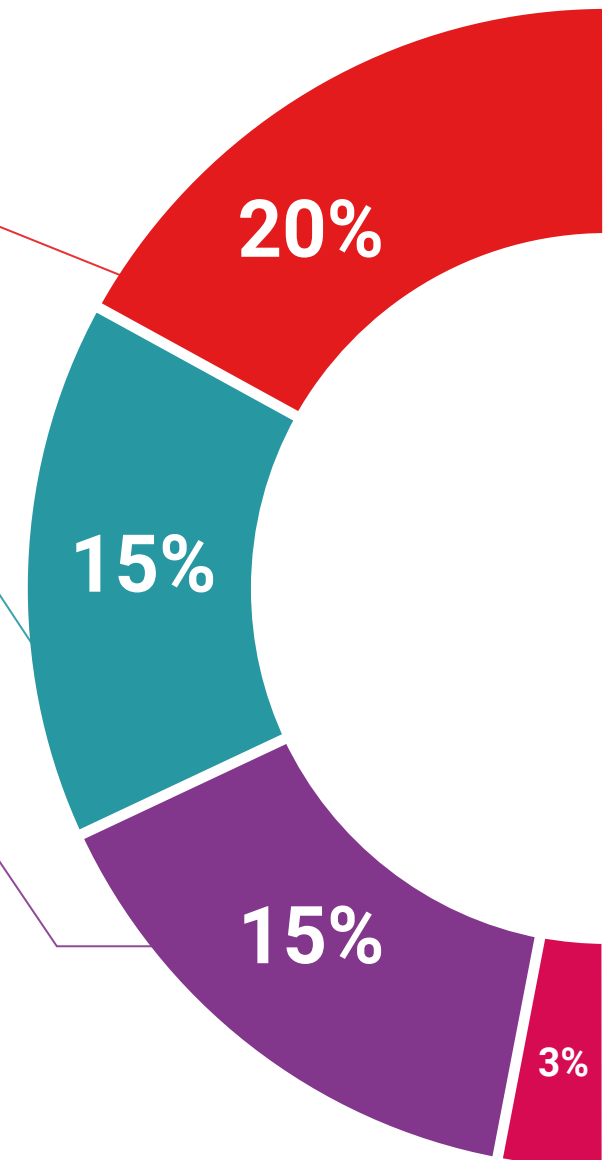
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

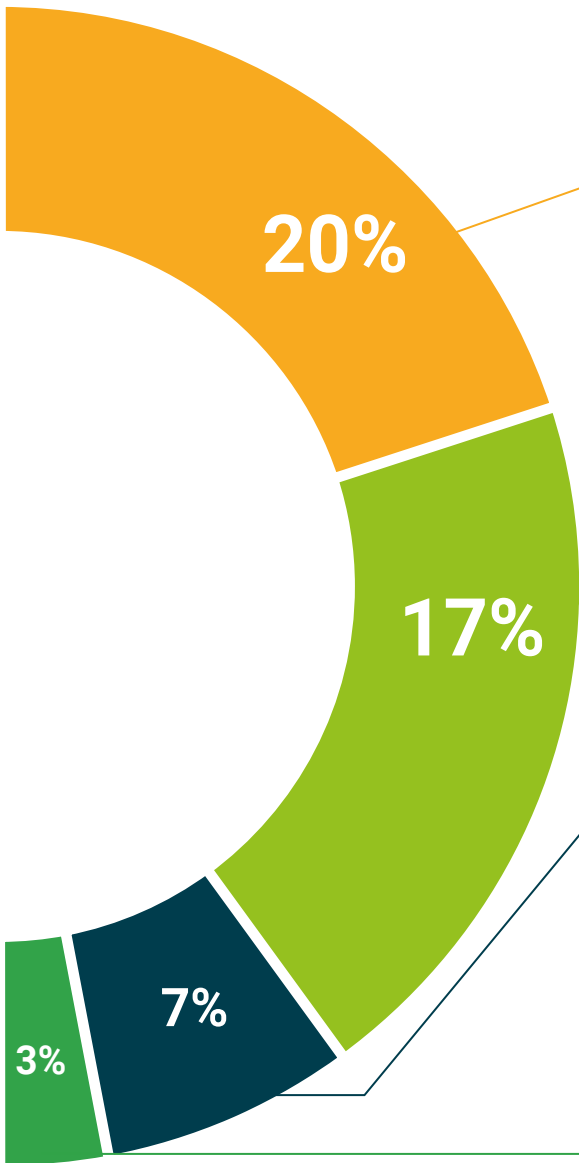
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



### 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 suggesting that observing third-party experts can be useful.

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 Ventilatory Parameters in NIMV for Nursing 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 Ventilatory Parameters in NIMV for Nursing** 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 certificate 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 Ventilatory Parameters in NIMV for Nursing**

Official N° of Hours: **150 h.**



\*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.

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



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