Hybrid Professional Master's Degree

Update in Intensive Care Medicine

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Hybrid Professional Master's Degree

Update in Intensive Care Medicine

Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Global University**

60 + 5 ECTS Credits

Website: **www.techtitute.com/us/medicine/hybrid-professional-master-degree/hybrid-professional-master-degree-update-intensive-care-medicine**

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01

Introduction

Scientific evolution has led to countless advances in the field of Intensive Care Medicine. Thus, ICUs are increasingly demanding more professionals specialized in the use of tools such as ECMO or in the mastery of the new protocols for performing CPR. This is why TECH has created this program, which will allow the expert to be at the forefront of this sector. With this program, the physician will address the stabilization, diagnosis and treatment of patients requiring intensive care, with a current and evidence-based approach. In addition, once the 100% online theoretical period is over, the student will have a 3-week stay in a hospital center, where they will put into practice their updated knowledge together with the best specialists.

This Hybrid Professional Master's Degree aims to meet the training needs of physicians working in an Intensive Care Unit"

Intensive Care Medicine is the specialty in charge of treating critically ill patients. In this field, procedures are constantly being updated to support the various life-saving tasks of professionals. Therefore, experts in this field are required to master the use of novel high-tech equipment for patient monitoring or the particularities of newly developed drugs, among other aspects. Given this situation, this program is oriented to respond to the academic updating needs of these specialists, in order to develop their medical practice in the Intensive Care Unit.

This Hybrid Professional Master's Degree addresses a selection of the most interesting topics in which there have been new developments and allows you to have the most current view of each of them. During 12 months of learning, the student will identify the most updated techniques for the diagnosis and treatment of sepsis or master the novel procedures for the management of subarachnoid hemorrhage for patients in the Intensive Care Unit. You will also acquire state-of-the-art knowledge in cardiopulmonary resuscitation.

Likewise, the Intensive Care Medicine professional must have adequate skills to transmit both good and bad news to the patient's relatives. Therefore, this program also places special emphasis on the most appropriate communication strategies from a psychological approach.

Thanks to the 100% online mode in which the theoretical part of this program is taught, students will be able to manage their study time according to their personal or work needs. In addition, after completing this learning phase, you will transfer your knowledge to practice in a highly prestigious hospital environment. Thus, together with the advice of a private tutor and integrated in a multidisciplinary work team, you will incorporate new skills applicable in your professional life.

This **Hybrid Professional Master's Degree in Update in Intensive Care Medicine** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of more than 100 clinical cases presented by professionals in Intensive Care Medicine and specialists in critical patient care
- 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
- Diagnostic and therapeutic novelties on the management of patients in the Intensive Care Unit
- Presentation of practical workshops on procedures, diagnosis, and Psychotherapeutic treatment Psychopharmacological treatment techniques
- An algorithm-based interactive learning system for decision-making in the clinical situations presented throughout the course
- Updated methods and novel tools for neurological management of the critically ill patient
- All of this will be complemented by theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection
- In addition, you will be able to do an internship in one of the best hospitals in the world

With this academic program, you will assimilate new procedures for the management of various infectious pathologies"

Add to your online study the clinical internship in an Intensive Care Unit with the highest quality standards and in an elite hospital center. All thanks to this program"

Get an excellent learning experience from prestigious professionals with this intensive program designed by experts in the medical sector.

Do not miss the opportunity to update your knowledge through this Hybrid Professional Master's Degree of the highest quality, in a practical way and adapted to your needs.

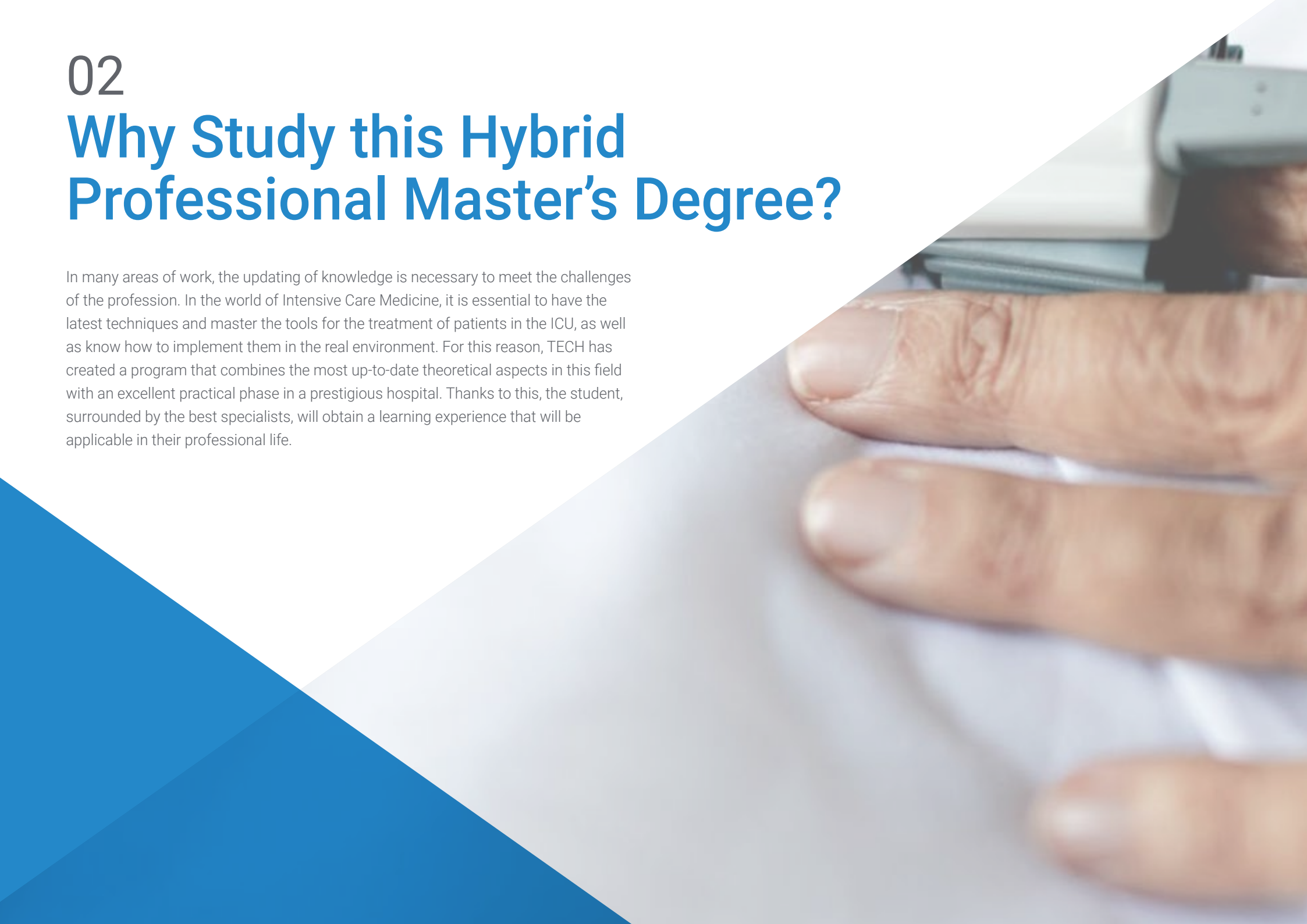
In this Professional Master's Degree proposal, of a professionalizing nature and blended learning modality, the program is aimed at updating medical professionals who perform their functions in the Intensive Care Unit, and who require a high level of qualification. The contents are based on the latest scientific evidence, and oriented in a didactic way to integrate theoretical knowledge into medical practice, and the theoretical-practical elements will facilitate the updating of knowledge and will allow decision making in patient management.

Thanks to their multimedia content developed with the latest educational technology, they will allow the medical professional a situated and contextual learning, that is, a simulated environment that will provide an immersive learning 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 experts.

02

Why Study this Hybrid Professional Master's Degree?

In many areas of work, the updating of knowledge is necessary to meet the challenges of the profession. In the world of Intensive Care Medicine, it is essential to have the latest techniques and master the tools for the treatment of patients in the ICU, as well as know how to implement them in the real environment. For this reason, TECH has created a program that combines the most up-to-date theoretical aspects in this field with an excellent practical phase in a prestigious hospital. Thanks to this, the student, surrounded by the best specialists, will obtain a learning experience that will be applicable in their professional life.



TECH offers the expert in Intensive Care Medicine a program that will allow him/her to know and apply in a real environment the latest updates in this field"

1. Updating from the latest technology available

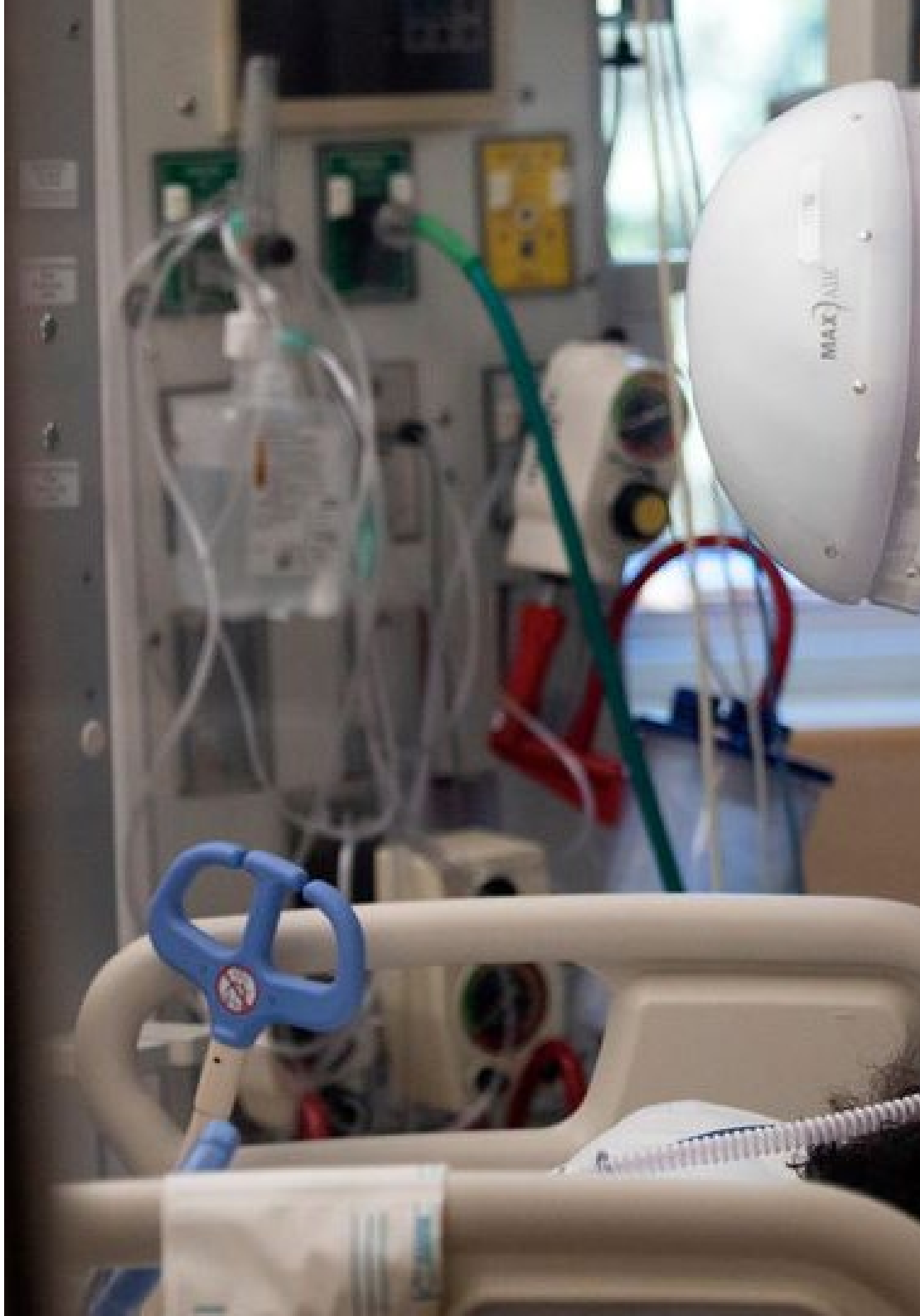
The area of Intensive Care Medicine has undergone a great revolution in recent years due to advances in neurological monitoring techniques, in the treatment of pathologies such as sepsis or in the management of CPR. For this reason, TECH has created this academic program, with the intention of providing the professional with the most updated methods in this branch of medicine.

2. Gaining In-Depth Knowledge from the Experience of Top Specialists

This program is taught by specialists with extensive experience in the field of Intensive Care Medicine, who are responsible for developing the didactic content that students will study throughout the program. Because of this, the knowledge you will be offered will be fully applicable in your day-to-day work.

3. Entering first-class hospital environments

TECH carefully selects all available centers for its Internship Programs. Thanks to this, the specialist will have access to a prestigious clinical environment in the field of Intensive Care Medicine at the end of his theoretical stage. In this way, you will see the day-to-day work of a demanding, rigorous and exhaustive area, always applying the latest theses and scientific postulates in its work methodology.



4. Combining the Best Theory with State-of-the-Art Practice

The academic market is full of programs focused solely on offering extensive learning with little real utility for the professional. In view of this circumstance, TECH has created a program that combines theoretical teaching with a practical phase in a renowned hospital, where the student will apply the knowledge learned throughout this Hybrid Professional Master's Degree.

5. Expanding the Boundaries of Knowledge

TECH offers the possibility of carrying out this Internship Program in centers of international importance. This way, the specialist will be able to expand their frontiers and catch up with the best professionals, who practice in first class centers and on different continents. A unique opportunity that only TECH could offer to its students.

You will have full practical immersion at the center of your choice"

03

Objectives

This Hybrid Professional Master's Degree has been designed to offer the specialist a unique opportunity, both at a theoretical and practical level, to update his knowledge in the field of Intensive Care Medicine. For this reason, both the syllabus and the practical stay follow a series of guidelines planned by TECH to guarantee the maximum use of the resources and materials made available throughout the course.

Update your knowledge in Intensive Care Medicine thanks to this program, obtaining an excellent theoretical learning and the opportunity to put your knowledge into practice in a real scenario"

General Objective

- The general objective of the Hybrid Professional Master's Degree in Intensive Care Medicine is to ensure that the professional updates the diagnostic and therapeutic procedures of the specialty in a theoretical and practical way, through a hospital stay designed with clinical and academic rigor, under the guidance of renowned professionals in a hospital center of the highest scientific quality and technological innovation. In this program, the professional will address the main interventions of the specialist to improve and enhance their skills in the medical care of their patients

Specific Objectives

Module 1. Management in the Intensive Care Unit

- Explain the ICU without walls project for early detection of patients at risk
- Update the principles of ICU humanization and incorporate them into daily practice
- Describe the keys to achieving greater quality and excellence in ICU service delivery

Module 2. Cardiovascular Disorders in the Patient

- Describe the procedure for cardiovascular monitoring of the critically ill patients in order to assess their hemodynamic status
- Point out the key points in the current postoperative period of cardiac surgery
- Address the current management of acute coronary syndrome
- Point out the indications, advantages, disadvantages and reversal of the new anticoagulants

Module 3. Update on cardiopulmonary resuscitation (CPR) in intensive care medicine and management of the critically ill respiratory patient

- Master the latest developments in cardiopulmonary resuscitation protocols
- Explain the procedure for performing excellent cardiopulmonary resuscitation according to current criteria
- Analyze the neurological prognosis after resuscitation
- Describe the function and indications for high-flow goggles and noninvasive mechanical ventilation

Module 4. Infectious Pathology in Intensive Care Medicine

- Update the procedures in the management of severe sepsis
- Analyze antibiotic policy in the ICU and resistance management
- Identify the role of procalcitonin in the management of infection in the ICU
- Point out the key points in the management of fungal infection in the ICU
- Describe the signs and symptoms of meningoencephalitis

Module 5. Neurologic Management of the Critically Ill Patient

- Explain the situations that most frequently complicate the evolution of critically ill patients, such as delirium and polyneuropathy in critically ill patients
- Describe the monitoring procedure in the neurocritical patient
- Update the management procedures for hemispheric ischemic stroke, subarachnoid and intraparenchymal hemorrhage
- Define status epilepticus and update management procedures

Module 6. Trauma in Intensive Care Medicine

- Describe the process of initial assessment and stabilization of the severe trauma patient
- Update in the procedures for approaching severe traumatic brain injury
- Define and address the updated management of the thoracic and abdominal trauma patient

Module 7. Digestive Critical Care, Nutrition and Metabolism in Critically Ill Patients

- Master the updated procedures for the management of severe pancreatitis
- Describe the admission, prognosis and complications of the cirrhotic patient in the ICU
- Learn about new procedures for the management of acute liver failure in the critically ill patient
- Define the current management of acute mesenteric ischemia
- Update in the ICU blood glucose management procedures
- Identify new procedures for the management of enteral nutrition complications

Module 8. Renal Management of the Critically Ill Patient and Organ Donation and Transplantation in Intensive Care Medicine

- Assimilate the novel procedures of renal management of the critically ill patient
- Incorporate up-to-date therapeutic procedures in renal pathology into clinical practice
- Increase and update your knowledge in the procedures for the management of heart, liver or lung transplant recipient patients

Module 9. Water, Electrolyte and Acid-Base Balance Disorders

- Deepen in the alterations of water balance, sodium, potassium, chlorine, calcium, phosphorus and magnesium
- Delve into respiratory and metabolic acidosis and alkalosis

Module 10. Other Pathologies of Interest in the Critically Ill Patient

- Analyze the key points of pharmacology in the critical patient and update the procedures for use in different pathologies
- Master the updated procedures in the initial management of the patient with suspected severe poisoning
- Evaluate the diagnostic use of ultrasound in the ICU
- Explain the most relevant aspects in the approach to the oncologic patient in the ICU

Increase your safety in the performance of medical practice, with this Hybrid Professional Master's Degree that will help you grow personally and professionally"

04

Skills

After passing the evaluations of the Hybrid Professional Master's Degree in Intensive Care Medicine, the medical professional will have acquired the professional competencies necessary to provide quality intensive care patient care, and updated based on the latest scientific evidence.

You will have the most advanced didactic resources and updated knowledge, in a program that is based on the latest scientific evidence"

General Skills

- Apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study
- Know how to communicate their conclusions and the reasons that support them to specialized and non-specialized audiences in a clear and unambiguous manner
- Develop within the Profession in terms of working with other Health Professionals, acquiring skills to work as a team
- Recognize the need to maintain your professional skills and, keep them up to date, with special emphasis on autonomous and continuous learning of new information
- Develop the capacity for critical analysis and research in your professional field

Improve your patient management and raise the level of your medical care, quickly and effectively, with this highly scientifically rigorous program"

Specific Skills

- Describe the procedure for cardiovascular monitoring of the critically ill patient
- Use the diagnostic and therapeutic means of the most frequent and relevant pathologies that affect the hemodynamic status of the patient
- Respond to therapeutic problems of special relevance at the present time
- Perform excellent cardiopulmonary resuscitation according to current criteria and in accordance with the latest clinical guidelines
- Manage the patient requiring respiratory support and apply measures to prevent ventilator-associated pneumonia
- Treat the patient with a severe infection, with special attention to sepsis and infectious pathologies that most frequently require admission to the ICU
- Describe the process of monitoring the neuro-critical patient
- Explain those situations that most frequently complicate the evolution of critically ill patients
- Address the management of some of the most frequent and relevant digestive pathologies admitted to the ICU
- Detail the phases of the organ donation and transplantation process in which the physician specialized in Intensive Care Medicine is involved

05

Course Management

In TECH's commitment to preserve the excellent academic quality of its programs, this Hybrid Professional Master's Degree is directed and taught by professionals actively working in the field of Intensive Care Medicine. These specialists are in charge of preparing the didactic materials that students will have access to during the duration of this program. Therefore, all the knowledge provided will be applicable to their work experience and will be fully updated.

The specialists who teach this program have extensive experience in the world of Intensive Care Medicine to provide you with the most applicable knowledge in this field"

Management

Dr. Carlos Velayos Amo

- Specialist Doctor of the Intensive Care Medicine Department at the University Hospital of Fuenlabrada
- Researcher specializing in post-ICU syndrome and patient hospitalization in the HU-CI Project
- Honorary Professor of the Faculty of Medicine at Rey Juan Carlos University, Madrid
- Degree in Medicine and Surgery from the Universidad Autónoma of Madrid (UAM)
- Member of InnovaHUCI, Itaca Group

Dr. Joaquín Álvarez Rodríguez

- Head of the Intensive Care Medicine Department, Fuenlabrada University Hospital
- Transplants Coordinator, Clinical University Hospital San Carlos, Madrid
- Medical Specialist in Intensive Care Medicine at theSan Carlos University Hospital Clinic
- Specialist in Intensive Care Medicine at the Virgen de la Salud Hospital
- PhD in Surgery and Medicine from the Complutense University of Madrid
- Designer of Patient Safety Strategic Plans at the Health Department of the Community of Madrid

Professors

Dr. Manuel Quintana Díaz

- Secretary of the National Plan of CPR in Critical Medicine and Coronary Units for the Spanish Society of Intensive Care Medicine, SEMICYUC
- Head, Emergencies Department, Hospital Universitario La Paz, Madrid
- PhD in Medicine from the Autonomous University in Madrid
- Specialist in Internal Medicine, Soria Hospital Complex
- Doctor of Medicine with Specialization in Cranioencephalic Trauma and Fractures in the Hemophiliac Patient at the Complutense University of Madrid
- Physician associated with the Department of Medicine at the Universidad Autónoma of Madrid

Dr. María Cruz Martín Delgado

- Head of the Intensive Care Service at the 12 de Octubre University Hospital
- Head of the Intensive Care Service at the Torrejón University Hospital
- Transplants Coordinator at the Torrejón University Hospital
- Head in Clinical the Intensive Care Service at Hospital HM Nou Delfos
- Emergency Coordinator at the Henares University Hospital
- Specialist in Intensive Care Medicine, Quirónsalud Palmaplanas Hospital
- Author of more than 80 articles published in national and international journals on Intensive Care Medicine
- Principal Investigator and Collaborator of more than 50 research studies in the area of the critically ill
- President of the Pan American and Iberian Federation of Critical Care Medicine and Intensive Care (FEPIMCTI)
- President of the Spanish Society of Intensive Care Medicine Critique and Coronary Units (SEMICYUC)

Mr. Federico Gordo Vidal

- Head of the Intensive Care Service at Burgos University Hospital
- Associate Editor-in-Chief of the Journal of Intensive Care Medicine
- Author of numerous articles and chapters in specialized books at national and international level
- Speaker at congresses, round tables and conferences
- Secretary of Spanish Society of Intensive Care Medicine
- PhD in Medicine from the Complutense University of Madrid
- Member of the ICU Without Walls Project, Critical Care Area

Dr. Eduardo Palencia Herrejón

- Head of the Intensive Care Medicine Department, Infanta Leonor University Hospital Madrid, Spain
- Specialised Doctor in Intensive Care Medicine at the Complutense University of Madrid
- Editor of the Electronic Journal of Intensive Care Medicine (REMI)
- Member of the Innovation, Technological Evaluation and Research Methodology Group (GETMIN) for the Spanish Society of Intensive and Critical Care Medicine and Coronary Units (SEMICyUC)
- Associate Professor of the Department of Medicine, Complutense University of Madrid

Mr. José Ángel Lorente Balanza

- Head of Intensive Care Medicine at La Paz University Hospital (Madrid) Spain
- Sponsor of the External Scientific Committee of the Murcian Universitario de Getafe Health Research
- Academic Jury in the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units (SEMICYUC), Professional of the Critically Ill
- Author of articles in the scientific journal "Therapeutic advances in septic shock", Dialnet. Unirioja

Dr. Antonio Blesa Malpica

- Head of the Neurotraumatized Section of the Intensive Care Medicine Service at the San Carlos Clinical University Hospital
- Specialised doctor at San Carlos Clinical Hospital
- Specialist in Internal Medicine Services at Santa Ana General Hospital Motril, Spain
- Doctor at the San Carlos Clinical University Hospital
- President of the Society of Intensive Medicine of the Community of Madrid (SOMIAMA)
- FCCS Instructor of the American Society of Critical Care Medicine (SCCM)
- Author of numerous specialized publications at national and international level
- PhD in Surgery from the Complutense University of Madrid
- Master's Degree in Management of Health Services and Healthcare Companies from the Complutense University of Madrid
- Member of: Clinical Commissions of Transfusion, Nutrition and Pharmacy at the San Carlos Clinical Hospital, Polytraumatized Committee at the San Carlos Clinical Hospital, Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units in the Metabolism and Nutrition Group, European Society of Intensive Care, Spanish Society of Parenteral and Enteral Nutrition, European Society for Parenteral and Enteral Nutrition

Dr. Juan Carlos Martín Benítez

- Doctor Specialised in Intensive Care Medicine at San Carlos Clinic University Hospital
- Co-author of the scientific article Glycemia in the first 24 hours is not a prognostic factor for mortality in critically ill patients
- Co-author of Clinical Practice Guidelines for the management of low cardiac output syndrome in postoperative cardiac surgery

Dr. Mario Chico Fernández

- Head of Trauma and Emergency ICU Section at the 12 de Octubre University Hospital Madrid
- Specialist in Intensive Care Medicine at the 12 de Octubre University Hospital
- PhD from the Autonomous University of Madrid with the thesis Development and improvement of a patient safety communication tool in a trauma and emergency ICU Safety Briefing
- Co-author of the scientific articles: The coagulopathies of trauma, Buffered versus 0.9% saline in critically ill adults and children, Risk factors and protection from secondary traumatic stress in intensive care

Dr. Ana Abella Álvarez

- Medical Specialist in Intensive Care Medicine at the Henares University Hospital
- Degree in Medicine and Surgery from the University of Valladolid
- On-call service in the Intensive Care Ward of the Hospital Universitario de Getafe
- Resident tutor at the Henares University Hospital

Dr. Ángela Alonso Ovies

- Specialist in Intensive Care Medicine at the University Hospital of Fuenlabrada
- Physician Specializing in Intensive Care Medicine at the San Carlos Clinical Hospital
- Specialized Doctor in Intensive Care Medicine at Nuestra Señora del Rosario Sanatorium
- Master's Degree in Patient Safety and Quality of Care from the Miguel Hernández University of Elche
- Member of the Executive Committee of the Communication Research Area of the HU-CI Project, Editorial Committee of the Intensive Medicine Journal, Society of Intensive Care Medicine of the Community of Madrid (SOMIAMA)

Dr. Manuel Álvarez González

- Faculty Specialist at San Carlos Clinical Hospital
- Specialist in Intensive Care Medicine
- Founding Member of the Ecoclub of SOMIAMA
- Degree in Medicine and Surgery

Dr. Jesús Andrés Álvarez Fernández

- Chief Doctor at Juaneda Miramar Hospital
- Specialist in Intensive Care Medicine and Major Burns at the University Hospital of Getafe
- Associate Researcher of the Neurochemistry and Neuroimaging Area at the University of La Laguna

Dr. Bárbara Balandín Moreno

- Specialist in Intensive Care Medicine
- Specialists in Intensive Care Medicine at the Puerta de Hierro Majadahonda University Hospital
- Coautora de artículos publicados en revistas científicas
- Contributor to collective scientific works

Dr. Begoña Bueno García

- Assistant Physician of the Intensive Care Medicine Department at the Infanta Leonor University Hospital Madrid
- Master's Degree in Medical Expertise and Bodily Injury Assessment
- National Cardiopulmonary Resuscitation Plan of the Spanish Society of Intensive Care Medicine, Critical Care and Coronary Units. Madrid

Dr. Enrique Calvo Herranz

- Doctor at the University Hospital of Getafe
- Doctor at the University Hospital of Henares
- Invited Physician to the IV Symposium on the Critically Ill Burned Patient
- Speaker in the programs II Course for ABIQ Instructors, III Course on Basic Initial Care of Burn Patients (ABIQ)

Dr. Mercedes Catalán González

- Head of Section, Department of Intensive Care Medicine, 12 de Octubre University Hospital,
- Attending Physician, Intensive Care Medicine Department, 12 de Octubre University Hospital
- Specialist in Intensive Care Medicine
- Medical Specialist in Clinical Pharmacology
- Doctor of Medicine
- Teaching collaborator of the Faculty of Medicine at the Complutense University of Madrid

Dr. Juan Conesa Gil

- Specialist in Intensive Care Medicine at the Ruber Internacional Hospital
- Entrepreneur in Jac Intensive SL

Dr. Maria Ángeles De la Torre Ramos

- Specialist in Intensive Care Medicine at Fuenlabrada University Hospital Madrid
- Post Intensive Care Follow-up Consultant InnovaHUCI Project at the University Hospital of Fuenlabrada
- Specialist in Intensive Care Medicine Medicine at HLA University Hospital
- Degree in Medicine and Surgery from the University of Zaragoza
- Advanced Studies Diploma from the Complutense University of Madrid

Dr. Raúl De Pablo Sánchez

- Chief of the Intensive Care Medicine Department at the Ramón y Cajal University Hospital
- Doctor of Medicine from the University of Alcalá
- Headline Professor of Medicine at Alcalá University
- Degree in Medicine and Surgery from the Complutense University of Madrid

Dr. Silvia Del Castillo Arrojo

- Assistant Doctor of the Cardiology Department at the University Hospital of Fuenlabrada
- Doctor Specialist in Pediatric Cardiology and Nutrition at the Foundation Jimenez Diaz Hospital
- Head of the Arrhythmia Unit at the Germans Trias i Pujol Hospital
- Research at the University Hospital of Pennsylvania
- Degree in Medicine and Surgery from the Autonomous University of Madrid
- Master's Degree in Clinical Electrophysiology, Complutense University of Madrid

Dr. Ramón Díaz-Alersi Rosety

- Specialist in Intensive Care Medicine
- Specialist in General and Digestive System Surgery Unit at Puerto Real University Hospital, Madrid
- Co-author of the article Systematic review and meta-analysis of interleukin-6 inhibitors to reduce mortality in hospitalized patients with COVID-19

Dr. José Manuel Gómez García

- Specialist in Intensive Care Medicine, Gregorio Marañón Hospital
- Physician of the Burnout and Professional Burnout Area, HU-CI Project. Spain
- Assistant Physician in the Intensive Care Medicine Department at HM Torrelodones Hospital
- Professor and Coordinator of Ethics and Health Care Communication at CEU San Pablo University

Dr. Catherine Graupner Abad

- Cardiologist at the Fuenlabrada University Hospital Madrid
- Member of the Spanish Society of Cardiology
- Speaker at the SEC21 Congress on Cardiovascular Health. Zaragoza, Spain

Dr. Julián Gutiérrez Rodríguez

- Specialist in the Intensive Care Medicine Service at the 12 de Octubre University Hospital
- Advanced Life Support Instructor in the National Cardiopulmonary Resuscitation Plan of the SEMICYUC
- Member of the Clinical Mortality Commission of the 12 de Octubre University Hospital

Dr. Gabriel Heras La Calle

- Creator and Director of the HU-CI Project, Humanizing Intensive Care
- Director of the Humanization Committee of the Pan-American and Iberian Federation of Critical Medicine and Intensive Care (FEPIMCTI)
- Head of Service of the Clinical Management Unit of Intensive Care Medicine of the Southern Area of Granada at the Santa Ana de Motril Regional Hospital
- Specialist in Intensive Care Medicine at Severo Ochoa, La Paz, Alcorcón Foundation, HM Torrelodones, Son Llàtzer, Infanta Leonor and Torrejón University Hospitals
- Degree in Medicine and Surgery from the University of Alcalá de Henares

Dr. Alexis Jaspe Codeciso

- Assistant Physician of the Intensive Care Unit at the Gregorio Marañón General University Hospital. Madrid, Spain
- Caracas, Venezuela
- Emergency Physician in Internal Medicine at El Ávila Clinic. Caracas, Venezuela
- Surgeon, Central University of Venezuela

Dr. Eugenio Martínez Hurtado

- Medical Specialist of the Anesthesiology and Resuscitation Service at the Infanta Leonor University Hospital Madrid
- Medical Captain in the Spanish Ministry of Defense
- Specialist in Anesthesiology, Resuscitation and Pain Therapy at Quirónsalud Hospital Group
- Specialist in Anesthesia, Resuscitation and Pain Therapy at the University Hospital of Torrejón
- Airway Management Instructor
- Medical Specialist in the Humanitarian Aid Surgical Campaign at the Auberge de l'Amour Rédempteur Hospital. Africa:
- Degree in Medicine and Surgery from the Complutense University of Madrid
- Master's Degree in Health Management in the Prevention from the European Institute of Health and Social Welfare
- University Diploma in Social Pediatrics from the University of Las Palmas de Gran Canaria
- Master's Degree in Social and Preventive Pediatrics by the University of Las Palmas, Gran Canaria

Dr. Eduardo Morales Sorribas

- Associate Doctor of the ICU at the Ramón y Cajal University Hospital
- Specialist Doctor in Intensive Care Medicine Medicine at the Sanitas La Moraleja University Hospital
- Associate Specialist Doctor in Cardiovascular Critical Care at San Carlos Clinical Hospital
- Specialist in Intensive Care Medicine at the Los Madroños Hospital
- Attending Physician in Intensive Care Medicine at the Jiménez Díaz Foundation University Hospital University Teaching Collaborator
- Master's Degree in Clinical Management, Medical and Healthcare Management from the CEU Cardenal Herrera University

Dr. Guillermo Muñiz Albaiceta

- Head of the Cardiac Intensive Care Unit at the University Hospital Central of Asturias
- Attending Physician, Intensive Care Medicine Department, Henares University Hospital, Madrid. Madrid
- Member of the Biomedical Research Network on Respiratory Diseases (CIBERES) at the Carlos III Health Institute
- Leader of the Principality of Asturias Health Research Group for Advances in Lung Damage and Repair
- Expert on Mechanical Ventilation and Acute Lung Injury
- Associate Professor at University of Oviedo

Dr. Carlos Muñoz de Cabo

- Assistant Physician of the Intensive Care Medicine Service at the Torrejón University Hospital. Madrid, Spain
- Specialist Doctor in Respiratory Diseases
- Experty in Intensive Care
- Collaborator on the book "Treatment in Intensive Medicine" with the Andalusian Society of Intensive Care Medicine and Coronary Units (SAMIUC)

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- Head of the Critical Care Research Group at the Gregorio Marañón Health Research Institute
- Director Doctor at the Gregorio Marañón General University Hospital
- Head of the ICU Department of the UCI at the Gregorio Marañon General University Hospital
- Head of the Emergencies Department at the Gregorio Marañón General University Hospital
- Associate Doctor at the Children's Rehabilitation Service at the Gregorio Marañón University General Hospital
- Deputy Doctor at the General University Hospital Gregorio Marañón
- PhD in Medicine from the Complutense University of Madrid

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- Specialist in Intensive Care Medicine at the Ruber Internacional Hospital
- Specialist Doctor in Intensive Care Medicine at the San Carlos Clinical Hospital
- PhD in Medicine from the Complutense University of Madrid

Dr. Alfonso Ortega López

- Associate Doctor of the Intensive Care Medicine Medicine Department at the Puerta de Hierro Majadahonda University Hospital. Madrid
- Journal articles: Improved prognostic ability of NEWS2, SOFA and SAPS-II in patients with sepsis by Hospital Universitario Puerta de Hierro Majadahonda, Massive mesenteric ischemia by Puerta de Hierro Majadahonda University Hospital
- Collaborator in collective works: Cardiorespiratory arrest and adult cardiopulmonary resuscitation by the Puerta de Hierro Majadahonda University Hospital., Electrical injuries by the Puerta de Hierro Majadahonda University Hospital

Dr. Francisco Ortuño Andériz

- Physician of the Neurocritical and Polytraumatized Section at San Carlos Clinical Hospital
- Specialist in Intensive Care Medicine
- Doctor of Medicine and Surgery, Complutense University of Madrid (UCM)
- Master's Degree in Healthcare Organization, Management and Administration

Dr. Óscar Peñuelas Rodríguez

- Associate Doctor in the Intensive Care Unit at the University Hospital of Getafe
- Associate Doctor at Infanta Cristina University Hospital
- Postdoctoral Researcher, Biomedical Research Networking Center (CIBER)
- Author and co-author of numerous scientific publications
- PhD in Physiology and Pharmacology from the Autonomous University of Madrid (UAM)

Dr. José Antonio Peral Gutiérrez de Ceballos

- Doctor at the Gregorio Marañón General University Hospital Madrid
- Specialist in Intensive Care Medicine, Gregorio Marañón General University Hospital
- Speaker at the Transcranial Doppler Workshop in the VII Program on Organ Donation and Transplantation in Intensive Care Medicine at the Gregorio Marañón General University Hospital

Dr. Marina Pérez Redondo

- Coordinator of Transplantation and Humanization of Care in the ICU at the Puerta de Hierro Majadahonda University Hospital
- Associate Doctor of the Intensive Care Medicine Department at the Puerta de Hierro Majadahonda University Hospital
- Member of the Intensive Care Medicine Research Group in the areas of Cardiovascular, Digestive and Rheumatology Biopathology
- Scientific Collaborator of the Faculty of Medicine at the Universidad Autónoma de Madrid (UAM) Cardiovascular, Digestive and Rheumatology
- Scientific collaborator of the Faculty of Medicine at the Madrid Universidad Autónoma

Dr. Laura Riesco de la Vega

- Associate Doctor, Intensive Care Medicine Department, Fuenlabrada University Hospital, Madrid. Madrid
- Degree in Medicine from the Complutense University of Madrid (UAM)
- Facilitator of simulated clinical scenarios for the benefit of the patient at the Francisco de Vitoria University (UFV)
- Instructor and Specialist in Clinical Simulation Processes

Dr. María Montserrat Rodríguez Aguirregabiria

- Medical Specialist in Intensive Care Medicine at La Paz University Hospital
- Area Specialist in Intensive Care Medicine at the Infanta Leonor University Hospital
- Speaker at various medical congresses
- Doctor of Medicine, Alfonso X el Sabio University

Dr. Beatriz Sánchez Artola

- Assistant Physician of the Intensive Care Medicine Department at the Infanta Leonor University Hospital Madrid
- Author of the book "Infectious Diseases and Music"
- Collaborator in the Spanish Journal of Chemotherapy: *Predictive factors for 2009 H1N1 influenza virus infection in patients with influenza syndrome, Candida spp. infection on joint prostheses, proton pump inhibitors and risk of infection*

Dr. Pedro Talavera Calle

- HHead of Service at Quirónsalud Sur Hospital Alcorcón, Madrid
- Cardiologist of the Integral Cardiology Unit (UICAR) at the Hospital de la Luz
- Associate Cardiologist at Fuenlabrada University Hospital, Madrid
- Outpatient specialist

Dr. Clara Vaquerizo Alonso

- Attending Physician of the Intensive Care Unit of the of Fuenlabrada University Hospital. Madrid
- Associate Doctor of the Intensive Care Unit at the Fuenlabrada University Hospital, Madrid. Spain
- Author of articles: Nutritional treatment in critically ill SARS-CoV-2 patients, a view from the calm, some considerations on information security of the European digital health record project (EPSOS Project)
- Collaboration in collective works: Enteral Nutrition, Nutrition in the Critically Ill Patient

Ms. Eva Tejerina Tebé

- Senior Consultant at Apdena Consult SL
- Degree in Biology
- Master's Degree in Medicinal Plants and Phytotherapy
- Postgraduate Study in Fragrances
- Member of the Spanish Phytotherapy Society

You will learn about the latest advances in Intensive Care Medicine from professionals of the highest level"

06

Educational Plan

The syllabus of this program has a curriculum consisting of 10 modules through which the professional will update and expand their knowledge in the field of Intensive Care Medicine. Likewise, the didactic resources to which you will have access during the duration of this program are present in formats as diverse as the interactive summary, the explanatory video or the complementary readings. Thanks to this, the student will obtain an enjoyable learning experience that is completely adapted to their individualized needs.

Through excellent theoretical content, you will completely update and expand your knowledge in Intensive Care Medicine"

Module 1. Management in the Intensive Care Unit

1.1. Patient Safety
- 1.1.1. Concept
- 1.1.2. Evolution of Patient Safety
- 1.1.3. Medical Errors
- 1.1.4. Various Definitions
- 1.1.5. Security Culture
- 1.1.6. Risk Management
- 1.1.7. Where Are We?
- 1.1.8. Patient Safety in Intensive Care Units

1.2. Information Systems

1.3. ICU Without Walls
- 1.3.1. Problem: Why Did the ICU Without Walls Model Emerge?
- 1.3.2. Solution: Early Detection of Severity
- 1.3.3. ICU Without Walls Project

1.4. Humanization in the Care of Critically Ill Patients
- 1.4.1. Introduction. HU-CI Project
- 1.4.2. Involvement of Family Members in the Care and Presence in Certain Proceedings
- 1.4.3. Perceived Quality. Satisfaction Surveys
- 1.4.4. Communication Between Professionals
- 1.4.5. Professional Needs. Professional Burnout
- 1.4.6. Post- ICU Syndrome. Psychological Results
- 1.4.7. Humanized Architecture

1.5. Quality and Excellence in the ICU
- 1.5.1. Quality Models
- 1.5.2. EFQM Excellence Model
- 1.5.3. Quality Group in the ICU

1.6. Prognosis in ICU
- 1.6.1. History of Severity Scales
- 1.6.2. Prognosis Scales
- 1.6.3. Comparison of Scales
- 1.6.4. Unresolved Issues

1.7. The Family of the Critically Ill Patient
- 1.7.1. Communicating Bad News
- 1.7.2. Family in the ICU
- 1.7.3. Participation in Care

1.8. Open Door ICU
- 1.8.1. Family, Relatives and Visitors
- 1.8.2. About the Visits and their Organization
- 1.8.3. Why Are they Organized this Way?
- 1.8.4. What Do Patients and Families Want?
- 1.8.5. Is a Change Possible?
- 1.8.6. Proposals for the Future

1.9. The ICU at the End of Life
- 1.9.1. Ethical Principles of Limitation of Life-Sustaining Treatments (LST)
- 1.9.2. Limitation of Life-Sustaining Treatments and Patient's Autonomy
- 1.9.3. Decision-Making Process at Limitation of LST
- 1.9.4. Palliative Care Plan
- 1.9.5. Conflict Management
- 1.9.6. Support to Professionals
- 1.9.7. Decision Not to Resuscitate
- 1.9.8. Organ Donation Considerations
- 1.9.9. Rule Out ICU Admission

1.10. Mortality Stratification Systems in the ICU

Module 2. Cardiovascular Disorders in the Patient

2.1. Hemodynamic Monitoring
- 2.1.1. Basics of Hemodynamic Monitoring
- 2.1.2. Current Utility of the Swan Ganz in Intensive Care Medicine
- 2.1.3. Minimally Invasive Monitoring
- 2.1.4. Non-invasive Monitoring
- 2.1.5. Practical Approach to Hemodynamic Monitoring

2.2. Current Management of Acute Heart Failure and Cardiogenic Shock
- 2.2.1. Prehospital Management
- 2.2.2. Initial Management of AHF without Cardiogenic Shock
- 2.2.3. Cardiogenic Shock

2.3. Role of Echocardiography in the Hemodynamic Management of the Critically Ill Patient
- 2.3.1. Obtaining an Echocardiogram
- 2.3.2. Detection of Structural Alterations
- 2.3.3. Global Cardiac Assessment
- 2.3.4. Preload Assessment
- 2.3.5. Contractility Assessment
- 2.3.6. Afterload Assessment
- 2.3.7. Echocardiogram in the Severe Cardiological and Non-Cardiological Patient

2.4. Key Points in the Current Cardiac Surgery Postoperative Period
- 2.4.1. Patient Reception
- 2.4.2. Uncomplicated Postoperative Period
- 2.4.3. Complications
- 2.4.4. Specific Considerations

2.5. Current Management of Acute Coronary Syndrome (ACS)
- 2.5.1. Introduction. Epidemiology
- 2.5.2. Concept: Definition and Classification
- 2.5.3. Risk Factors. Precipitating Factors
- 2.5.4. Clinical Presentation
- 2.5.5. Diagnosis. ECG, Biomarkers, Non-invasive Imaging Techniques
- 2.5.6. Risk Stratification
- 2.5.7. ACS Treatment: Pharmacological Strategy, Reperfusion Strategy (Coronary Intervention, Fibrinolysis, Coronary Artery Revascularization Surgery)
- 2.5.8. Systemic Complications of ACS
- 2.5.9. Cardiological Complications of ACS
- 2.5.10. Mechanical Complications of ACS

2.6. Arrhythmias in ICU
- 2.6.1. Bradyarrhythmias
- 2.6.2. Tachyarrhythmias

2.7. Acute Aortic Disease

2.8. Use of Blood Products in the Critically Ill Patient

2.9. New Anticoagulants

2.10. Venous Thromboembolic Disease
- 2.10.1. Pathophysiology
- 2.10.2. Deep Vein Thrombosis
- 2.10.3. Acute Pulmonary Embolism

2.11. Extracorporeal Membrane Oxygenation in Adults (ECMO)

Module 3. Update on cardiopulmonary resuscitation (CPR) in intensive care medicine and management of the critically ill respiratory patient

3.1. Cardiopulmonary Resuscitation Algorithm
- 3.1.1. Basic Life Support (BLS)
- 3.1.2. Advanced Life Support (ALS)
- 3.1.3. Post-Resuscitation Care (PRC)
- 3.1.4. PRC Training

3.2. Management of Post-Resuscitation Syndrome
- 3.2.1. Post-Cardiac Arrest Syndrome
- 3.2.2. Airway and Breathing
- 3.2.3. Circulation
- 3.2.4. Disability: Measures for Neurological Recovery
- 3.2.5. Neurological Prognostic Assessment Protocol

3.3. Neurological Damage After Cardiopulmonary Resuscitation. Management and Prognostic Assessment
- 3.3.1. Pathophysiology of Brain Damage
- 3.3.2. Therapeutic Measures aimed at the Control of the Brain Injury
- 3.3.3. Prognosis

3.4. Difficult Airway in the Intensive Care Unit: Assessment and Management

3.5. Acute Respiratory Distress Syndrome

3.6. Alternatives to Conventional Mechanical Ventilation in ARDS

3.7. Recruitment Strategies Based on Increasing Airway Pressure

3.8. Disconnection of Mechanical Ventilation

3.9. Non-Invasive Mechanical Ventilation (NIMV): Indications

3.10. Prevention of Ventilator-Associated Pneumonia

3.11. Electrical Impedance Tomography for Respiratory Monitoring

Module 4. Infectious Pathology in Intensive Care Medicine

4.1. Current Management of Sepsis
- 4.1.1. Definitions of Sepsis
- 4.1.2. Septic Shock
- 4.1.3. Epidemiology of Sepsis
- 4.1.4. Surviving Sepsis Campaign
- 4.1.5. Sepsis Code
- 4.1.6. Treatment of Sepsis
- 4.1.7. Diagnosis and Treatment of Infection

4.2. Antibiotherapy in Intensive Care Units
- 4.2.1. Impact of Antibiotic Use
- 4.2.2. Antibiotic Use Policy at the Individual Level
- 4.2.3. Quality Indicators
- 4.2.4. Resistance Management
- 4.2.5. Zero Resistance Project

4.3. Severe Abdominal Infections in ICU
- 4.3.1. Acute Abdomen and Peritonitis
- 4.3.2. Infectious Complications in the Abdominal Postoperative Period
- 4.3.3. Tertiary Peritonitis

4.4. Intravascular Infections in the ICU
- 4.4.1. Bacteremia
- 4.4.2. Catheter-Related Bacteremia
- 4.4.3. Long-Term Central Venous Catheter-Related Infections
- 4.4.4. Infections Related to Cardiac Devices: Pacemakers and Defibrillators
- 4.4.5. Antibiotic Treatment

4.5. Procalcitonin as a Marker of Sepsis

4.6. Key Points in the Management of Invasive Fungal Infection in the ICU
- 4.6.1. Filamentous Hyphae
- 4.6.2. Invasive Aspergillosis (IA)
- 4.6.3. Mucormycosis
- 4.6.4. Other Filamentous Fungi
- 4.6.5. Yeast
- 4.6.6. Invasive Candidiasis (IC)
- 4.6.7. Cryptococcosis

4.7. Severe Pneumonia
4.8. Bacterial Meningitis, Viral Encephalitis and Other Encephalitis
  4.8.1. Bacterial Meningitis. Key Management Points
  4.8.2. Viral Encephalitis and Other Encephalitides
4.9. Endocarditis
  4.9.1. Classification and Definitions in Infective Endocarditis
  4.9.2. Diagnosis
  4.9.3. Modified Duke Criteria
  4.9.4. Clinical Manifestations of Infective Endocarditis
  4.9.5. Etiology of Infective Endocarditis
  4.9.6. Microbiological Diagnosis
  4.9.7. Echocardiographic Diagnosis
  4.9.8. Treatment
4.10. Multiresistant Bacteria
  4.10.1. The Challenge of Multidrug-Resistant Microorganisms
  4.10.2. Resistances of Gram-Positive Bacteria
  4.10.3. Resistances of Gram-Negative Bacteria

Module 5. Neurologic Management of the Critically Ill Patient

5.1. Monitoring in the Neurocritical Patient
  5.1.1. Intracranial Pressure Monitoring
  5.1.2. Jugular Bulb Oxygen Saturation
  5.1.3. BIS and Continuous EEG
  5.1.4. Transcraneal Doppler
  5.1.5. Role of Imaging Tests (CT and MRI)
5.2. Coma Management
  5.2.1. Definition
  5.2.2. Epidemiology
  5.2.3. Anatomy of Awakening
  5.2.4. Management of the Comatose Patient
  5.2.5. Complementary

5.3. Update on the Management of Ischemic Stroke
5.4. Current Management of Subarachnoid Hemorrhage in the Intensive Care Unit
  5.4.1. Aneurysmal Subarachnoid Hemorrhage
  5.4.2. Non-Aneurysmal Spontaneous Subarachnoid Hemorrhage
5.5. Current Management of Intraparenchymal Hemorrhage Initial Treatment
  5.5.1. Initial Treatment
  5.5.2. Treatment of Hypertensive Emergency
  5.5.3. Indication for surgery
5.6. Status Epilepticus
  5.6.1. Medical treatment
  5.6.2. Refractory Status Epilepticus
  5.6.3. Protocol Proposal
5.7. Sedation, Analgesia and Relaxation in the ICU: Current Management
  5.7.1. Analgesia
  5.7.2. Pain Classification
  5.7.3. Sedation
  5.7.4. Neuromuscular Blockade
  5.7.5. Monitoring of Analgesia
  5.7.6. Sedation Monitoring
  5.7.7. Neuromuscular Blockade Monitoring
  5.7.8. Delirium Monitoring
5.8. Mental Status Alterations in the Critically Ill Patient. Delirium, Agitation and Acute Confusional Syndrome
  5.8.1. Alterations of the Mental State
  5.8.2. Delirium
  5.8.3. Final Considerations
5.9. Management of Cerebral Edema in the ICU
5.10. ICU-Acquired Weakness (ICU-AW)
  5.10.1. Definition and Epidemiology of UCI-Acquired Weakness (DACI)
  5.10.2. Clinical Manifestations
  5.10.3. Pathophysiology
  5.10.4. Diagnosis
  5.10.5. Risk Factors
  5.10.6. Clinical and Prognostic Unraveling
  5.10.7. Prevention and Treatment

Module 6. Trauma in Intensive Care Medicine

6.1. Initial Trauma Care
6.2. Fluids and Vasoactive Support in the Severe Trauma Patient
  6.2.1. New Strategies for Trauma Resuscitation
    6.2.1.1. Ensuring Adequate Tissue Perfusion
    6.2.1.2. Rational Fluid Management
    6.2.1.3. Use of Vasopressors
    6.2.1.4. Avoidance of Trauma-Induced Coagulopathy
    6.2.1.5. Proportionate Transfusion of Blood Products
    6.2.1.6. Prohemostatic Drugs
6.3. Transfusion in Elderly Patients
6.4. Cranioencephalic Trauma
6.5. Thoracic Trauma
  6.5.1. General: Prehospital Management of Thoracic Trauma
  6.5.2. General: Initial In-Hospital Management of Blunt Thoracic Trauma
  6.5.3. General: Initial In-Hospital Management of Penetrating Thoracic Trauma
  6.5.4. Thoracic Wall Injuries
  6.5.5. Rib Injuries
  6.5.6. Sternum and Scapula Injuries
  6.5.7. Pulmonary Injury
  6.5.8. Aortic Injury
  6.5.9. Cardiac Injuries
  6.5.10. Other Mediastinal Injuries
6.6. Abdominal Trauma
  6.6.1. General Aspects
  6.6.2. Hepatic Trauma
  6.6.3. Splenic Trauma
  6.6.4. Genitourinary Trauma
  6.6.5. Pelvic Trauma
  6.6.6. Gastrointestinal Trauma

6.7. Spinal Cord Injury. Initial Care
- 6.7.1. Introduction and Epidemiology
- 6.7.2. Pathophysiology
- 6.7.3. Prehospital Management of MRT
- 6.7.4. Primary Assessment: Initial Evaluation and Resuscitation
- 6.7.5. Second Evaluation
- 6.7.6. Radiological Assessment
- 6.7.7. Acute Management of the MRT Patient

6.8. Trauma of Extremities with Vascular Injury

6.9. The Critically Ill Burned Patient

6.10. Mortality in the Polytraumatized Patient

Module 7. Digestive Critical Care, Nutrition and Metabolism in Critically Ill Patients

7.1. Current Management of Severe Pancreatitis
- 7.1.1. Diagnosis and Prognosis. Value of Imaging Tests
- 7.1.2. Complications of Pancreatitis
- 7.1.3. Therapeutic Approach

7.2. The Cirrhotic Patient in the ICU
- 7.2.1. Acute-On-Chronic Liver Failure Syndrome
- 7.2.2. Pathophysiological Bases
- 7.2.3. Organic Damage in the ACLF
- 7.2.4. Nutritional Support
- 7.2.5. Infection Management
- 7.2.6. Specific Aspects of Advanced Cirrhotic Management in the ICU

7.3. Current Management of Acute Liver Failure
- 7.3.1. Introduction, Definition and Etiology
- 7.3.2. Diagnosis
- 7.3.3. Extrahepatic Manifestations
- 7.3.4. Prognostic Severity Scales
- 7.3.5. Management of Acute Liver Failure

7.4. Acute Mesenteric Ischemia
- 7.4.1. General Mesenteric Ischemia
- 7.4.2. Occlusive Acute Mesenteric Ischemia
- 7.4.3. Mesenteric Ischemia Due to Venous Thrombosis
- 7.4.4. Colonic Ischemia or Ischemic Colitis

7.5. High Non-Varicose Digestive Hemorrhage
- 7.5.1. Causes of Upper Gastrointestinal Hemorrhage (UGH)
- 7.5.2. Initial Therapeutic Management
- 7.5.3. Risk Stratification
- 7.5.4. Management of Specific Causes of ADH Not Caused by Varicose Diseases
- 7.5.5. Endoscopic treatment
- 7.5.6. Angiographic Treatment
- 7.5.7. Surgical Management

7.6. Artificial Nutrition in the ICU

7.7. Protocol for Glycemic Control in the Critically Ill Patient

7.8. Hyperglycemic Crises: Ketoacidosis and Hyperosmolar Coma

7.9. Management of Complications Associated with Nutrition

7.10. Critical Thyroid Pathology

Module 8. Renal Management of the Critically Ill Patient and Organ Donation and Transplantation in Intensive Care Medicine

8.1. Key Points in the Use of Continuous Extrarenal Clearance Techniques in the ICU
- 8.1.1. Acute Renal Failure in the ICU
- 8.1.2. Continuous Renal Replacement Techniques (CRRT)
- 8.1.3. Indications for CRRT
- 8.1.4. Selection of Extrarenal Depuration Modality
- 8.1.5. Dose
- 8.1.6. Anticoagulation
- 8.1.7. Technique and Materials

8.2. Anticoagulation with Citrate in Continuous Extrarenal Clearance Techniques
- 8.2.1. Indications for Citrate Anticoagulation
- 8.2.2. Contraindications for Citrate Anticoagulation
- 8.2.3. Metabolic Aspects of Regional Anticoagulation with Citrate
- 8.2.4. Diagram of Calcium Contents and Ci-Ca Complexes Along the Extracorporeal and Blood Circuit
- 8.2.5. Dialysis Liquids
- 8.2.6. Indicative Initial Treatments
- 8.2.7. Anticoagulation and Calcium Replenishment Controls
- 8.2.8. Acid-Base Balance Controls
- 8.2.9. Recommended Laboratory Tests for Citrate Treatment

8.3. Diagnosis of Brain Death
8.4. Current Management of the Organ Donor
8.5. Non-Heart-Beating Donation
8.6. Management of the Cardiac Transplant Recipient Patient
8.7. Management of the Liver Transplant Recipient Patient
8.8. Management of the Lung Transplant Recipient Patient
8.9. Key Points in the Use of Continuous Extrarenal Clearance Techniques in the ICU

Module 9. Water, Electrolyte and Acid-Base Balance Disorders

9.1. Physiology of Water-Electrolyte and Acid-Base Balance
9.2. Use of Blood Gases and Ionograms in Critically Ill Patients
9.3. Alterations in Water Balance
9.4. Sodium Alterations
9.5. Potassium Alterations
9.6. Chlorine Alterations
9.7. Calcium, Phosphorus and Magnesium Alterations
9.8. Respiratory and Metabolic Acidosis
9.9. Respiratory and Metabolic Alkalosis

Module 10. Other Pathologies of Interest in the Critically Ill Patient

10.1. Involvement of Pharmacokinetics in Optimizing Antimicrobial Treatment in Critical Patients
10.2. Critical Care in Pregnancy and Peripartum
  10.2.1. Physiological Changes of Pregnancy
  10.2.2. Cardiovascular Diseases and Peripartum Cardiomyopathy
  10.2.3. Acute Respiratory Failure
  10.2.4. Preeclampsia
  10.2.5. Pharmacological Considerations in Pregnant Women
  10.2.6. Cardiopulmonary Resuscitation in Pregnant Patients
  10.2.7. Trauma in the Pregnant Woman
  10.2.8. Septic Shock
10.3. Patient with Acute Intoxication in the ICU
  10.3.1. General Measures
  10.3.2. Special Measures
  10.3.3. Toxidrome
10.4. Ultrasound in the ICU: an Essential Tool for the Severe Patient
  10.4.1. Ultrasound imaging
  10.4.2. Clinical Ultrasound in the ICU
  10.4.3. Training in Clinical Ultrasound
10.5. Intrahospital Transport of the Critically Ill Patient
  10.5.1. General Measures
  10.5.2. Procedure
  10.5.3. Annex 1: List of Material in the Carrying Case
  10.5.4. Annex 2: Critical Patient In-Hospital Transport Checklist
10.6. Post-Intensive Care Syndrome
10.7. The Oncohematological Patient with Autoimmune Pathology in ICU
  10.7.1. Epidemiology of the Oncological Patient in ICU
  10.7.2. Admission of the Oncohematological Patient in ICU
  10.7.3. Prognosis of Oncological Patients in ICU
  10.7.4. Admission Criteria of Oncological Patients in ICU
  10.7.5. ICU Test
  10.7.6. Periodic Assessment and Transition to Palliative Treatment
  10.7.7. Patient with Autoimmune Pathology in ICU
  10.7.8. Prognosis
  10.7.9. Rheumatological Emergencies
  10.7.10. Diagnosis
10.8. The Critically Ill Patient with COVID-19 in the ICU
10.9. Abdominal CT in the Critically Ill Patient
10.10. Thoracic CT in the Critically Ill Patient

This program will give you the ability to study on numerous didactic supports such as video or evaluative tests, in order to provide you with optimized learning"

07

Clinical Internship

After passing the online theoretical period, the program includes an Internship Program in a reference clinical center. The student will have at their disposal the support of a tutor who will accompany them during the whole process, both in the preparation and in the development of the clinical practice.

Do your clinical internship in one of the best hospital centers, surrounded by professionals committed to keep you updated"

The Internship Program's Internship Program consists of a practical stay in a prestigious clinical center, lasting 3 weeks, from Monday to Friday with 8 consecutive hours of work with an associate specialist. This stay will allow you to see real patients alongside a team of reference professionals in the intensive care unit, applying the most innovative diagnostic procedures and planning the latest generation of treatments for each pathology.

In this completely practical Internship Program, the activities are aimed at developing and perfecting the skills necessary to provide healthcare care in areas and conditions that require highly qualified professionals, and are oriented towards specific expertise for practicing the activity, in a safe environment for the patient and with highly professional performance.

It is undoubtedly an opportunity to learn by working in the innovative hospital of the future where real-time health monitoring of patients is at the heart of the digital culture of its professionals. This is a new way of understanding and integrating health processes, making it the ideal teaching scenario for this innovative experience in the improvement of professional medical competencies for the 21st century.

The practical teaching will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of the professors and other fellow trainees that facilitate teamwork and multidisciplinary integration as transversal competencies for medicine Analysis Intensive Care Medicine(learning to be and learning to relate).

The procedures described below will be the basis of the practical part of the training, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:

Receive specialized education in an institution that can offer you all these possibilities, with an innovative academic program and a human team that will help you develop your full potential"

Module	Practical Activity
Approach to cardiovascular disorders and updated techniques of respiratory management and cardiopulmonary resuscitation in intensive care medicine	Measure CVP and perform hemodynamic monitoring and interpretation of the resting digital electrocardiogram
	To manage, according to the latest clinical advances, Acute Coronary Syndrome
	Address the different types of shock in the area of Intensive Care Medicine
	Indicate and administer new vasoactive and antiarrhythmic drugs
	Managing postreanimation syndrome
	Addressing postresuscitation neurological damage after cardiovascular resuscitation
	Apply updated methods of invasive mechanical ventilation, using the latest ventilators and their new modalities and ventilatory parameters
	Perform respiratory monitoring of the patient by electrical impedance tomography
Neurological management procedures in the critically ill patient and approach to infectious pathology	Undertake advanced monitoring tasks in the neurocritical patient, using tools such as transcranial Doppler, imaging tests (CT and MRI) and continuous BIS and EEG
	Perform sedation, analgesia and relaxation according to the latest scientific advances in this area
	Approach stroke by using the most updated protocols of the Stroke Code
	To manage, according to the latest clinical postulates, intraparenchymal hemorrhage
	Apply the Sepsis Code, using specific biomarkers in patients with this condition
Techniques and indications in nutrition and metabolism, and renal and digestive management of the critically ill patient	Apply probes in the digestive bleeding of the critically ill patient
	Manage acute pancreatitis, acute liver failure and acute and chronic hepatic encephalopathy in the critically ill patient
	Measure intra-abdominal pressure in the critically ill patient
	Assess and apply artificial nutrition to the patient susceptible to receive it in the ICU
	Addressing diabetic ketoacidosis and hyperosmolar states in the critically ill patient
	Apply continuous extra-renal depuration techniques in the ICU
Management of trauma and organ donation and transplantation in Intensive Care Medicine	Apply the latest ATLS protocols
	ICP monitoring in the critically ill trauma patient
	Manage thoracic, abdominal and cranial trauma in the critically ill patient
	Specific approach to the polytraumatized patient
	Diagnosing brain death using the portable minigammacamera
	Manage organ donation and manage, according to updated procedures, the donor

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this educational entity undertakes to take out civil liability insurance to cover any eventuality that may arise during the stay at the internship center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. In this way, the professional will not have to worry in case he/she has to face an unexpected situation and will be covered until the end of the practical program at the center.

General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

08

Where Can I Do the Clinical Internship?

To ensure that the updating process is the best possible, TECH proposes the realization of this on-site stay in a prestigious center that can provide the physician with the latest advances in the field of Intensive Care Medicine. This phase, alongside the best professionals, will provide the professional with the latest practical knowledge that will be useful in their day-to-day work.

Put everything you have learned into practice by attending a program at a prestigious center"

The student will be able to take the practical part of this Hybrid Professional Master's Degree in the following centers:

Hospital HM Modelo

Country: Spain
City: La Coruña

Address: Rúa Virrey Osorio, 30, 15011, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

Hospital Maternidad HM Belén

Country: Spain
City: La Coruña

Address: R. Filantropía, 3, 15011, A Coruña

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Update in Assisted Reproduction
- Hospitals and Health Services Management

Hospital HM Nou Delfos

Country: Spain
City: Barcelona

Address: Avinguda de Vallcarca, 151, 08023 Barcelona

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Aesthetic Medicine
- Clinical Nutrition in Medicine

Hospital HM Madrid

Country: Spain
City: Madrid

Address: Pl. del Conde del Valle de Súchil, 16, 28015, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Palliative Care
- Anaesthesiology and Resuscitation

Hospital HM Montepríncipe

Country: Spain
City: Madrid

Address: Av. de Montepríncipe, 25, 28660, Boadilla del Monte, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Palliative Care
- Aesthetic Medicine

Hospital HM Torrelodones

Country: Spain
City: Madrid

Address: Av. Castillo Olivares, s/n, 28250, Torrelodones, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

Hospital HM Sanchinarro

Country: Spain
City: Madrid

Address: Calle de Oña, 10, 28050, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Anaesthesiology and Resuscitation
- Palliative Care

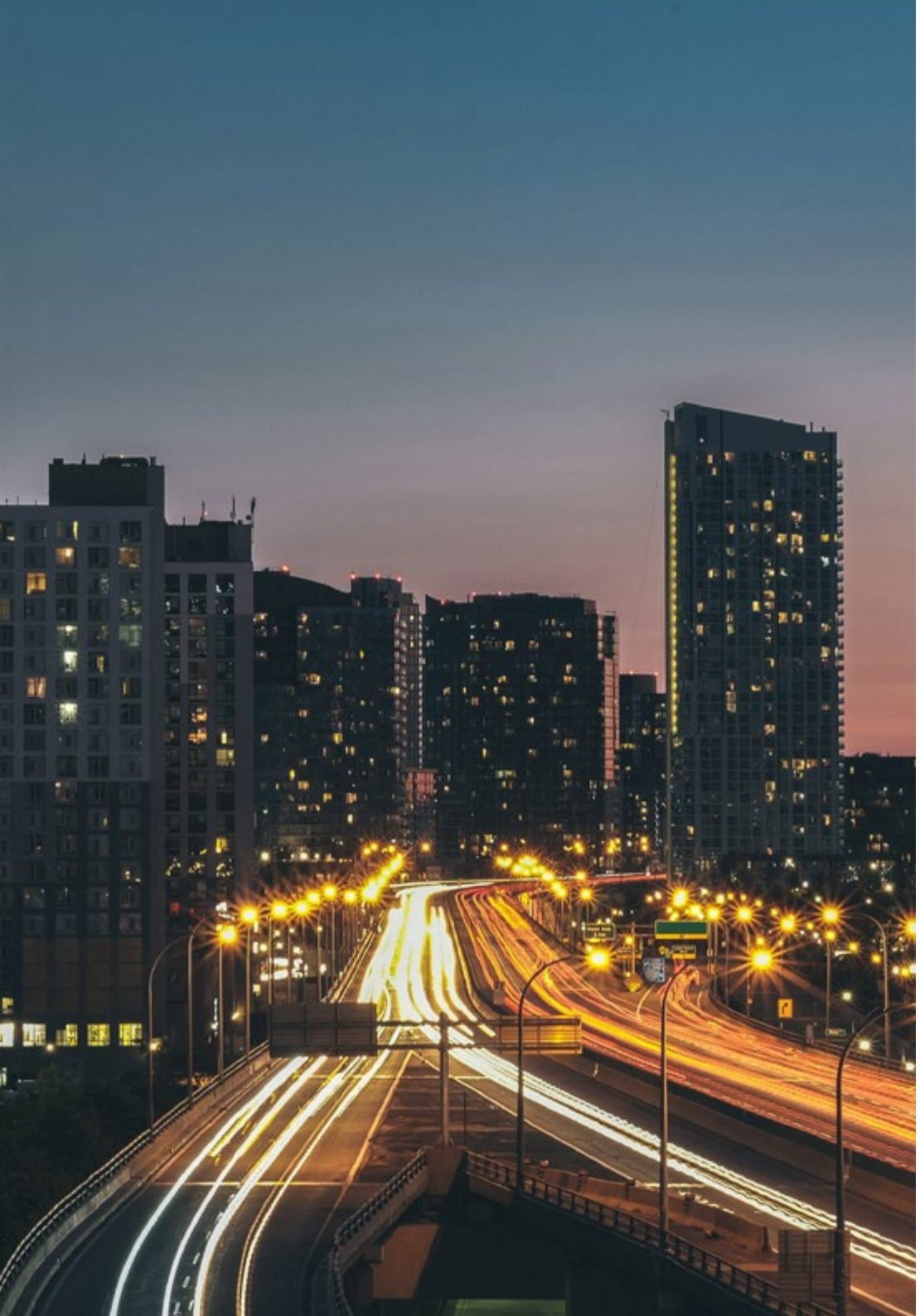
Hospital HM Puerta del Sur

Country: Spain
City: Madrid

Address: Av. Carlos V, 70, 28938, Móstoles, Madrid

Network of private clinics, hospitals and specialized centers distributed throughout Spain.

Related internship programs:
- Palliative Care
- Clinical Ophthalmology



Sanatorio Galeno

Country: Argentina
City: Tucumán

Address: Av. Manuel Belgrano 2970, San Miguel de Tucumán

General medical clinic offering outpatient care, hospitalization and surgery

Related internship programs:
Update in Anesthesiology and Resuscitation
- Update in Intensive Care Medicine

Sanatorio Central

Country: Argentina
City: Tucumán

Address: Av. Mitre 268, T4000 San Miguel de Tucumán, Tucumán

Sanatorium of General Medicine, hospitalization, diagnosis and treatment

Related internship programs:
- Advanced Operating Room Nursing
Pediatric Nursing

Grupo Gamma

Country: Argentina
City: Santa Fe

Address: Entre Ríos 330, Rosario, Santa Fe

Polyclinic specialized in various medical specialties

Related internship programs:
Update in Anesthesiology and Resuscitation
- Gynecologic Oncology

Hospital Italiano La Plata

Country: Argentina
City: Buenos Aires

Address: Av. 51 Nº 1725 e/ 29 y 30 La Plata, Buenos Aires

Non-profit Community Center of specialized clinical care

Related internship programs:
- Advanced Emergency Medicine
- Gynecologic Oncology

09

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.

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. 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:

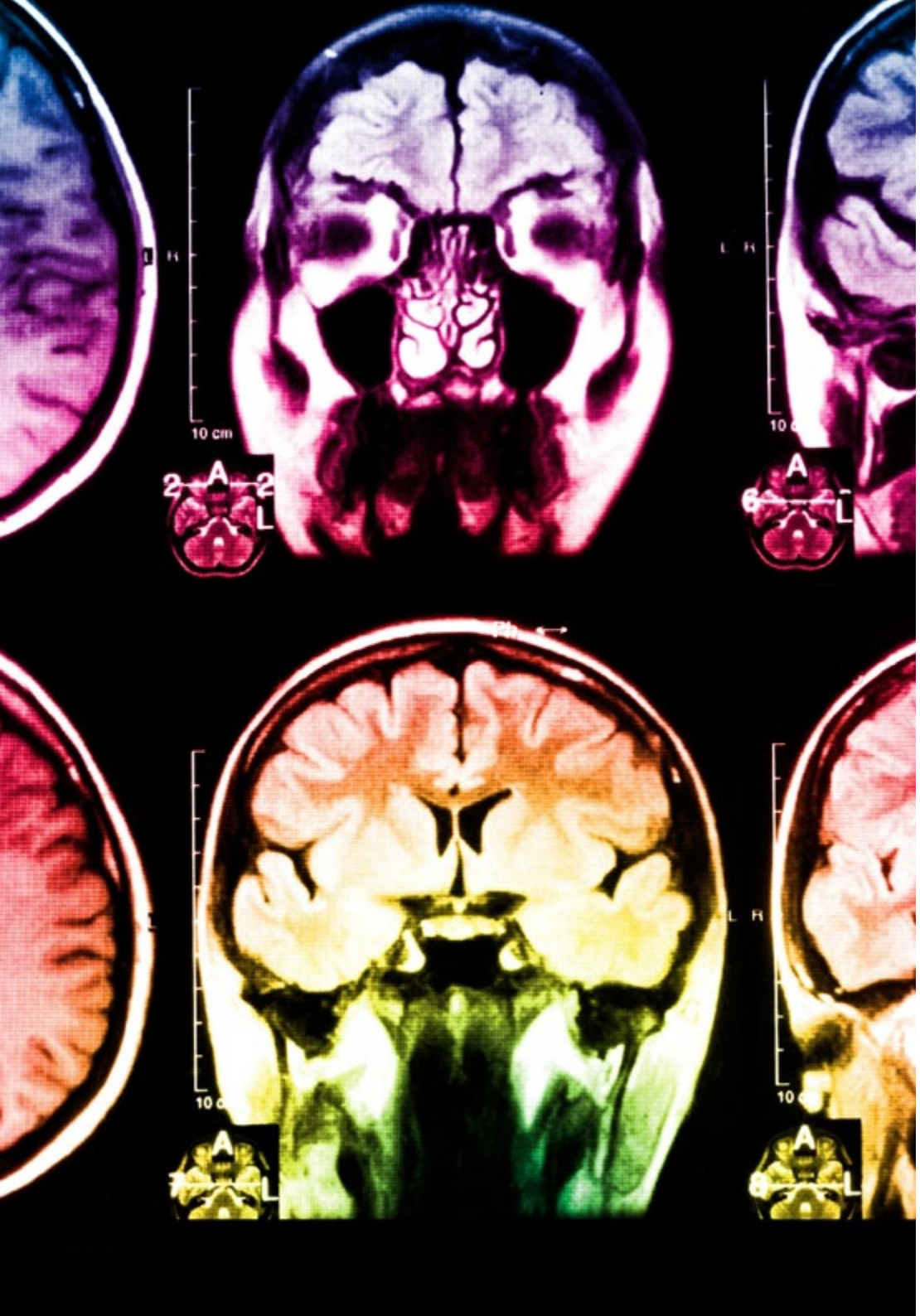
1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better 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.

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.

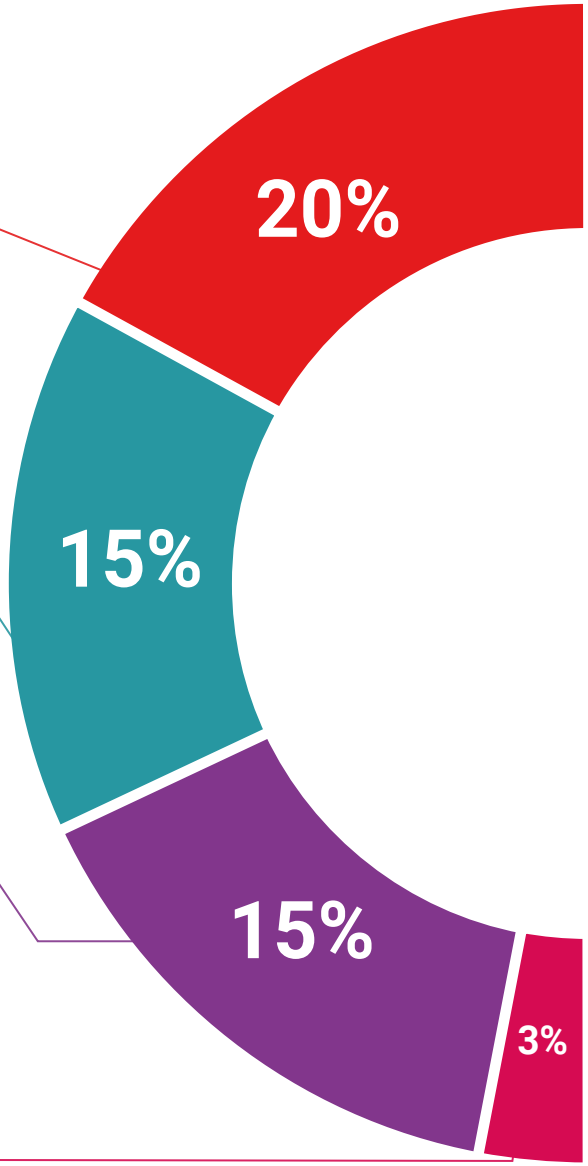
Interactive Summaries

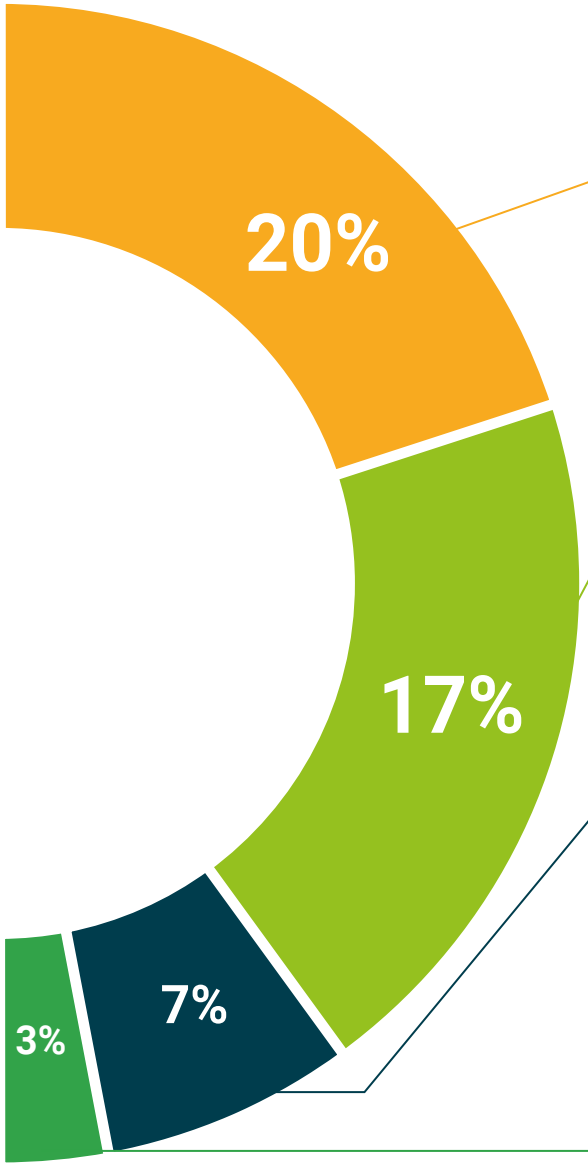
The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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.

10

Certificate

The Hybrid Professional Master's Degree in Update in Intensive Care Medicine guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional Master's Degree issued by TECH Global University.

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

This program will allow you to obtain your **Hybrid Professional Master's Degree diploma in Update in Intensive Care Medicine** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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

Title: **Hybrid Professional Master's Degree in Update in Intensive Care Medicine**

Course Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Global University**

Recognition: **60 + 5 ECTS Credits**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Hybrid Professional Master's Degree in Update in Intensive Care Medicine

This is a program of 1,620 hours of duration equivalent to 65 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates


Hybrid Professional Master's Degree in Update in Intensive Care Medicine

Subject type	ECTS
Compulsory (CO)	60
Optional (OP)	0
External Work Placement (WP)	5
Master's Degree Thesis (MDT)	0
Total	65

General Structure of the Syllabus

Year	Subject	ECTS	Type
1	Management in the Intensive Care Unit	6	CO
1	Cardiovascular Disorders in the Patient	6	CO
1	Update on cardiopulmonary resuscitation (CPR) in intensive care medicine and management of the critically ill respiratory patient	6	CO
1	Infectious Pathology in Intensive Care Medicine	6	CO
1	Neurologic Management of the Critically Ill Patient	6	CO
1	Trauma in Intensive Care Medicine	6	CO
1	Digestive Critical Care, Nutrition and Metabolism in Critically Ill Patients	6	CO
1	Renal Management of the Critically Ill Patient and Organ Donation and Transplantation in Intensive Care Medicine	6	CO
1	Water, Electrolyte and Acid-Base Balance Disorders	6	CO
1	Other Pathologies of Interest in the Critically Ill Patient	6	CO

Dr. Pedro Navarro Illana
Rector

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

tech global university

Hybrid Professional Master's Degree

Update in Intensive Care Medicine

Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

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Hybrid Professional Master's Degree

Update in Intensive Care Medicine

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