

# Internship Program

## Clinical Ultrasound for Emergencies and Critical Care





**tech** *global*  
*university*

**Internship Program**  
Clinical Ultrasound for Emergencies  
and Critical Care

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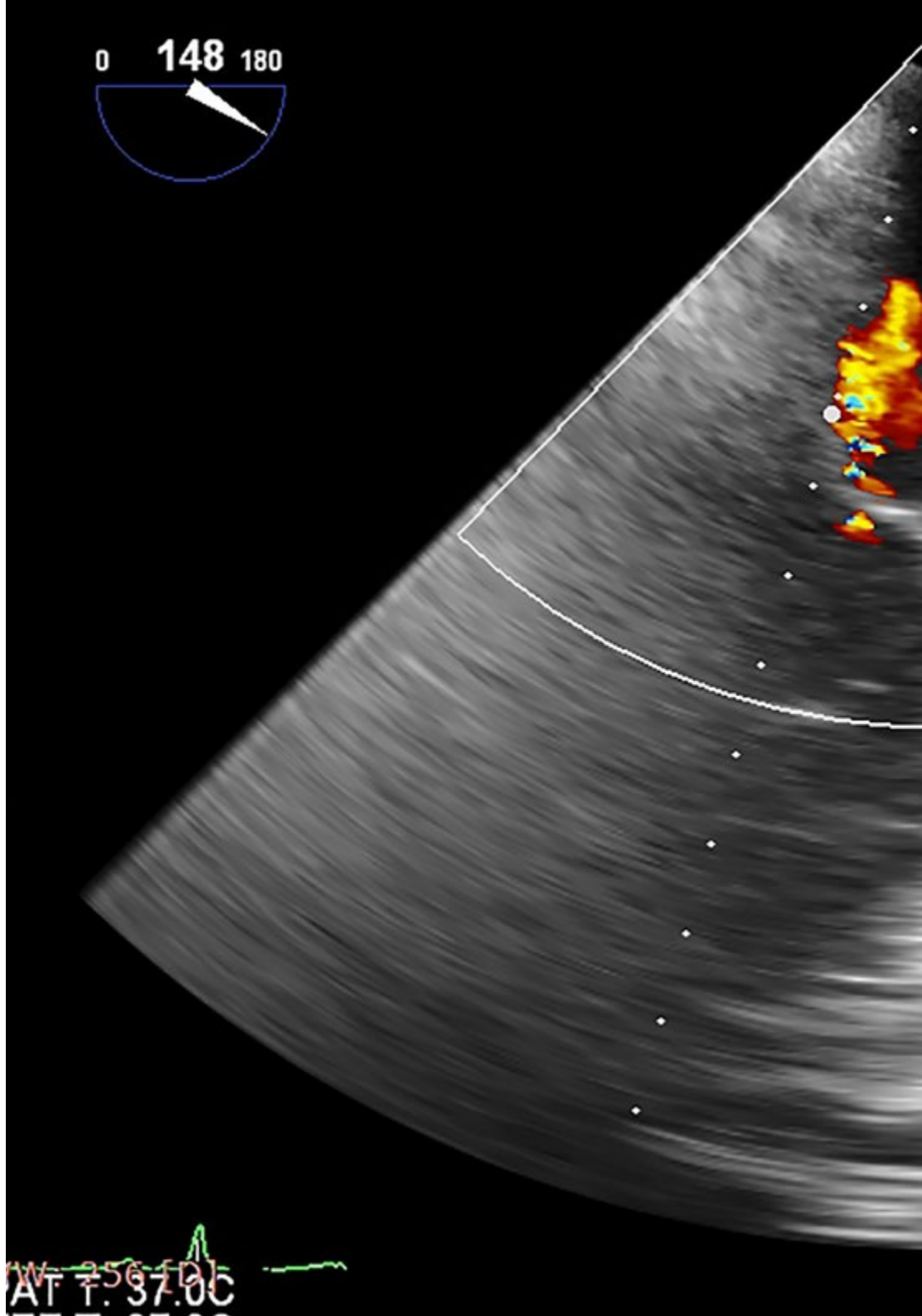
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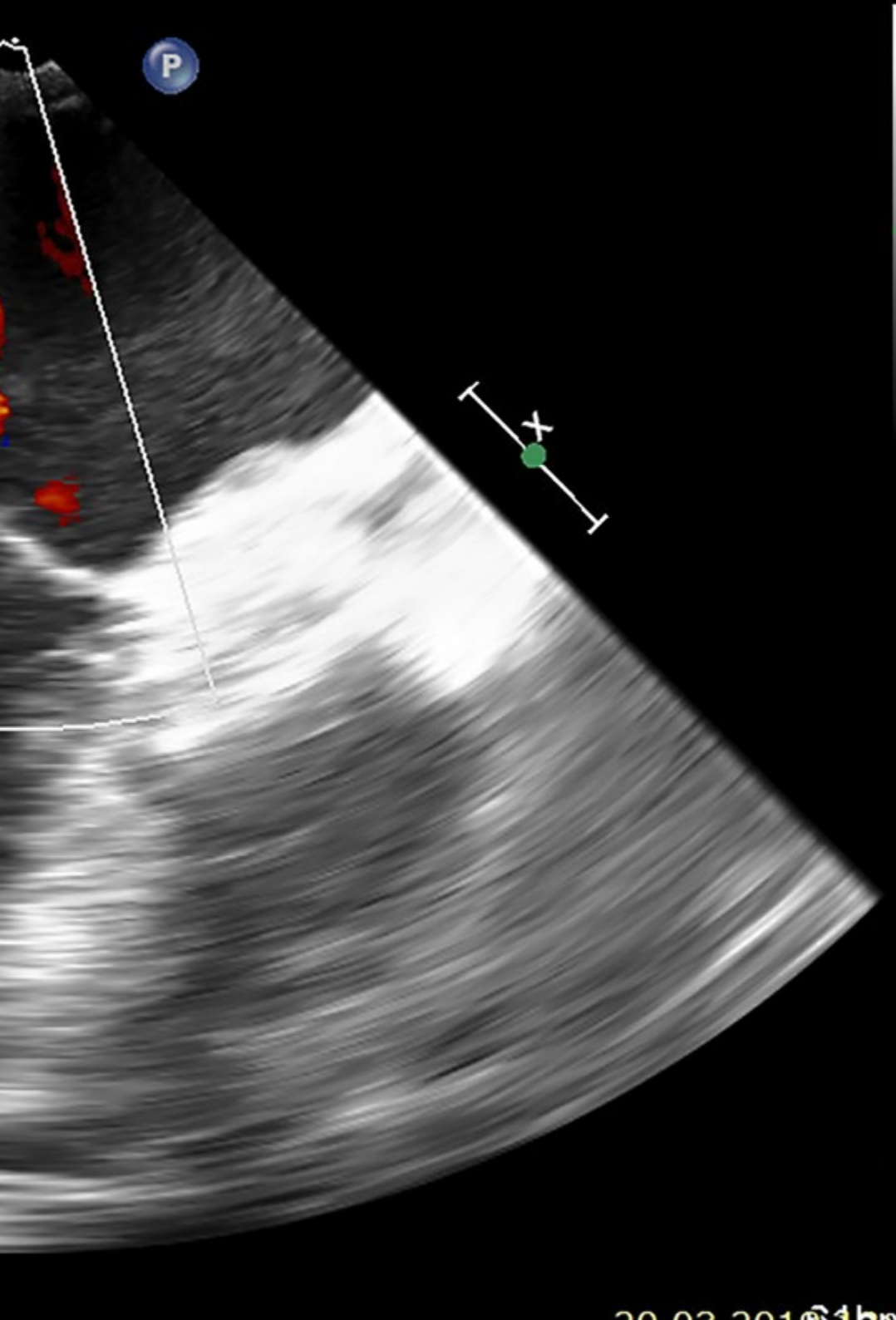
# 01 Introduction

Ultrasound is an indispensable part of the daily life of health professionals, this tool allows quick and accurate answers to simple or dichotomous clinical questions. This image-assisted technique facilitates the work of healthcare personnel, especially in emergencies and critical care, to ensure that the best decisions are made. For this reason, it is essential in the physician's clinical practice and must be based on the latest scientific evidence and the most up-to-date technological advances. That is why TECH, at the forefront of higher education, has developed this 100% practical program that will allow the professional to get up to date with all the latest developments in Emergency and Critical Care Ultrasound.

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*TECH offers you an effective method of 100% practical updating in specialized international clinical centers, which you can choose according to your interests and needs”*





Among the many advantages of clinical ultrasound is that it uses high-frequency sound waves to provide a high-resolution image of the area to be treated, and radiation exposure is avoided. Its portability, accuracy, real-time visualization, reproducibility and efficiency make it a versatile and indispensable tool in the emergency and critical care area. However, its application can be extended to all diagnostic and patient care areas such as emergency rooms, operating rooms, resuscitation, hospitalization or consultation rooms, as well as outpatient departments.

It is therefore essential for the medical professional to acquire the necessary skills for the correct handling of the ultrasound scanner in the different healthcare settings. Undoubtedly, it has become an indispensable tool, since it allows the detection and diagnosis of different diseases and, consequently, gives the possibility of developing an adequate treatment according to the patient's situation and characteristics.

TECH, with the idea of presenting a 100% practical program, has arranged the most complete itinerary of activities for the specialist to carry out together with a state-of-the-art medical team, in a hospital center inside or outside the national territory. Thus, for 3 weeks you will work in a hospital setting with state-of-the-art resources. You will be treated by the best specialists for patients with serious, complex and varied pathologies, using the latest techniques based on scientific evidence and achieving results that would have been difficult to achieve in the past.

# 02

## Why Study an Internship Program?

In order to adequately apply the knowledge acquired during the career or previous studies on Clinical Ultrasound and improve your problem solving skills in new or unfamiliar environments within multidisciplinary contexts related to the area, this 100% practical program will allow you to integrate new methods and meet the requirements to apply the technique in each of the cases. Therefore, through 120 hours of intensive daily work from Monday to Friday, he will complete the most advanced tasks. Together with an assigned tutor, the experience will run smoothly. The company's products and services are clearly and unambiguously communicated to both specialized and non-specialized audiences.



*Thanks to this TECH Internship Program you will enter into real and highly demanding clinical environments, deepening in the latest advances in Clinical Ultrasound and Critical Care"*

### 1. Updating from the latest technology available

Ultrasound is a safe imaging technique for the patient since it does not produce any cellular changes, since ultrasound is used. Its increasingly advanced technology makes it possible to visualize the acquired image in real time, facilitating the examination of the area to be studied together with the patient. Therefore, with this program the specialist will have access to an environment equipped with state-of-the-art equipment, in order to be able to apply his knowledge in a specific way.

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

By taking this program, the professional will be in contact with the most specialized human team in the health area. You will also have a designated tutor who will show you the entire process and provide you with the necessary support. Thus, you will see and care for real patients in a complex Emergency and Critical Care setting, incorporating the most effective procedures and approaches into your daily practice.

### 3. Entering First-Class Clinical Environments

In order to provide the specialist with the most specialized resources for the study and implementation of knowledge in Clinical Ultrasound, TECH has exhaustively selected the centers available for these Practical Trainings. This guarantees access to a prestigious clinical environment where you will be able to experience 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. Putting the acquired knowledge into daily practice from the very first moment**

This innovative program, updated according to the latest scientific evidence on advances in Clinical Ultrasound for Emergencies and Critical Care, offers the professional a 100% practical academic space, which will allow him/her to be in charge of procedures with state-of-the-art equipment, taking it to the professional practice throughout 3 weeks.

#### **5. Expanding the Boundaries of Knowledge**

Thanks to TECH's vision of training professionals regardless of geographic boundaries, it continues to innovate with this cutting-edge, 100% hands-on program. To this end, it has established agreements with hospitals in different parts of the world where the specialist will be able to expand his or her frontiers and catch up with the best experts practicing in prestigious clinical environments.

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

# 03

## Objectives

In order for the professional to update diagnostic procedures in emergency and critical patients through ultrasound, TECH has developed this 100% practical program. During your intensive internship you will be able to complete a series of activities determined according to the highest scientific, clinical and current academic rigour. You will always be accompanied by professional experts who work in the clinical centre of reference.



### General Objectives

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- Master the latest techniques, modern scientific postulates and the application of state-of-the-art technologies in the technique of Clinical Ultrasound for Emergencies and Critical Care
- Incorporate the methods and ultrasound approach to major syndromes into daily work, effectively, backed by a team of prestigious experts in the area of emergencies and critical care
- Develop ultrasound-guided procedures for emergency and critical care patients



*This academic itinerary is exclusive to TECH and you will be able to develop it at your own pace thanks to its 100% online Relearning methodology”*







## Specific Objectives

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- ♦ Interact with new and modern ultrasound techniques
- ♦ Identify the requirements in clinical cardiac ultrasound
- ♦ Diagnose different structural alterations to be identified in cardiac ultrasound and principles of haemodynamic ultrasound
- ♦ Delve into the management of technical requirements in thoracic ultrasound
- ♦ Apply the principles of ultrasound of the chest wall, pleura, mediastinum, lung and diaphragm
- ♦ Use vascular ultrasound examination techniques by applying the principles of ultrasound of the thoracoabdominal great vessels, the supra-aortic trunks, and the peripheral arterial circulation
- ♦ Manage the different ultrasound modalities in cerebral and ocular ultrasound
- ♦ Identify different structural and haemodynamic alterations in cerebral ultrasound
- ♦ Establish the principles of ultrasound of the digestive and genitourinary system
- ♦ Utilize the Eco-FAST methodology
- ♦ Define the technical requirements in musculo-skeletal ultrasound applied to the most frequent acute injuries of the locomotor system
- ♦ Delve into the application of ultrasound in cardiac arrest, shock and respiratory failure
- ♦ Cover the application of ultrasound in sepsis, abdominal pain, trauma and stroke
- ♦ Employ the use of vascular cannulation and thoracocentesis techniques using ultrasound
- ♦ Discuss techniques of intubation, pericardiocentesis, drainage, catheterisation and ultrasound-guided lumbar puncture
- ♦ Apply the pediatric ultrasound examination technique in the major pediatric syndromes

# 04

## Educational Plan

The Internship Program consists of a 3-week practical stay, from Monday to Friday, with 8 consecutive hours of practical training with an assistant specialist. This stay will allow you to deal with real patients alongside a team of reference professionals in the area of ultrasound and critical care, applying the most innovative diagnostic procedures with ultrasound and planning the latest generation therapy in 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 in an ideal teaching scenario for this innovative experience in the improvement of professional medical competencies in the 21st century.

The face-to-face stay in the hospital will allow the professional to complete a minimum number of clinical practice activities in the emergency and intensive care department, as well as in relation to other areas of the center, such as hospitalization, diagnostic imaging, which will allow him/her to put into practice diagnostic and therapeutic procedures.

The practical teaching will be carried out with the active participation of students performing the activities and procedures of each area of competence (learning to learn and learning to do), accompanied and guided by professors and other fellow trainees, which will facilitate teamwork and multidisciplinary integration as transversal competences for the praxis of Clinical Analysis Care Medicine Medicine (learning to be and learning to relate).

The procedures described below will form the basis of the practical part of the training, and their completion is subject to both the suitability of the patients and the availability of the center and its workload, with the proposed activities being as follows:



*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
<b>Thoracic and abdominal clinical ultrasound</b>	Use the latest techniques in ultrasound of the chest wall, pleura and mediastinum
	Participate in training in pulmonary and diaphragmatic ultrasound techniques
	Apply the techniques of abdominal ultrasound and Eco-FAST technique
	Participate in ultrasound training of the digestive and genitourinary system
	Use ultrasound techniques for the diagnosis of pathologies of the digestive and genitourinary system
<b>Clinical cardiac ultrasound</b>	Visualizing Cardiac Windows with New Echocardiography Technologies
	Participate in the care and management of patients with structural cardiac alterations
	Identify cardiac structural alterations with conventional cardiac ultrasound equipment
	Diagnose cardiovascular conditions through Transesophageal Echocardiography
	Use color Doppler echocardiography with all its variants (transthoracic, transesophageal, contrast-enhanced, stress and strain) in hemodynamic conditions
<b>Ultrasonographic Approach to the Major Syndromes.</b>	Use the latest ultrasound techniques in cardiac arrest, shock and respiratory failure
	Participate in training sessions on the application of ultrasound in sepsis, trauma and stroke
	Using Ultrasound in the diagnosis of abdominal pain
	Apply ultrasound-guided intubation techniques
	Perform vascular cannulation by ultrasound
	Perform thoracentesis and pericardiocentesis by ultrasound
	Use of ultrasound in the performance of drainage and probing

Module	Practical Activity
<b>Clinical Vascular Ultrasound</b>	Participate in training in vascular ultrasound examination techniques
	Apply examination techniques in vascular ultrasound
	Practice in ultrasound of the great thoracic and abdominal vessels
	Participate in training and use of ultrasound of the supra-aortic trunks
	Apply the principles of peripheral arterial circulation ultrasound
<b>Clinical Cerebral Ultrasound</b>	Participate in training sessions on localization and visualization of ultrasound windows in brain ultrasound
	Use the different ultrasound modalities in brain ultrasound
	Apply the examination technique in brain ultrasound
	Participate in the identification of different structural and hemodynamic alterations to be identified in brain ultrasound
	Apply ocular ultrasound techniques



*Register now and make practical progress in your field of work"*

# 05 Where Can I Do the Internship Program?

In its maxim of offering quality education within the reach of the majority of people, TECH has decided to broaden the academic horizons so that this training can be given in different centers around the national and international geography. A unique opportunity that allows the professional to continue to grow his or her career alongside the best specialists in the sector in various reference clinics.



*TECH puts at your disposal the most specialized clinical centers for you to implement the advanced techniques of Clinical Ultrasound for adult and pediatric patients"*





The student will be able to do this program at the following centers:



Medicine

### Hospital HM Modelo

Country City  
Spain 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



Medicine

### Hospital Maternidad HM Belén

Country City  
Spain 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



Medicine

### Hospital HM San Francisco

Country City  
Spain León

Address: C. Marqueses de San Isidro, 11, 24004, León

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

**Related internship programs:**

- Update in Anesthesiology and Resuscitation
- Trauma Nursing



Medicine

### Hospital HM Regla

Country City  
Spain León

Address: Calle Cardenal Landázuri, 2, 24003, León

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

**Related internship programs:**

- Update on Psychiatric Treatment in Minor Patients



Medicine

### Hospital HM Nou Delfos

Country City  
Spain 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



Medicine

### Hospital HM Madrid

Country City  
Spain 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



Medicine

### Hospital HM Montepíncipe

Country City  
Spain Madrid

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

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

**Related internship programs:**

- Palliative Care
- Aesthetic Medicine



Medicine

### Hospital HM Torrelodones

Country City  
Spain 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



Medicine

### 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



Medicine

### Hospital HM Puerta del Sur

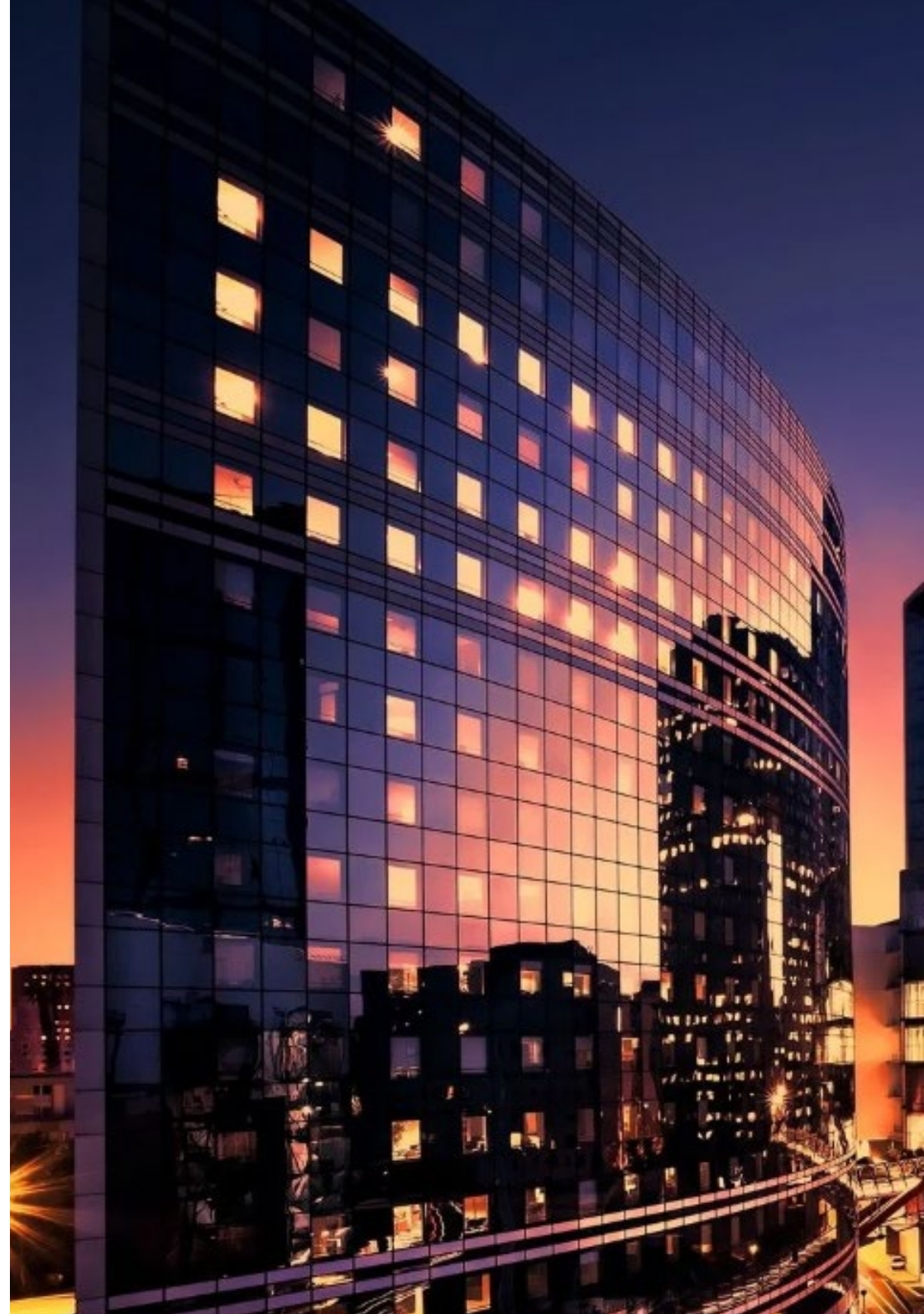
Country: Spain      City: Madrid

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





### Hospital HM Vallés

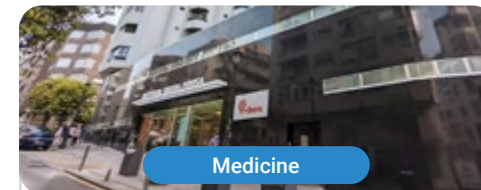
Country City  
Spain Madrid

Address: Calle Santiago, 14, 28801, Alcalá de Henares, Madrid

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

**Related internship programs:**

- Gynecologic Oncology
- Clinical Ophthalmology



### Hospital Ribera Povisa

Country City  
Spain Pontevedra

Address: Rúa de Salamanca, 5, 36211 Vigo, Pontevedra

Hospital Ribera Povisa is part of the Ribera Group's network of healthcare centers, with more than 20 years of experience.

**Related internship programs:**

- Emergency Clinical Sonography and Intensive Care

# 06

## General Conditions

### 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 entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.





## General Conditions of the Internship Program

The general terms and conditions of the internship program agreement shall be as follows:

**1. TUTOR:** During the Internship Program, 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 Internship Program, 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 Internship Program will receive a certificate accrediting their stay at the center.

**5. EMPLOYMENT RELATIONSHIP:** The Internship Program shall not constitute an employment relationship of any kind.

**6. PRIOR EDUCATION:** Some centers may require a certificate of prior education for the Internship Program. 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 Internship Program 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.

# 07 Certificate

This program will allow you to obtain your **Internship Program diploma in Clinical Ultrasound for Emergencies and Critical Care** 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: **Internship Program in Clinical Ultrasound for Emergencies and Critical Care**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**

Accreditation: **5 ECTS**





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