

# Postgraduate Certificate

## Biomedical Imaging Techniques and Intervention in E-Health





## Postgraduate Certificate Biomedical Imaging Techniques and Intervention in E-Health

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online
- » Target Group: University Graduates who have previously completed any of the degrees in the fields of Social and Legal Sciences, Administrative and Business Sciences.

Website: [www.techtute.com/us/school-of-business/postgraduate-certificate/biomedical-imaging-techniques-intervention-e-health](http://www.techtute.com/us/school-of-business/postgraduate-certificate/biomedical-imaging-techniques-intervention-e-health)

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# 01 Welcome

The advances that have occurred in the last decade in relation to clinical intervention techniques and strategies through imaging such as ultrasound, magnetic resonance or computed tomography, have allowed specialists to work more effectively with their patients, creating an important business opportunity for entities around the world focused on the area of Biomedicine. For this reason, and with the aim of providing the graduate with detailed knowledge of the latest developments related to this field, TECH has developed this program. It is a 100% online program with which they will work on perfecting their managerial skills while increasing their knowledge in a guaranteed way. It is, therefore, a unique opportunity to give their career the boost they need to achieve their most ambitious goals and become a leader in demand.



Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health.  
TECH Technological University



“

*You have a safe and comfortable academic bet for the future, adapted to the labor and business demand of the Biomedicine sector. Are you ready to take a significant step forward in your career?”*

02

# Why Study at TECH?

TECH is the world's largest 100% online business school. It is an elite business school, with a model based on the highest academic standards. A world-class center for intensive managerial skills education.



“

*TECH is a university at the forefront of technology, and puts all its resources at the student's disposal to help them achieve entrepreneurial success"*

## At TECH Technological University



### Innovation

The university offers an online learning model that balances the latest educational technology with the most rigorous teaching methods. A unique method with the highest international recognition that will provide students with the keys to develop in a rapidly-evolving world, where innovation must be every entrepreneur's focus.

"*Microsoft Europe Success Story*", for integrating the innovative, interactive multi-video system.



### The Highest Standards

Admissions criteria at TECH are not economic. Students don't need to make a large investment to study at this university. However, in order to obtain a qualification from TECH, the student's intelligence and ability will be tested to their limits. The institution's academic standards are exceptionally high...

**95%** | of TECH students successfully complete their studies



### Networking

Professionals from countries all over the world attend TECH, allowing students to establish a large network of contacts that may prove useful to them in the future.

**+100000**

executives prepared each year

**+200**

different nationalities



### Empowerment

Students will grow hand in hand with the best companies and highly regarded and influential professionals. TECH has developed strategic partnerships and a valuable network of contacts with major economic players in 7 continents.

**+500**

collaborative agreements with leading companies



### Talent

This program is a unique initiative to allow students to showcase their talent in the business world. An opportunity that will allow them to voice their concerns and share their business vision.

After completing this program, TECH helps students show the world their talent.



### Multicultural Context

While studying at TECH, students will enjoy a unique experience. Study in a multicultural context. In a program with a global vision, through which students can learn about the operating methods in different parts of the world, and gather the latest information that best adapts to their business idea.

TECH students represent more than 200 different nationalities.





TECH strives for excellence and, to this end, boasts a series of characteristics that make this university unique:



### Analysis

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TECH explores the student's critical side, their ability to question things, their problem-solving skills, as well as their interpersonal skills.



### Academic Excellence

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TECH offers students the best online learning methodology. The university combines the Relearning methodology (the most internationally recognized postgraduate learning methodology) with Harvard Business School case studies. A complex balance of traditional and state-of-the-art methods, within the most demanding academic framework.



### Economy of Scale

---

TECH is the world's largest online university. It currently boasts a portfolio of more than 10,000 university postgraduate programs. And in today's new economy, **volume + technology = a groundbreaking price**. This way, TECH ensures that studying is not as expensive for students as it would be at another university.



### Learn with the best

---

In the classroom, TECH's teaching staff discuss how they have achieved success in their companies, working in a real, lively, and dynamic context. Teachers who are fully committed to offering a quality specialization that will allow students to advance in their career and stand out in the business world.

Teachers representing 20 different nationalities.



*At TECH, you will have access to the most rigorous and up-to-date case analyses in academia"*

03

# Why Our Program?

Studying this TECH program means increasing your chances of achieving professional success in senior business management.

It is a challenge that demands effort and dedication, but it opens the door to a promising future. You will learn from the best teaching staff and with the most flexible and innovative educational methodology.



“

*We have highly qualified teachers and the most complete syllabus on the market, which allows us to offer you education of the highest academic level”*

This program will provide you with a multitude of professional and personal advantages, among which we highlight the following:

**01**

### A Strong Boost to Your Career

---

By studying at TECH, students will be able to take control of their future and develop their full potential. By completing this program, students will acquire the skills required to make a positive change in their career in a short period of time.

*70% of students achieve positive career development in less than 2 years.*

**02**

### Develop a strategic and global vision of the company

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TECH offers an in-depth overview of general management to understand how each decision affects each of the company's different functional fields.

*Our global vision of companies will improve your strategic vision.*

**03**

### Consolidate the student's senior management skills

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Studying at TECH means opening the doors to a wide range of professional opportunities for students to position themselves as senior executives, with a broad vision of the international environment.

*You will work on more than 100 real senior management cases.*

**04**

### You will take on new responsibilities

---

The program will cover the latest trends, advances and strategies, so that students can carry out their professional work in a changing environment.

*45% of graduates are promoted internally.*

05

### Access to a powerful network of contacts

TECH connects its students to maximize opportunities. Students with the same concerns and desire to grow. Therefore, partnerships, customers or suppliers can be shared.

*You will find a network of contacts that will be instrumental for professional development.*

06

### Thoroughly develop business projects

Students will acquire a deep strategic vision that will help them develop their own project, taking into account the different fields in companies.

*20% of our students develop their own business idea.*

07

### Improve soft skills and management skills

TECH helps students apply and develop the knowledge they have acquired, while improving their interpersonal skills in order to become leaders who make a difference.

*Improve your communication and leadership skills and enhance your career.*

08

### You will be part of an exclusive community

Students will be part of a community of elite executives, large companies, renowned institutions, and qualified teachers from the most prestigious universities in the world: the TECH Technological University community.

*We give you the opportunity to study with a team of world-renowned teachers.*

# 04 Objectives

The current business competition linked to the advances that have taken place in the Biomedicine sector have led to the development of this program. For this reason, the objective of this program is to provide the graduate with the most exhaustive and up-to-date knowledge in this field, thanks to which they will not only be able to specialize, but also to perfect their professional competencies in a guaranteed way. As a result, they will be able to take control of projects of the highest caliber with the confidence and guarantee of knowing in detail the area in which they work.



“

*A program designed to enable you to achieve your professional goals through intensive work and skill enhancement, without wasting time and in a specialized manner”*

**TECH makes the goals of their students their own goals too  
Working together to achieve them**

The **Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health** enables the student to:

01

Examine the fundamentals of medical imaging technologies

04

Delve into tomography, computed and emission tomography, clinical applications and physical fundamentals

02

Develop expertise in radiology, clinical applications and physical fundamentals



03

Analyze ultrasound, clinical applications and physical fundamentals

05

Determine how to manage magnetic resonance imaging, clinical applications and physical fundamentals



06

Generate advanced knowledge of nuclear medicine, differences between PET and SPECT, clinical applications and physical fundamentals

08

Present image segmentation technologies and explain their usefulness

09

Gain a deeper understanding of the direct relationship between surgical interventions and imaging techniques

07

Discriminate noise in the image, reasons for it and image processing techniques to reduce it

10

Establish the possibilities offered by artificial intelligence in recognizing patterns in medical images, and thus deepen innovation in the field



05

# Structure and Content

TECH has developed this program taking into account, on the one hand, the recommendations of the teaching staff and the latest developments in the field of Biomedicine related to interventional techniques through imaging. In addition, it has used in its development the pedagogical strategies that are currently obtaining the best results, thanks to which the graduate will be able to access a highly educational, but innovative, dynamic and intensive program, with which they will achieve, in less than 6 weeks, to perfect their professional profile in a guaranteed way.



“

*It consists of 150 hours of theoretical, practical and additional content with which you will be able to work, among other aspects, on the latest developments in nuclear medicine and the different types of tests"*

## Syllabus

TECH has developed the syllabus of this Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health following the criteria of the teaching staff, as well as the latest guidelines related to business strategies and techniques that are currently having the best results in the Biomedical sector.

Thanks to the exhaustive way in which this program has been designed, the graduate who accesses it will be guaranteed to obtain a unique set of knowledge, as well as the improvement of their professional skills through simulated practice and based on real cases.

In this way, and after completing the 150 hours of this program, they will have managed to adapt their profile to the demands of the current labor market, being able to opt for more prestigious jobs and, therefore, to a considerable salary improvement. It is, therefore, an unparalleled academic option to achieve their most ambitious goals in less than 6 weeks and from the hand of TECH and a team of experts in the sector.

This Postgraduate Certificate in is developed over 6 weeks and is divided into 1 module:

### Module 1.

### Health Sciences Research



### Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health completely online. During the 6 weeks of the specialization, the student will be able to access all the contents of this program at any time, which will allow the students to self-manage their study time.

*A unique, key, and decisive educational experience to boost your professional development and make the definitive leap.*

**Module 1. Techniques, Recognition and Intervention using Biomedical Imaging**

**1.1. Medical Imaging**

- 1.1.1. Modalities in Medical Imaging
- 1.1.2. Objectives in Medical Imaging Systems
- 1.1.3. Medical Imaging Storage Systems

**1.2. Radiology**

- 1.2.1. Imaging Method
- 1.2.2. Radiology Interpretation
- 1.2.3. Clinical Applications

**1.3. Computed Tomography (CT)**

- 1.3.1. Principle of Operation
- 1.3.2. Image Generation and Acquisition
- 1.3.3. Computerized Tomography. Typology
- 1.3.4. Clinical Applications

**1.4. Magnetic Resonance Imaging (MRI)**

- 1.4.1. Principle of Operation
- 1.4.2. Image Generation and Acquisition
- 1.4.3. Clinical Applications

**1.5. Ultrasound: Ultrasound and Doppler Sonography**

- 1.5.1. Principle of Operation
- 1.5.2. Image Generation and Acquisition
- 1.5.3. Typology
- 1.5.4. Clinical Applications

**1.6. Nuclear medicine**

- 1.6.1. Physiological Basis in Nuclear Studies. Radiopharmaceuticals and Nuclear Medicine
- 1.6.2. Image Generation and Acquisition
- 1.6.3. Types of Tests
  - 1.6.3.1. Gammagraphy.
  - 1.6.3.2. SPECT
  - 1.6.3.3. PET:
  - 1.6.3.4. Clinical Applications

**1.7. Image-Guided Interventions**

- 1.7.1. Interventional Radiology
- 1.7.2. Interventional Radiology Objectives
- 1.7.3. Procedures
- 1.7.4. Advantages and Disadvantages.

**1.8. Image Quality**

- 1.8.1. Technique
- 1.8.2. Contrast
- 1.8.3. Resolution
- 1.8.4. Noise
- 1.8.5. Distortion and Artifacts

**1.9. Medical Imaging Tests. Biomedicine**

- 1.9.1. Creating 3D Images
- 1.9.2. Biomodels
  - 1.9.2.1. DICOM Standard
  - 1.9.2.2. Clinical Applications

**1.10. Radiological Protection**

- 1.10.1. European Legislation Applicable to Radiology Services
- 1.10.2. Safety and Action Protocols
- 1.10.3. Radiological Waste Management
- 1.10.4. Radiological Protection
- 1.10.5. Care and Characteristics of Rooms



“

*Would you like to work in image-guided interventions, as well as in the advantages and disadvantages of its techniques? Choose TECH and bet on a quality academic option 100% online”*

# 06

# 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"*

## TECH Business School uses the Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

“

*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”*



*This program prepares you to face business challenges in uncertain environments and achieve business success.*



*Our program prepares you to face new challenges in uncertain environments and achieve success in your career.*

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch to present executives with challenges and business decisions at the highest level, whether at the national or international level. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and business reality is taken into account.

“

*You will learn, through collaborative activities and real cases, how to solve complex situations in real business environments”*

The case method has been the most widely used learning system among the world's leading business schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They must integrate all their knowledge, research, argue and defend their ideas and decisions.

## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*Our online system will allow you to organize your time and learning pace, adapting it to your schedule. You will be able to access the contents from any device with an internet connection.*

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our online business school is the only one in the world licensed to incorporate this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



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.

With this methodology we have trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, markets, and financial instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



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.



### Classes

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

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



### Management Skills Exercises

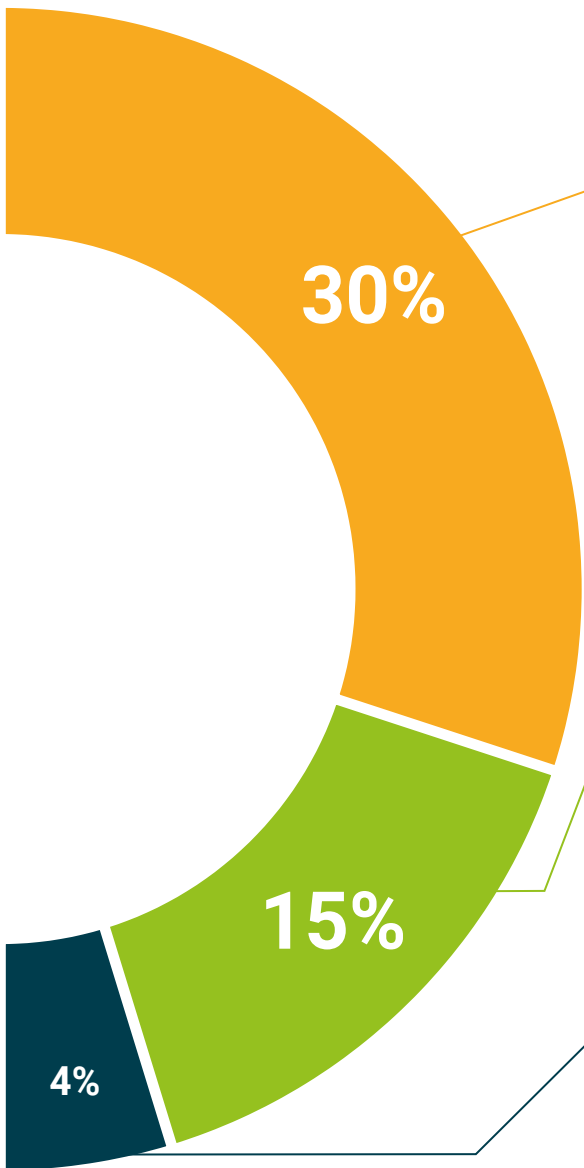
They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager needs to develop in the context of the globalization we live in.



### 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.





### Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best senior management specialists in the world.



### 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".



### 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.



07

# Our Students' Profiles

The Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health is aimed at graduates, postgraduates and university graduates who have previously completed any of the following programs in the fields of Social and Legal Sciences, Administration and Economics.

This program uses a multidisciplinary approach as the students have a diverse set of academic profiles and represent multiple nationalities.

The Postgraduate Certificate may also be taken by professionals who, being university graduates in any area, have two years of work experience in the field of the Biomedicine.







“

*One of TECH's main objectives with this Postgraduate Certificate is for you stand out for your specialized economic knowledge in organizations such as the IMF or the UN"*

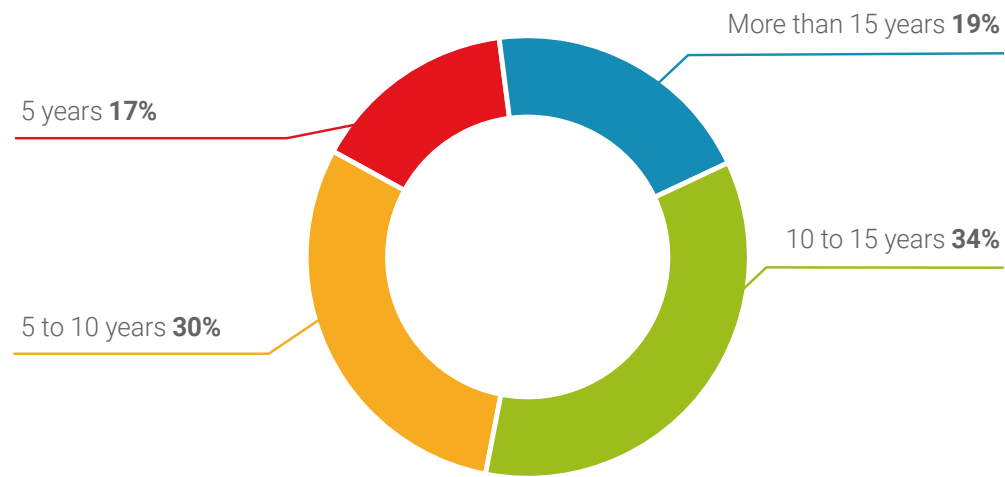
### Average Age

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Between **35** and **45** years old

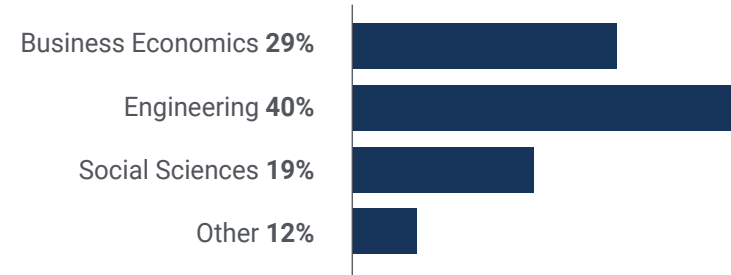
### Years of Experience

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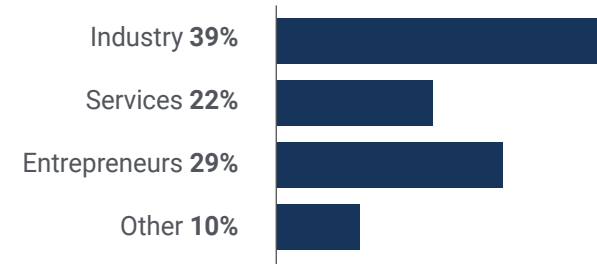
### Training

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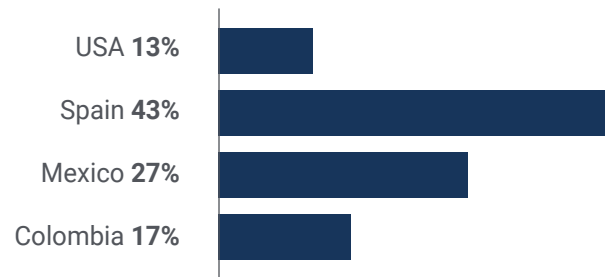
### Educational Profile

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## Geographical Distribution

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## María Pérez

Manager of a major regional biomedical company

*"In my years of experience, I had never found a program adapted so comfortably and comprehensively to my academic needs. It is a versatile and dynamic Postgraduate Certificate that not only brings you up to date with everything related to biomedical imaging and the intervention techniques currently obtaining the best results, but also provides you with the keys to perfect your leadership strategies and, therefore, obtain better results"*

08

# Course Management

For the development of the teaching staff of this Postgraduate Certificate TECH has selected a team with extensive experience in the business management sector, a group of active professionals, committed to teaching and committed to ensuring a unique academic activity, quality and based on the reality of the video game industry. This will provide the graduate with a critical and current vision. In addition, the teaching staff will be available to resolve any questions that may arise during the program and to advise students on their path to professional and business success.



“

*The teaching staff will be at your disposal to help you achieve your professional goals. You will be able to learn from their mistakes and success strategies, which will guide you on your way"*

## Management



### **Ms. Sirera Pérez, Ángela**

- ◆ Biomedical Engineer expert in Nuclear Medicine and Exoskeleton Design
- ◆ Designer of specific parts for 3D printing at Technadi
- ◆ Technician in the Nuclear Medicine area of the University Clinic of Navarra
- ◆ Degree in Biomedical Engineering from the University of Navarra
- ◆ MBA and Leadership in Healthcare and Medical Technology Companies



08

# Impact on Your Career

Based on the exhaustive nature with which this program has been designed, TECH guarantees with its Postgraduate Certificate the acquisition of a unique and specialized knowledge on the most innovative and effective techniques in biomedical intervention through imaging. This will allow the graduate to enhance their professional skills and improve their managerial competencies, becoming a leader prepared to face great business challenges with guaranteed success.







“

*Computed tomography, magnetic resonance imaging, ultrasound... You will be able to delve in an exhaustive way in each of the techniques and their latest developments"*

*Are you looking for a significant increase in your salary and don't know how to achieve it? Thanks to the degree of specialization that you will obtain with this Postgraduate Certificate, you will increase your chances of achieving it.*

**Are you ready to take the leap?  
Excellent professional development awaits you.**

TECH's Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health is an intensive program that prepares you to face challenges and business decisions in the environment of the organization you are part of. The main objective is to promote your personal and professional growth. Helping you achieve success.

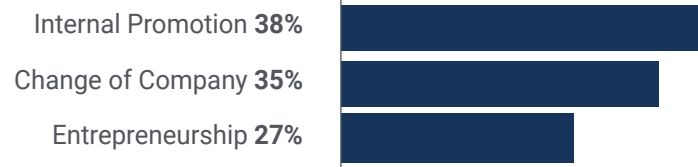
If you want to improve, make a positive change at a professional level and network with the best, then this is the place for you.

*A program that will help you, both to promote internally in the company you are part of, as well as to apply for more prestigious positions in large entities in the area of Biomedicine.*

### Time of Change



### Type of change



### Salary increase

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This program represents a salary increase of more than **28%** for our students.



09

# Benefits for Your Company

TECH designs each of its programs so that the graduates who access it obtain, with total guarantee, a series of knowledge that will allow them to develop the skills of a leader in the area. For this reason, the course of this program is, without a doubt, a unique academic option to implement the most avant-garde and effective business strategies and techniques in the Biomedicine sector, guaranteeing an exponential growth of its human and economic capital.



“

*A unique academic option to enhance the human and economic capital of your company through a cutting-edge and high-level program"*

Developing and retaining talent in companies is the best long-term investment.

01

### **Growth of talent and intellectual capital**

The professional will introduce the company to new concepts, strategies, and perspectives that can bring about significant changes in the organization.

---

02

### **Retaining high-potential executives to avoid talent drain**

This program strengthens the link between the company and the professional and opens new avenues for professional growth within the company.

03

### **Building agents of change**

You will be able to make decisions in times of uncertainty and crisis, helping the organization overcome obstacles.

---

04

### **Increased international expansion possibilities**

Thanks to this program, the company will come into contact with the main markets in the world economy.



05

### **Project Development**

The professional can work on a real project or develop new projects in the field of R & D or business development of your company.

---

06

### **Increased competitiveness**

This program will equip students with the skills to take on new challenges and drive the organization forward.

# 10 Certificate

The Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





“

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

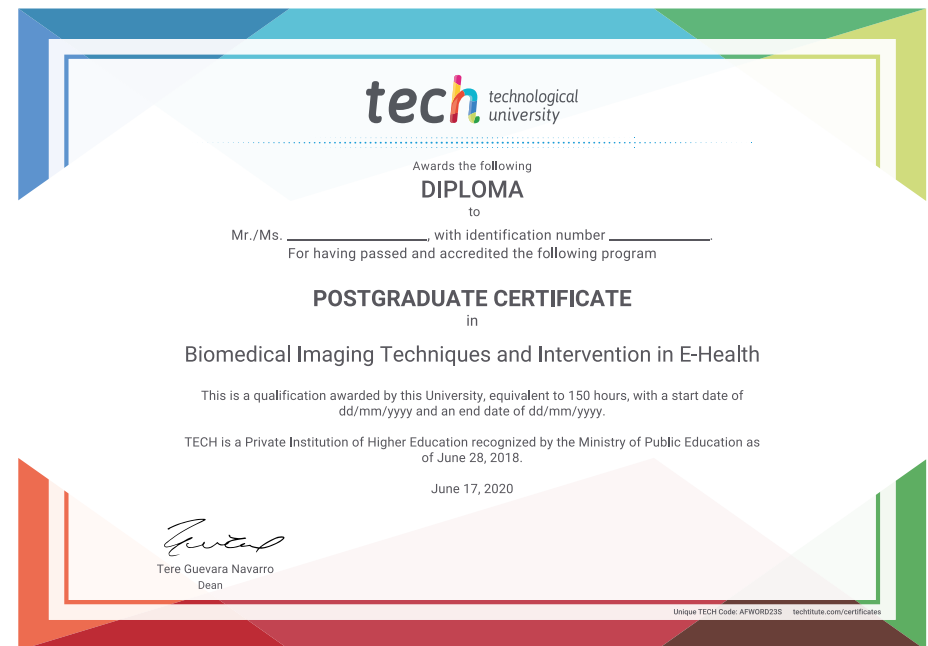
This **Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health** contains the most complete and up-to-date educational program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in Biomedical Imaging Techniques and Intervention in E-Health**

Official N° of Hours: **150 h.**



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



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