

# Postgraduate Certificate Port Infrastructures and Environmental Sustainability





## Postgraduate Certificate Port Infrastructures and Environmental Sustainability

- » 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 qualifications in the field of Business Sciences, Civil Engineering or Naval Engineering.

Website: [www.techtitute.com/us/shcool-of-business/postgraduate-certificate/port-infrastructures-environmental-sustainability](http://www.techtitute.com/us/shcool-of-business/postgraduate-certificate/port-infrastructures-environmental-sustainability)

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# 01 Welcome

The growing environmental awareness on the part of the world's population, in this way, as well as the reduction of costs associated with the development of new technologies, have brought about a revolution in the port sector. In this way, the proposed objectives in this area are the reduction of polluting gases, as well as the improvement of efficiency in maritime operations. All this results in lower costs that benefit companies, so they are looking for professionals who master the most advanced sustainability strategies. With this in mind, TECH has designed this 100% online program, with which the student will delve into the evaluation of Port Infrastructure projects, among many other issues.



Postgraduate Certificate in Port Infrastructures and Environmental Sustainability  
TECH Technological University



“

*TECH offers you the perfect program to put you at the forefront of the port sector”*

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

---

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



### Academic Excellence

---

TECH offers students the best online learning methodology. The university combines the Relearning method (postgraduate learning methodology with the best international valuation) with the Case Study. Tradition and vanguard in a difficult balance, and in the context of the most demanding educational itinerary.



### 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 ground-breaking 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 the 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. Students 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

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

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

Students will achieve their professional objectives thanks to this program, which has been specially designed to respond to current business needs. In this way, throughout 6 weeks of education, the student will be able to delve into the latest management strategies of Port Infrastructures in accordance with the most current criteria of Environmental Sustainability. All this, in 100% online format and with the support of the most prestigious teaching staff.



“

*Give the definitive boost to  
your professional career  
thanks to this program”*

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

The Postgraduate Certificate in Port Infrastructures and Environmental Sustainability qualifies students to:

01

Conceptualize logistics and place it in the current economic environment

04

Analyze the general composition of today's intermodal chains

02

Conceptually define the processes that compose it and give rise to the different types of logistics

05

Update the student's knowledge in the field of multimodal transport

03

Understand what each of these processes consists of and the purpose for which they were conceived

06

Substantiate the importance of maritime transport in globalization



07

Analyze multimodality and its role in the logistics chain

10

Specify the international legislation on maritime transport

08

Examine the main maritime traffics and transport vessels

11

Delve into the traditional characteristics and functions of ports and their historical evolution

09

Delve into the main maritime traffics

12

Delve into the evolution of the logistics function in ports

13

Examine the alternative of port infrastructure specialization as a way of adapting to the demands of logistics chains

14

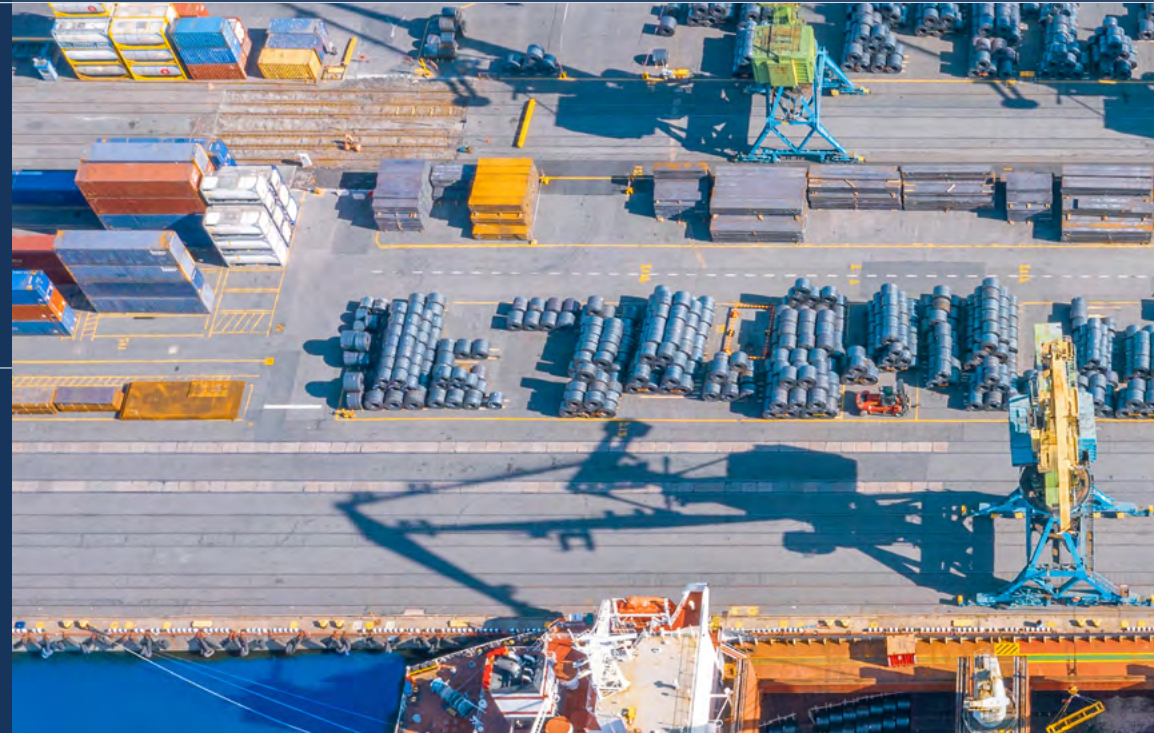
Analyze the latest trends in innovation

15

Define the different models of port governance

16

Examine the evolution of port governance in connection with the degree of development of countries



17

Provide a context for a typical port governance structure

18

Define a port model for the future in a context of profound and global transformation

19

Analyze with the maximum objectivity these aspirations, from a technical point of view

20

Identify the importance of consensus, communication and transparency in the process of formulating the strategy of a port system that has important repercussions on society as a whole, both economically and socially



05

# Structure and Content

The program in Port Infrastructures and Environmental Sustainability has the most complete and updated syllabus in the academic market. In this way, it allows the student to delve into aspects such as sediment reuse projects, the design of dock electrification projects or the elements for the prediction of maritime climate and the different scenarios of climate and atmospheric change.



“

*An expertly designed syllabus and first-rate teaching materials are the key to a successful professional career"*

## Syllabus

This program consists of 150 hours of continuous learning about the different challenges that the Port Infrastructure sector has to face in order to position the graduate at the top of their professional career. In this way, this program integrates several technical competencies that will lead students to develop unique knowledge in investment projects in renewable energy sources.

In order to achieve these objectives, the teaching staff has created a syllabus with 1 module for the student to acquire knowledge in BIM technology applied to ports, elements for the prediction of maritime climate and sustainable port planning.

Students will expand their knowledge in areas related to the Inter-American Development Bank and the design of port land access projects. This is a program that incorporates a specialized professional team, and also has multimedia resources of the highest quality, offering dynamism and comfort with the 100% online modality.

TECH provides with this program the most recent developments in Port Management. For this reason, it focuses on excellence and comfort, being a qualification that has great flexibility as it only requires an electronic device with Internet access and thus easily access the virtual platform from anywhere, 24 hours a day.

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

### Module 1

### Port Infrastructures and Environmental Sustainability



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

TECH offers students the opportunity to study this Postgraduate Certificate in Port Infrastructures and Environmental Sustainability 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. Port Infrastructures and Environmental Sustainability**

**1.1. Sustainable port planning**

- 1.1.1. Legislation Fit for 55 and EU ETS
- 1.1.2. Relations with Other Continents
- 1.1.3. Relations with the International Maritime Organization (IMO)

**1.2. Port planning instruments and adaptation to the new climate reality**

- 1.2.1. Master Plans
- 1.2.2. Planning Instruments for Infrastructure Development
- 1.2.3. Design and Re-design of Port Terminals: Electric Plans
- 1.2.4. Port-City Sustainable Relationships: Climate Change and Designing Port-City Spaces

**1.3. Environmental Evaluation of Port Planning Instruments**

- 1.3.1. Infrastructure Development Programs
- 1.3.2. Evaluation of Infrastructure Development Plans
- 1.3.3. Evaluation of Infrastructure Projects

**1.4. Financing Sustainable Development Port Infrastructure Projects**

- 1.4.1. The European Investment Bank
- 1.4.2. The World Bank
- 1.4.3. The Inter-American Development Bank
- 1.4.4. International investment funds
- 1.4.5. Green bond issuance

**1.5. Ports and Coastal Erosion: Working with Nature**

- 1.5.1. Estuary preservation projects
- 1.5.2. Coastal Regeneration Projects
- 1.5.3. Sediment Re-use Projects

**1.6. Renewable energy investment projects**

- 1.6.1. Wind Energy Generation Projects on shore and off shore
- 1.6.2. Photovoltaic Energy Generation Projects on shore y off shore
- 1.6.3. Other Renewable Energies

**1.7. Evaluation of the profitability of investment projects. MEIPOINT Methodology**

- 1.7.1. Context Analysis and Project Objectives
- 1.7.2. Analysis of Alternatives
- 1.7.3. Definition of Project
- 1.7.4. Financial Analysis
- 1.7.5. Economic Analysis
- 1.7.6. Sensitivity and Risk Analysis

**1.8. BIM technology applied to ports**

- 1.8.1. Port Terminal Design
- 1.8.2. Design of dock electrification projects
- 1.8.3. Design of land access projects to ports

**1.9. Marine environmental monitoring and forecasting instruments**

- 1.9.1. Measurement networks: buoys, tide gauges and high-frequency radars
- 1.9.2. Elements for maritime climate prediction and change scenarios
- 1.9.3. Projects

**1.10. Blue Economy**

- 1.10.1. Blue Economy Dimensions
- 1.10.2. Marine Ecosystem Preservation Projects
- 1.10.3. Ports and climate and marine research centers: towards a long-term relationship





# 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.*



## 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.

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

## 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 is aimed at University Graduates who have previously completed any of the following degrees in the field of Business Sciences, Civil or Naval Engineering.

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 Port Infrastructure.





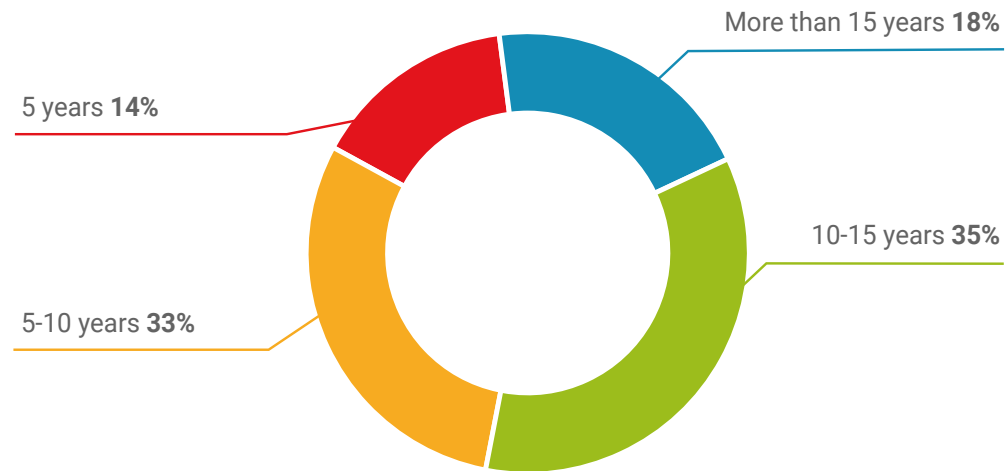
“

*If you have experience in Port Infrastructures and Environmental Sustainability, and are looking for an interesting career boost while continuing to work, this is the program for you”*

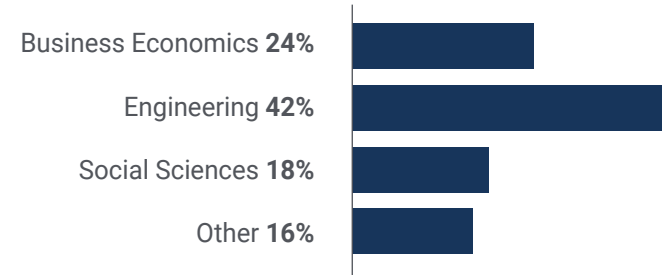
### Average Age

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

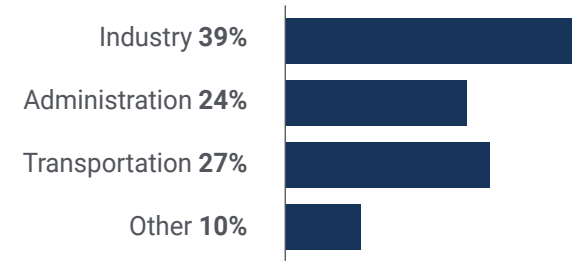
### Years of Experience



### Training

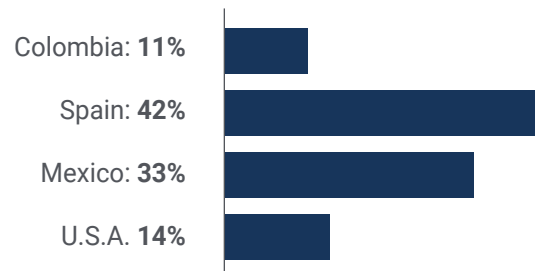


### Academic Profile



## Geographical Distribution

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## Sara María Urquiza

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Social Media and Content Manager

*"From this program I highlight the ability of the teachers to transmit and share knowledge in a simple, precise and orderly manner. With the balance achieved between theory and practice, the student ends up acquiring the key tools work. It's definitely an investment with great short-term returns"*

08

# Course Management

This program is taught by a teaching staff of international reference, since TECH has carefully selected the leading experts in the port sector. In this way, the student will be able to study the most advanced and updated management tools and strategies together with leading professionals in the industry. This will guarantee the immediate implementation of the acquired skills in the workplace.





“

*Study together with leading experts in Port Infrastructures and Environmental Sustainability”*

## Management



### Mr. López Rodríguez, Armando

- ♦ Technical Consultancy Area Head in the Office of the President of Puertos del Estado
- ♦ Head of Strategic Planning Area in Puertos del Estado
- ♦ Project Manager at Puertos del Estado
- ♦ Head of the Resources and Information and Communications Technology Area at Puertos del Estado
- ♦ Head of the Development Area in Puertos del Estado
- ♦ Head of Corporate Relations Area in Puertos del Estado
- ♦ Head of Strategic Planning Area in Puertos del Estado
- ♦ Associate Professor at the School of Industrial Organization
- ♦ AENOR Associate Professor
- ♦ Associate Professor at UBT Lab
- ♦ Telecommunications Engineer from Universidad Politécnica de Madrid
- ♦ Degree in History from the National University of Distance Education (UNED)
- ♦ PhD in History from the National University of Distance Education (UNED)
- ♦ Master's Degree in Advanced Methods and Techniques of Historical, Artistic and Geographical Research from the National University of Distance Education (UNED)
- ♦ Postgraduate Certificate in Management Development Program (PDD) from the IESE of the University of Navarra





## Professors

### Ms. Ana María García

- ◆ Chief Advisor to the Presidency of ESPO
- ◆ Head of the Development Area in Puertos del Estado
- ◆ Head of the Development Area of Human Resources in Puertos del Estado
- ◆ Manager of Transport and Industry Business Development at Indra
- ◆ Head of the Technical Department of Commercial and Marketing at Puertos del Estado
- ◆ Professor of the Master in Port Management and Planning and Intermodality
- ◆ Degree in Psychology, specializing in Work and Organizational Psychology, Universidad Pontificia de Comillas (ICAI-ICADE) and Universidad Complutense de Madrid
- ◆ Master's Degree in Business Administration, IESE, from the University of Navarra
- ◆ Leadership Program in Public Management, IESE, by the University of Navarra
- ◆ Member of: Port Governance Committee and Member of the Board of Directors of the General State Administration in the Port Authorities of Motril, Vigo, Gijón, A Coruña, Alicante, Tenerife and Cartagena

“

*A unique, key, and decisive experience to boost your professional development”*

09

# Impact on Your Career

This university program has been developed in order to offer students the necessary knowledge for the port sector. In this way, TECH is excellence at the highest levels, so it will be important for the students to know that they will be able to acquire the highest quality knowledge specialized in Port Infrastructures, being placed in the best companies of the sector at a global level.





“

*You will delve into specific areas such as design and redesign of port terminals as part of the development of environmental sustainability”*

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

TECH's Postgraduate Certificate in Port Infrastructures and Environmental Sustainability is an intensive program that prepares you to face challenges and business decisions in the field of Port Management. The main objective is to promote your personal and professional growth. Helping you achieve success.

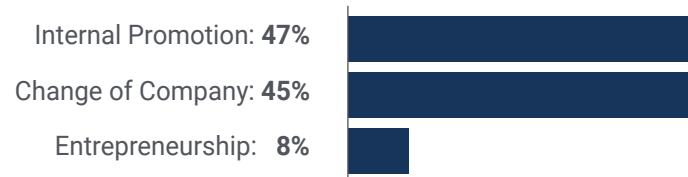
*This Postgraduate Certificate has multimedia resources that will provide you with greater dynamics during the development of the program.*

*TECH offers the graduates a complete program with the most innovative updates in Port Management.*

**When the change occurs**



**Type of change**



## Salary increase

---

This program represents a salary increase of more than **25%** for our students.



10

# Benefits for Your Company

This program contributes to elevating the organization's talent to its maximum potential through the instruction of high-level leaders.

In addition, participating in this university option is a unique opportunity to access a powerful network of contacts in which to find future professional partners, customers or suppliers.



“

*In the digital era, managers must integrate new processes and strategies that bring about significant changes and organizational development. This is only possible through learning and university updating”*

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.

# 11

# Certificate

The Postgraduate Certificate in Port Infrastructures and Environmental Sustainability 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 Port Infrastructures and Environmental Sustainability** contains the most complete and up-to-date 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 Port Infrastructures and Environmental Sustainability**

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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