

# Postgraduate Certificate

## BIM Methodology Application in Maritime Works



## Postgraduate Certificate BIM Methodology Application in Maritime Works

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/engineering/postgraduate-certificate/bim-methodology-application-maritime-works](http://www.techtute.com/us/engineering/postgraduate-certificate/bim-methodology-application-maritime-works)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

This module is a complete introduction to the BIM Methodology and its application and implementation during the entire life cycle of a construction project, from design to operation and demolition. With a teaching staff of specialists in the field, it is a first-class opportunity to bring professionals up to date in this area of work.





“

*A highly qualified Postgraduate Certificate that will give you a complete and effective vision of the BIM methodology in the maritime sector"*

This Postgraduate Certificate will present the theoretical developments that define the BIM Methodology and a review of the basic concepts with which it is necessary to be familiar in order to gain knowledge of this methodology and all the areas it covers (personnel, regulatory, administrative, technological, etc.). It will review the international BIM situation and the public and private initiatives that are being carried out in the different geographical fields. The main factors of the BIM Methodology and the aspects related to software, exchange formats and collaborative systems will be studied.

Aspects related to the implementation of the BIM Methodology are addressed, such as the level of maturity that the project can reach, the document and administrative management generated in the implementation of the BIM Methodology and the BIM teams and roles assigned to the people involved in the project.

In the second part of the Postgraduate Certificate, of a practical nature, everything learned prior to the realization of a Maritime Works project will be detailed, from the design and BIM modeling of the entire port infrastructure to the planning and measurements of the project.

Finally, the last BIM Guide of the State-owned Port System of June 2019 will be developed.

This **Postgraduate Certificate in BIM Methodology Application in Maritime Works** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ The development of practical cases presented by experts in BIM Methodology Application in Maritime Works
- ◆ The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional development
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies in the application of BIM methodology in maritime works
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Access to content from any fixed or portable device with an Internet connection



*BIM Methodology Application in Maritime Works in a high-level Postgraduate Certificate"*

“

*A quality program that will allow you not only to follow the specialization, but also to have complementary support and information banks available"*

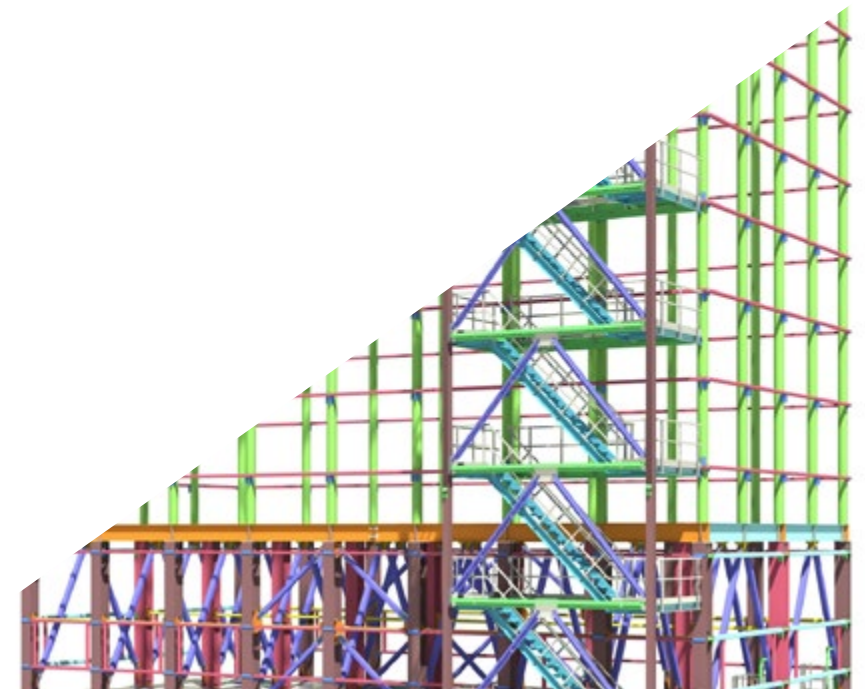
Its teaching staff includes professionals from the field of civil engineering, who contribute their work experience to this training, as well as renowned specialists from reference societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in BIM Methodology Application in Maritime Works.

*This program has the best educational resources that can be accessed online or downloaded, to make it easier for you to manage your studies and effort.*

*A highly comprehensive program, created with the objective of delivering the highest quality education, focused on raising our students to the highest level of proficiency.*



# 02 Objectives

The objectives of this Postgraduate Certificate have been established based on realistic and necessary goals for the professional in the sector. Gradually, you will be able to check your learning and your progress in the mastery of the contents so that, at the end, you will have achieved a complete process of professional growth.







“

*Realistic, achievable and high-impact goals  
for your professional development”*



## General Objective

---

- ◆ Create future professionals capable of addressing actions and solutions in the field of port infrastructures, from a multidisciplinary perspective and based on the investigation of the design of maritime works and the elements that influence it

“

*A stimulating journey of professional growth designed to keep you interested and motivated throughout the entire program”*





## Specific Objectives

---

- ◆ Expand general concepts frequently used in BIM environments
- ◆ Delve into the global strategy for the implementation of the BIM methodology in the realization of a construction project
- ◆ In-depth study of the application of BIM Methodology in the construction and maintenance processes of port infrastructure
- ◆ Delve into the design of a maritime project using the BIM Methodology
- ◆ Use the appropriate tools to carry out BIM measurement and management of marine works projects
- ◆ Handle the BIM Guide of the State-owned Port System of July 2019

# 03

# Course Management

Within the quality criteria that we apply in all our training, this Postgraduate Certificate offers you the opportunity to learn from the best, with a teaching faculty made up of professionals in the sector who will invest their theoretical and practical knowledge to take you to the highest level of proficiency. With the latest and most effective teaching methods on the online teaching market.





“

*Learn with the best and acquire the knowledge and skills you need to intervene in this area of development with total success”*

## Management



### Mr. Angulo Vedriel, Rafael

- ◆ Positions: Civil Engineer
- ◆ Master's Degree studies in Civil Engineering
- ◆ Ph.D. in Civil Engineering
- ◆ Project manager and Design Manager both in Spain and on secondment in Latam, Middle East and Southeast Asia
- ◆ PMP © certification for project management



## Professors

### Mr. Sorní Moreno, Àngel Arcadi

- ◆ Positions: Civil Engineer
- ◆ Civil Construction and Building Specialty
- ◆ University teacher
- ◆ Research related to technical projects and BIM of state ports

### Mr. Cortés, Javier

- ◆ Positions: Engineer in Theory and Practical Application of the Finite Element Method and Simulation
- ◆ University Expert in Design and Management of Water Supply, Urban Drainage and Wastewater Treatment Systems by the University of Zaragoza
- ◆ University Professor at the Faculty of Civil Engineering
- ◆ Degree in Civil Engineering from the Polytechnic University of Valencia
- ◆ BASF Award: "Expansion Works Line 5 VLC subway" ETSICCP (UPV)

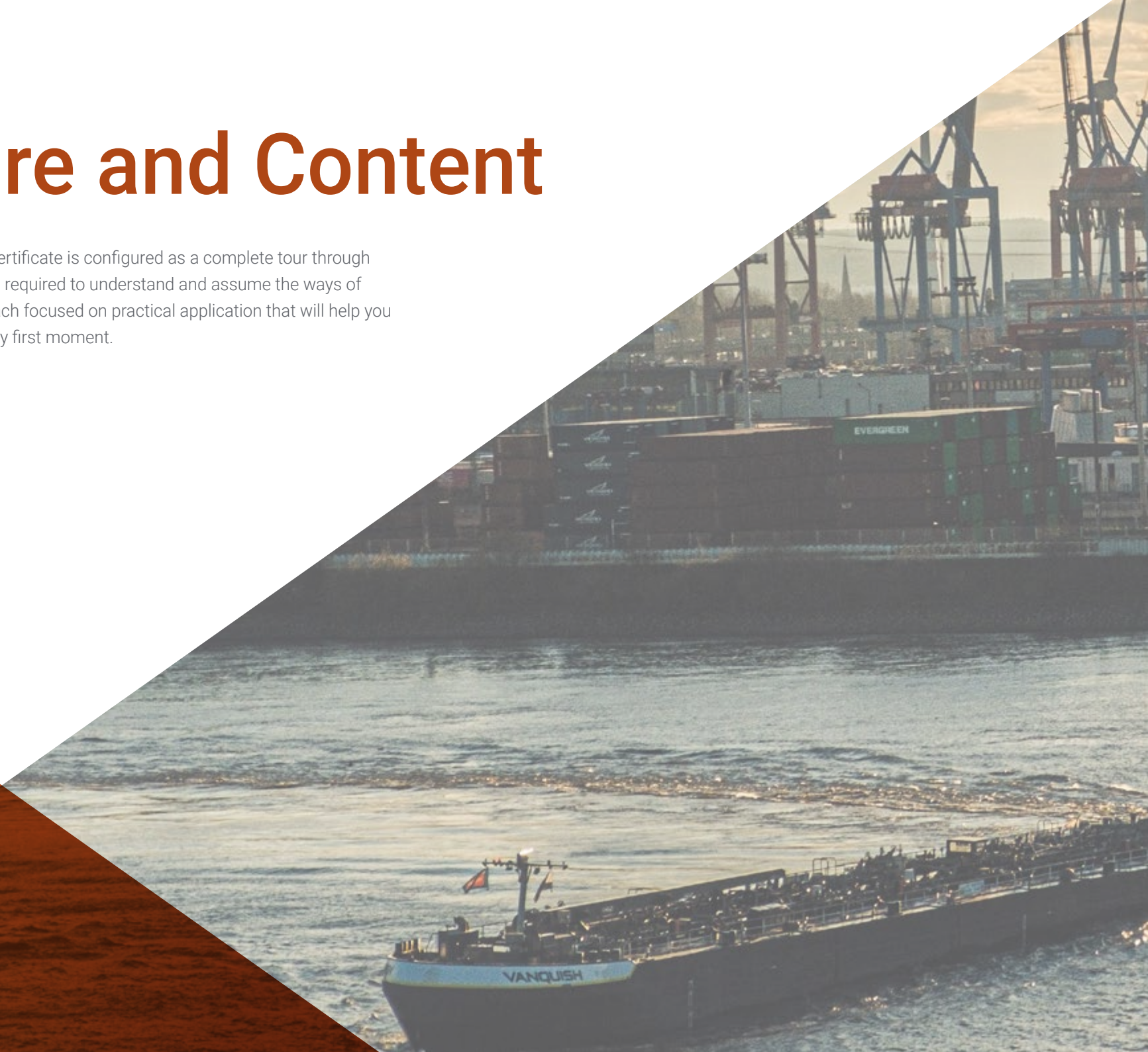
“

*A comprehensive and multidisciplinary program that will allow you to excel in your career, following the latest advances in the field of Civil Engineering"*

# 04

# Structure and Content

The syllabus of the Postgraduate Certificate is configured as a complete tour through each and every one of the elements required to understand and assume the ways of working in this field. With an approach focused on practical application that will help you grow as a professional from the very first moment.





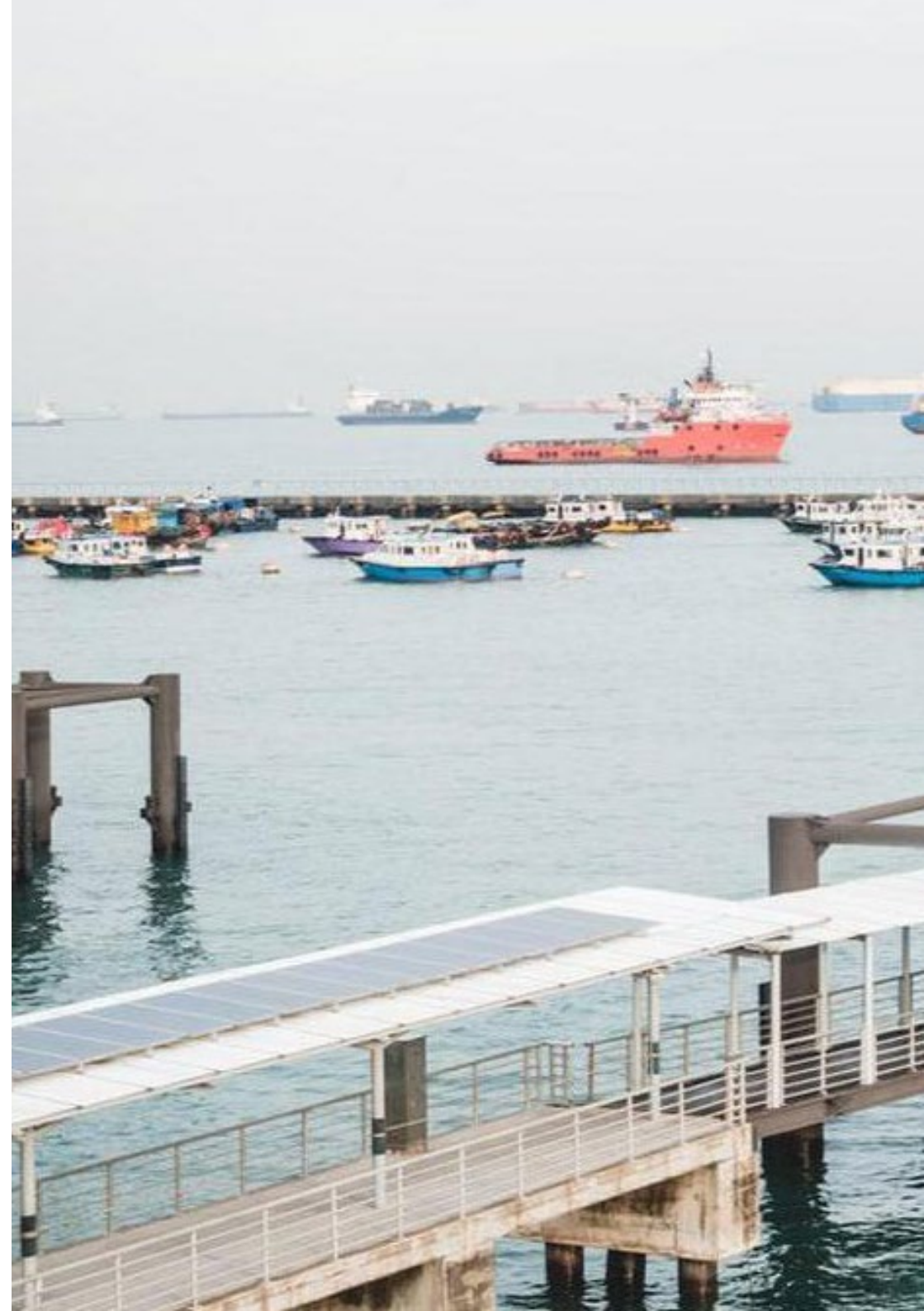


“

*A comprehensive syllabus focused on acquiring knowledge and converting it into real skills, created to propel you to excellence”*

## Module 1. BIM Applied to Maritime Works

- 1.1. BIM Methodology
  - 1.1.1. Introduction BIM
  - 1.1.2. BIM General Aspects
  - 1.1.3. BIM: Current Status
  - 1.1.4. BIM: Key Factors
- 1.2. Application of BIM Methodology
  - 1.2.1. BIM: Software
  - 1.2.2. File Exchange
  - 1.2.3. Collaborative Systems
  - 1.2.4. BIM: Pillars
- 1.3. Implementation and BIM Lifecycle
  - 1.3.1. Life Cycle and BIM Implementation
  - 1.3.2. BIM Maturity Levels
  - 1.3.3. BIM Document Management
  - 1.3.4. BIM Team and Roles
- 1.4. BIM Implementation Phases and Examples
  - 1.4.1. BIM Implementation Phases
  - 1.4.2. Examples:
- 1.5. Design and BIM Modeling, Sheltering Works and Ramparts
  - 1.5.1. BIM: Previous Information
  - 1.5.2. BIM: Design and Modeling of Sheltering Works and Ramparts
- 1.6. Design and BIM Modeling of Berthing and Equipment Works
  - 1.6.1. BIM: Design and Modeling of Berthing Works
  - 1.6.2. BIM: Design and Modeling of Nautical Equipment





- 1.7. Construction Planning with BIM
  - 1.7.1. Introduction to BIM Planning
  - 1.7.2. Planning with Navisworks
  - 1.7.3. Planning with Timeliner
  - 1.7.4. 4D Simulation and Virtual Flight
- 1.8. BIM Measurements
  - 1.8.1. General Aspects for BIM Measurements
  - 1.8.2. Creation of Planning Tables for Measurements in Revit
  - 1.8.3. Export to Excel of BIM Measurements from Revit
- 1.9. BIM Guide to the State-Owned Port System: General Aspects
- 1.10. BIM Guide to the State-Owned Port System: Application to Port Infrastructures

“ *This program will allow you to advance in your career comfortably*”

05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





“

*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"*

### 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”*



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

### **A learning method that is different and innovative**

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. 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 professional reality is taken into account.

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

The case method is the most widely used learning system in the best faculties in the world. 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 that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and 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 8 different teaching elements in each lesson.

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

*In 2019, we obtained the best learning results of all online universities in the world.*

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 university is the only one in the world authorized to employ 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.

This methodology has 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, and financial markets and 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 training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for 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.



### Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 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.



06

# Certificate

The Postgraduate Certificate in BIM Methodology Application in Maritime Works guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate 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 **Postgraduate Certificate in BIM Methodology Application in Maritime Works** 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: **Postgraduate Certificate in BIM Methodology Application in Maritime Works**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



\*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.

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



## Postgraduate Certificate BIM Methodology Application in Maritime Works

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Credits: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

# Postgraduate Certificate

## BIM Methodology Application in Maritime Works