

# Postgraduate Certificate

## Hydrogen Project Planning and Management



## Postgraduate Certificate Hydrogen Project Planning and Management

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

Website: [www.techtitude.com/us/engineering/postgraduate-certificate/hydrogen-project-planning-management](http://www.techtitude.com/us/engineering/postgraduate-certificate/hydrogen-project-planning-management)

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# 01

# Introduction

In the development of projects it is necessary for companies, whether private or public, to have adequate planning and project management, in order to achieve success in the objectives set. This methodology is transferred to the hydrogen sector, where initiatives are currently being promoted in order to improve the existing techniques and technologies, as well as the improvement of the development processes of this energy vector. That is why TECH has decided to launch this 100% online program, where each of the elements and phases that every engineering professional needs to implement their actions in this sector are described. This will also be possible thanks to the quality multimedia resources to which you will have access 24 hours a day from any electronic device with an Internet connection.



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*TECH has compiled in this program the most relevant information for the planning and adequate management of projects in the hydrogen sector"*

The promotion of hydrogen projects in recent years has led private and public entities to invest millions in the development of technology and improvement of techniques for the implementation of this gas in different sectors. Given the relevance of these actions, as well as their transcendence in the race to obtain the best results in a sustainable energy alternative, companies are increasingly calling for engineering professionals specialized in this sector and with a wide range of skills to lead large-scale actions.

Given this prosperous outlook, the graduate is in an optimal situation to be able to progress in a booming industry, through the perfect execution of any initiative in which they participate. Therefore, and with the aim of boosting the professional career of engineers, TECH has created this Postgraduate Certificate in Planning and Management of Hydrogen Projects, taught by a leading professional in the sector with extensive experience in leadership and management in the sector.

A program, taught in 100% online mode, which will lead you to know the key aspects necessary to obtain positive results in this area, the characterization of the parties interested in being part of an initiative, the definition of the scope, the importance of the work plan. In addition, this program will enable you to learn the most important elements in the monitoring and control phases in engineering.

All this, in addition, through pedagogical tools in which the latest technology applied to teaching has been used and to which the students will be able to access, 24 hours a day, 7 days a week.

This is, therefore, a flexible Postgraduate Certificate, which can be taken by the professional comfortably, whenever and wherever they want. All you need is an electronic device with an Internet connection to view the content hosted on the Virtual Campus. Students are thus faced with an academic option in line with current times, compatible with their daily life activities.

This **Postgraduate Certificate in Hydrogen Project Planning and Management** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Case studies presented by engineering experts
- ◆ The graphic, schematic and practical contents of the program provide technical and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*This qualification outlines all the details and elements you need to consider in order to deploy your engineering projects in the hydrogen sector"*

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*Enroll in a university education that will allow you to acquire advanced knowledge, reducing the hours of study with the Relearning system"*

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and 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 education 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 during the academic year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Undoubtedly, this is the Postgraduate Certificate that will allow you to obtain the essential tools for project management.*

*You will be able to define milestones accurately and efficiently, according to the client's expectations.*



# 02 Objectives

This Postgraduate Certificate offers the professional the opportunity to acquire intensive learning, which will lead them to be able to successfully develop hydrogen projects from the definition of the scope, the characterization of stakeholders, the development of the work plan, to the elements to be contained in the contracts. For this purpose, TECH provides case studies, which will lead you to integrate the methods used by the professionals who teach this program.



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*The case studies provided by the specialized teaching team will undoubtedly guide you to successfully carry out your next hydrogen project"*



### General Objectives

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- ♦ Train the student in hydrogen project management
- ♦ Delve into hydrogen project management techniques
- ♦ Provide the necessary tools to enable the student to analyze hydrogen projects



*In just 150 hours you will gain the knowledge necessary to carry out effective planning for the development and implementation of hydrogen projects"*





### Specific Objectives

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- ◆ Compile project management tools
- ◆ Train the student in hydrogen project management
- ◆ Explore the different parts of project planning
- ◆ Raise awareness of the importance of project risk identification and management
- ◆ Analyze the EPC phase and O&M phase of a hydrogen project
- ◆ Develop expertise on the contracting phase of a project

03

# Course Management

This academic program includes the most specialized teaching staff in the current educational market. They are specialists selected by TECH to develop the whole syllabus. In this way, starting from their own existence and the latest evidence, they have designed the most up-to-date content that provides a guarantee of quality in such a relevant subject.



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*TECH offers the most specialized  
teaching staff in the field of study.  
Enroll now and enjoy the quality  
you deserve”*

## International Guest Director

With an extensive professional background in the energy sector, Adam Peter is a prestigious electrical engineer who stands out for his commitment to the use of clean technologies. Likewise, his strategic vision has driven innovative projects that have transformed the industry towards more efficient and environmentally friendly models.

In this way, he has worked in leading international companies such as Siemens Energy in Munich. In this way, he has held leadership roles ranging from Sales Management or Corporate Strategy Management to Market Development. Among his main achievements, he has led the Digital Transformation of organizations in order to improve their operational flows and maintain their competitiveness in the market in the long term. For example, he has implemented Artificial Intelligence to automate complex tasks such as predictive monitoring of industrial equipment or optimization of energy management systems.

In this regard, it has created multiple innovative strategies based on advanced data analysis to identify both patterns and trends in electricity consumption. As a result, companies have optimized their informed decision-making in real time and have been able to reduce their production costs significantly. In turn, this has contributed to companies' ability to adapt nimbly to market fluctuations and respond with immediacy to new operational needs, ensuring greater resilience in a dynamic working environment.

He has also led numerous projects focused on the adoption of renewable energy sources such as wind turbines, photovoltaic systems and cutting-edge energy storage solutions. These initiatives have enabled institutions to optimize their resources efficiently, guarantee a sustainable supply and comply with current environmental regulations. Undoubtedly, this has positioned the company as a reference in both innovation and corporate responsibility.



## Mr. Peter, Adam

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- Head of Hydrogen Business Development at Siemens Energy, Munich, Germany
- Sales Director at Siemens Industry, Munich
- President of Rotating Equipment for Upstream/Midstream Oil & Gas
- Market Development Specialist at Siemens Oil & Gas, Munich
- Electrical Engineer at Siemens AG, Berlin
- Degree in Electrical Engineering at the University of Applied Sciences Dieburg

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*Thanks to TECH, you will be able to learn with the best professionals in the world”*

03

# Structure and Content

The study plan of this Postgraduate Certificate has been designed to provide the engineering professional with the knowledge required to develop any hydrogen project. Therefore, the content of this program will provide the most relevant aspects to define the scope, the work structure, as well as the monitoring and control phases. The case studies and multimedia resources will be key to obtain in a much more dynamic and enjoyable way, the necessary learning to progress significantly in this area.



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*This Postgraduate Certificate will lead you to obtain the knowledge you need about the whole process necessary to develop from start to finish any hydrogen project"*

## Module 1. Hydrogen Project Planning and Management

- 1.1. Definition of Scope: Project Type
  - 1.1.1. Importance of Good Scope Definition
  - 1.1.2. EDP OR WBS
  - 1.1.3. Scope Management in Project Development
- 1.2. Characterization of Actors and Entities Interested in Hydrogen Project Management
  - 1.2.1. Necessity of Stakeholder Characterization
  - 1.2.2. Stakeholder Classification
  - 1.2.3. Stakeholder Management
- 1.3. Most Relevant Project Contracts in the Hydrogen Field
  - 1.3.1. Classification of the Most Relevant Contracts
  - 1.3.2. Contracting Process
  - 1.3.3. Contract Content
- 1.4. Defining Objectives and Impacts for Projects in the Hydrogen Sector
  - 1.4.1. Objectives
  - 1.4.2. Impacts
  - 1.4.3. Objectives vs. Impact
- 1.5. Work Plan for a Hydrogen Project
  - 1.5.1. Importance of the Work Plan
  - 1.5.2. Elements that Constitute It
  - 1.5.3. Development
- 1.6. Key Deliverables and Milestones in Hydrogen Sector Projects
  - 1.6.1. Deliverables and Milestones. Definition of Customer Expectations
  - 1.6.2. Deliverables
  - 1.6.3. Milestones
- 1.7. Project Schedule in Hydrogen Sector Projects
  - 1.7.1. Preliminary Steps
  - 1.7.2. Definition of Activities. Time Window, PM Efforts and Relationship between Stages
  - 1.7.3. Graphic Tools Available





- 1.8. Identification and Classification of Risks of Hydrogen Sector Projects
  - 1.8.1. Creation of the Project Risk Plan
  - 1.8.2. Risk Analysis
  - 1.8.3. Importance of Project Risk Management
- 1.9. Analysis of the EPC Phase of a Hydrogen Type Project
  - 1.9.1. Detailed Engineering
  - 1.9.2. Purchasing and Supplies
  - 1.9.3. Construction Phase
- 1.10. Analysis of the O&M Phase of a Hydrogen Type Project
  - 1.10.1. Development of the Operation and Maintenance Plan
  - 1.10.2. Maintenance Protocols. Importance of Preventive Maintenance
  - 1.10.3. Management of the Operation and Maintenance Plan

“*Delve whenever you want into the risks to be taken into account before the execution of any action in the hydrogen sector*”

04

# 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.





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*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

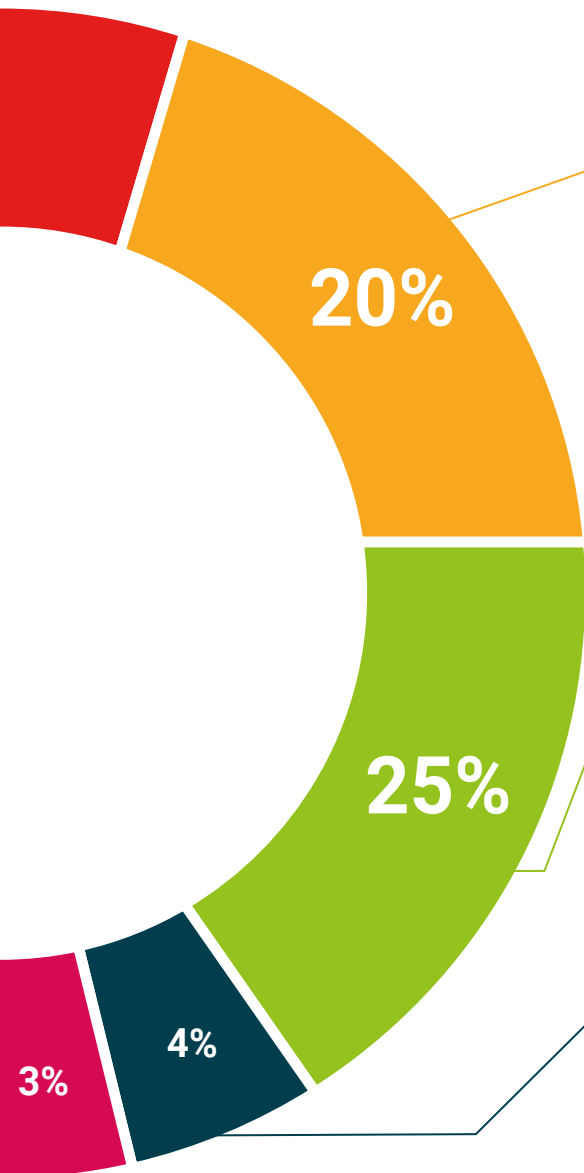
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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.



# 05 Certificate

The Postgraduate Certificate in Hydrogen Project Planning and Management guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Hydrogen Project Planning and Management** 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 Hydrogen Project Planning and Management**

Modality: **online**

Duration: **6 weeks**



\*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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