

# Postgraduate Certificate Regulatory and Safety Aspects of Hydrogen



## Postgraduate Certificate Regulatory and Safety Aspects of Hydrogen

- » 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/regulatory-safety-aspects-hydrogen](http://www.techtute.com/us/engineering/postgraduate-certificate/regulatory-safety-aspects-hydrogen)

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# 01

# Introduction

The development of hydrogen projects, a booming energy alternative in recent years, requires not only technical expertise, but also regulatory knowledge of health and safety, the environment and the transport of this gas. It is, therefore, essential that engineering professionals who want to progress in this growing sector master a subject that will lead them to be able to successfully perform jobs in renowned companies. For this reason, this program is 100% online, which introduces students to the regulatory aspects, especially in Europe, of the incentives for the deployment of the Hydrogen Economy or the documentation required and essential for compliance with current legislation. All this, in addition, through advanced and high quality content, developed by a specialized teaching team.

A large, stylized green logo consisting of the letters 'S' and 'H' is positioned on the right side of the slide. The 'S' is on the left and the 'H' is on the right, both rendered in a bold, sans-serif font. The background behind the logo is white, and the entire slide features a complex geometric design with diagonal lines in shades of blue, orange, and white.

“

*TECH adapts to you and that is why it has created this 100% online program with quality content that will boost your career in the hydrogen sector”*



The hydrogen sector has grown in recent years, thanks to the impulse given by public institutions that have found in this alternative energy an effective solution to the reduction of atmospheric pollution and global warming. However, like all developing markets, this one requires regulation and standards that guarantee the safety of the projects, as well as the health of people and, of course, the environment.

In this current scenario, it is essential that the engineering professional has the necessary knowledge in relation to the in-depth study that must be carried out before any hydrogen project, the risks and consequences. That is why TECH has created this Postgraduate Certificate on Regulatory and Safety Aspects of Hydrogen, taught by a teaching team specialized in this sector and in Renewable Energy and Energy Efficiency.

A university education that will introduce students to the different regulations governing the various applications and parts of the hydrogen value chain, the existing restrictions for the implementation of a project, as well as the requirements for obtaining certifications and the documentation required in terms of safety.

Learning will also be acquired in an agile way, thanks to the multimedia resources developed ad hoc for this program. In addition, the graduate will see reduced study hours, thanks to the Relearning method, based on the reiteration of content.

A Postgraduate Certificate taught in an exclusively online format, which the professional will have the opportunity to access comfortably, whenever and wherever he/she wishes. All you need is an electronic device with internet connection to be able to visualize, at any time, the syllabus hosted on the virtual platform. The graduate is thus faced with an academic option in accordance with the present times, which will allow them to grow in a booming sector.

This **Postgraduate Certificate in Regulatory and Safety Aspects of Hydrogen** 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 book provide technical and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where self-assessment can be used 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



*In just 6 weeks you will master  
the Regulatory and Safety  
Aspects of Hydrogen"*

“

*Enroll now in a university program in which you can easily delve into the documentation required by the administrations to start hydrogen projects”*

The program’s teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading 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 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.

*A Postgraduate Certificate, whose practical cases will give you a more real and direct vision of the certification of hydrogen installations.*

*Acquire intensive learning on the incentive mechanisms for the deployment of the Hydrogen Economy in Europe.*



# 02

# Objectives

Given the relevance of safety in hydrogen projects, this Postgraduate Certificate provides students with the most advanced and updated knowledge in this field. Thus, at the end of the 180 teaching hours, the student will be able to gain in-depth knowledge of the existing regulations, especially in the European framework, and the best practices for the implementation of actions using this energy vector. Moreover, this will be possible thanks to the innovative pedagogical tools provided by TECH in this program.

A photograph of a white hydrogen station. The word "Hydrogen" is written in blue on the top part of the station. Below the text, there is a red emergency stop button and a circular pressure gauge. The station is set against a blue sky with white clouds. The image is partially obscured by a large orange diagonal shape in the bottom left corner.

Hydrogen



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*You will be able to grow professionally through a syllabus that will lead you to master the European regulation and policies related to the use of hydrogen”*



## General Objectives

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- ◆ Develop in depth the regulation affecting hydrogen-related projects
- ◆ Determine best practices regarding the safety of hydrogen projects
- ◆ Determine the main regulations affecting hydrogen projects

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*This program will lead you to deepen your knowledge of existing standards and best practices in the implementation of the Safety Plan in a hydrogen project”*





## Specific Objectives

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- ◆ Study best practices for hydrogen project deployment
- ◆ Instruction on the documentation required by the administration
- ◆ Delve into key application directives
- ◆ Study the safety of hydrogen installations
- ◆ Learn about the certification process of installations



03

# Structure and Content

TECH has focused its efforts in offering in this Postgraduate Certificate, the most comprehensive agenda on Regulatory and Safety Aspects of Hydrogen. Faced with content that, a priori, may seem dense, this academic institution provides multimedia resources (video summaries, videos in detail), specialized readings and case studies, which will enrich and make this learning process much more attractive. In addition, thanks to the Relearning system, students will be able to reduce the long hours of study and memorization, so frequent in other teaching methods.





“

*With this program you will understand the methodology and requirements used in the Safety Integrity Level" index"*



## Module 1. Hydrogen Regulatory and Safety Issues

- 1.1. EU Policies
  - 1.1.1. European Hydrogen Strategy
  - 1.1.2. REPowerEU Plan
  - 1.1.3. Hydrogen Roadmaps in Europe
- 1.2. Incentive Mechanisms for the Deployment of the Hydrogen Economy
  - 1.2.1. Need for incentive mechanisms for the deployment of hydrogen economy
  - 1.2.2. Incentives at European Level
  - 1.2.3. Examples of Incentives in European Countries
- 1.3. Regulation Applicable to the Production and Storage, Use of Hydrogen in Mobility and in the Gas Grid
  - 1.3.1. Applicable Regulation for Production and Storage
  - 1.3.2. Applicable Regulation for the Use of Hydrogen in Mobility
  - 1.3.3. Regulation Applicable for the Use of Hydrogen in the Gas Grid
- 1.4. Standards and Best Practices in Security Plan Implementation
  - 1.4.1. Applicable Standards: CEN/CELEC
  - 1.4.2. Good practices in the implementation of the Security Plan
  - 1.4.3. Hydrogen Valleys
- 1.5. Required Project Documentation
  - 1.5.1. Technical Projects
  - 1.5.2. Environmental Documentation
  - 1.5.3. Certification
- 1.6. European Directives. Application Key: PED, ATEX, LVD, MD and EMC
  - 1.6.1. Pressure Equipment Regulations
  - 1.6.2. Explosive Atmosphere Regulations
  - 1.6.3. Chemical Storage Regulations
- 1.7. International Risk Identification Standards: HAZID/HAZOP analysis
  - 1.7.1. Hazard Analysis Methodology
  - 1.7.2. Risk Analysis Requirements
  - 1.7.3. Execution of Risk Analysis





- 1.8. Plant Safety Level Analysis: SIL Analysis
  - 1.8.1. SIL Analysis Methodology
  - 1.8.2. SIL Analysis Requirements
  - 1.8.3. SIL Analysis Execution
- 1.9. Certification of Installations and CE Marking
  - 1.9.1. Necessity of Certification and CE Marking
  - 1.9.2. Authorized Certification Bodies
  - 1.9.3. Documentation
- 1.10. Permits and Approval: Case Study
  - 1.10.1. Technical Projects
  - 1.10.2. Environmental Documentation
  - 1.10.3. Certification

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*Do you have a hydrogen project in mind? Take the necessary steps after learning about the Regulatory and Safety Aspects of Hydrogen with this Postgraduate Certificate”*

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.







“

*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 Regulatory and Safety Aspects of Hydrogen provides students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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*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 Regulatory and Safety Aspects of Hydrogen** 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 Regulatory and Safety Aspects of Hydrogen**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



\*Apostille Convention. In the event that the student wishes to have their paper certificate 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 language  
virtual classroom



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



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