Internship Program
Hydrogen Technology

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Introduction

The use of Hydrogen as an alternative energy source has gained great relevance in recent years, due to its potential to reduce greenhouse gas emissions and reduce dependence on fossil fuels. Faced with this situation, more and more institutions are demanding the incorporation of highly specialized engineers in this field, capable of producing green Hydrogen efficiently. To take advantage of these job opportunities, professionals need to keep abreast of the latest developments in this area to gain a competitive advantage. In view of this, TECH is launching an innovative qualification consisting of a 3-week practical internship at a leading institution, where professionals will be updated on the latest developments in Hydrogen Technology.

Through this Internship Program, you will become a highly specialized Engineer in Hydrogen Technology and lead innovative projects related to this emerging field"

A recent report by the European Commission forecasts that the Hydrogen market will reach a value of 140 billion euros in the coming years. This data evidences the growing interest and investment in Hydrogen-based technologies as a clean and sustainable alternative in the global energy matrix. In this context, engineers are challenged to update their knowledge regularly in order to incorporate the latest advances in their practice, apply them efficiently in their projects and contribute to the sustainable development of society.

In this framework, TECH presents an innovative and eminently practical program consisting of a 120-hour stay in a reference entity in the field of Hydrogen Technology. Thus, over 3 weeks, the graduates will be part of a team of top level experts, with whom they will work actively in areas such as storage, transport and distribution of Hydrogen. Thanks to this, students will be able to update their knowledge while acquiring new skills to optimize their practice considerably.

During this stay, students will be supported by an assistant tutor, who will be responsible for ensuring that all the requirements for which this Internship Program has been designed are met. On this basis, graduates will work with total guarantee and security in the handling of the most sophisticated technology. Thus, graduates will live an enriching experience that will allow them to experience a significant improvement in their professional performance.

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Why Study an Internship Program?

The Hydrogen Technology sector is constantly evolving, given its potential to develop innovative solutions to handle today's energy challenges. Given this, specialists need to update both their knowledge and skills to stay at the forefront of the latest procedures in this field of expertise. To help them with this, TECH has designed a unique and disruptive academic product in the current pedagogical landscape, which will allow the specialist to enter a real working environment where they can put into practice the latest procedures and techniques in subjects such as Hydrogen Production and electrolysis.

> *Through this revolutionary hands-on specialization, you will be able to tackle complex problems and make the most informed decisions in the context of Hydrogen projects"*

1. Updating from the latest technology available

Advances driven by Industry 4.0 have had a significant impact on the field of Hydrogen Technology. For example, high pressure tanks serve to improve safety in both storage and transportation of Hydrogen. Aware of this, TECH develops an Internship Program that will allow students to handle the most sophisticated technological tools for their professional practice.

2. Gaining in-depth knowledge from the experience of top specialists

During the course of this Internship Program, students will be integrated into a work team made up of the best professionals in Hydrogen Technology Engineering, which guarantees the excellent quality of the program. Thanks to the advice offered by the tutor who will accompany them during their on-site stay, the graduates will experience a remarkable leap in quality in their professional career.

3. Entering first-class professional environments

Entering a first-class professional environment
TECH carefully selects all the centers available for its internships. As a result, graduates are guaranteed access to a prestigious environment in the field of Hydrogen Technology. In this way, they will be able to experience the day-to-day of a demanding, rigorous and exhaustive area of work, always applying the latest scientific postulates in their work methodology.

4. Putting the acquired knowledge into daily practice from the very first moment

In the academic market, there is a huge lack of university programs that allow students to develop their knowledge in a practical way. For this reason, TECH has created an innovative teaching model, which will enable students to access a real working environment for 3 weeks to expand their skills significantly.

5. Expanding the boundaries of knowledge

TECH offers the possibility of carrying out this Internship Program in entities of international reference. Thus, graduates will be able to update their knowledge with cutting-edge professionals, with extensive professional experience in the field of Hydrogen Technology.

You will have full practical immersion at the center of your choice"

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Objectives

Thanks to this Internship Program, graduates will have a comprehensive understanding of the principles of production, storage, transport and use of Hydrogen as an energy carrier. At the same time, engineers will acquire technical competences for the design, analysis and optimization of production systems. Also, during the exercise of their work, the professionals will be aware of the legal frameworks that include both the development and commercialization of Hydrogen. In addition, their practices will stand out for their professional ethics and sustainability.

General Objectives

- Qualify students in the interpretation and in-depth analysis of hydrogen
- Compile the breadth of concepts and knowledge necessary to delve into the field of the use of hydrogen as an energy vector
- Develop specialized knowledge of the world of hydrogen and an in-depth understanding of its potential as an energy vector

Specific Objectives

- Interpret in depth the singularities of the Hydrogen environment
- Examine the existing legislative framework in the Hydrogen environment
- Evaluate the members of the Hydrogen value chain, as well as the needs to achieve the hydrogen economy
- Determine the most relevant concepts of the Hydrogen environment
- Establish the modes of biological Hydrogen formation
- Develop the different possibilities of storage, transport and distribution of Hydrogen
- Analyze the chemistry that governs the operation of PEMFCs
- Understand the operation of the PEMFC fuel cell stack
- Analyze the characteristics of other types of fuel cells
- Establish the sizing of the fuel cell system according to the final application
- Determine fuel cell integration by end-use
- Perform techno-economic Modeling of fuel cell operation
- Establishing the different typologies of Hydrogen refueling stations
- Establish the design parameters
- Study the safety of Hydrogen installations
- Compile project management tools
- Explore the different parts of project planning
- Raise awareness of the importance of project risk identification and management
- Develop specialized knowledge on techno-economic and feasibility analysis of hydrogen projects
- Determine the structuring of Hydrogen projects and their financing
- Analyze the keys to electricity supply for green Hydrogen production
- Learn how to develop a feasibility analysis and its different scenarios

You will develop advanced skills in project management and economic understanding related to the implementation of Hydrogen Technologies in the marketplace"

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Educational Plan

The Internship Program of this university program in Hydrogen Technology is composed of a practical stay in a prestigious entity, lasting 3 weeks, from Monday to Friday with 8 consecutive hours of Internship Program with an assistant specialist. Throughout this itinerary, graduates will be able to work in a highly demanding work environment, joining a team of professionals who will teach them the safest methods for storing, transporting and distributing hydrogen.

In this internship proposal, completely practical in nature, the activities are aimed at developing and perfecting the skills necessary for the provision of Hydrogen Technology services in conditions that require a high level of qualification, and are oriented to the specific training for the exercise of the activity, in a safe environment for users.

This is an ideal opportunity for graduates to broaden their knowledge while working in a sector of great potential, which requires continuous updating to offer high quality services.

The practical teaching will be performed with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other fellow students that facilitate teamwork and multidisciplinary integration as transversal competences for the praxis of Hydrogen Technology Engineering (learning to be and learning to relate).

The procedures described below will be the basis of the practical part of the program, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:

> *You will be specialized in a reference entity, equipped with the most sophisticated technological tools for you to perform your work with maximum efficiency"*

Module	Practical Activity
Manufacturing and obtaining of Hydrogen	Design electrolysis systems that use electricity to decompose water into Hydrogen and oxygen.
	Optimize operating conditions (such as temperature, pressure or electrolyte concentration) to increase Hydrogen efficiency and reduce costs.
	Integrate renewable energy sources with electrolysis systems to produce Green Hydrogen
	Manage equipment maintenance to ensure efficient as well as continuous operation
Depot, transport and delivery processes	Develop safe storage solutions for hydrogen (whether in gaseous form at high pressure, liquid at low temperatures or bonded to other materials such as metal hydrides)
	Plan infrastructures for efficient hydrogen transport (including pipelines or tankers).
	Improve the distribution network to ensure that Hydrogen is available where and when needed.
	Create emergency procedures to handle possible incidents during storage and transport
Refueling Station Engineering	Construct Hydrogen Refueling Stations, including site selection or component layout to the integration of compression systems.
	Implement systems that efficiently manage the flow of Hydrogen from storage to dispensing into vehicles
	Perform regular maintenance and timely repairs to ensure the operability of the facilities
	Collect and analyze operational data in order to evaluate station performance.
Project Development and Implementation	Conduct thorough feasibility analysis and environmental impact assessments to ensure both technical feasibility and sustainability of the initiative
	Design integrated systems for Hydrogen handling (such as production plants, storage systems or production plants, storage systems or refueling stations)
	Oversee project implementation, from conception to completion, ensuring that time, cost and quality objectives are met.
	Identify, analyze and manage risks associated with Hydrogen projects, developing strategies to mitigate them.

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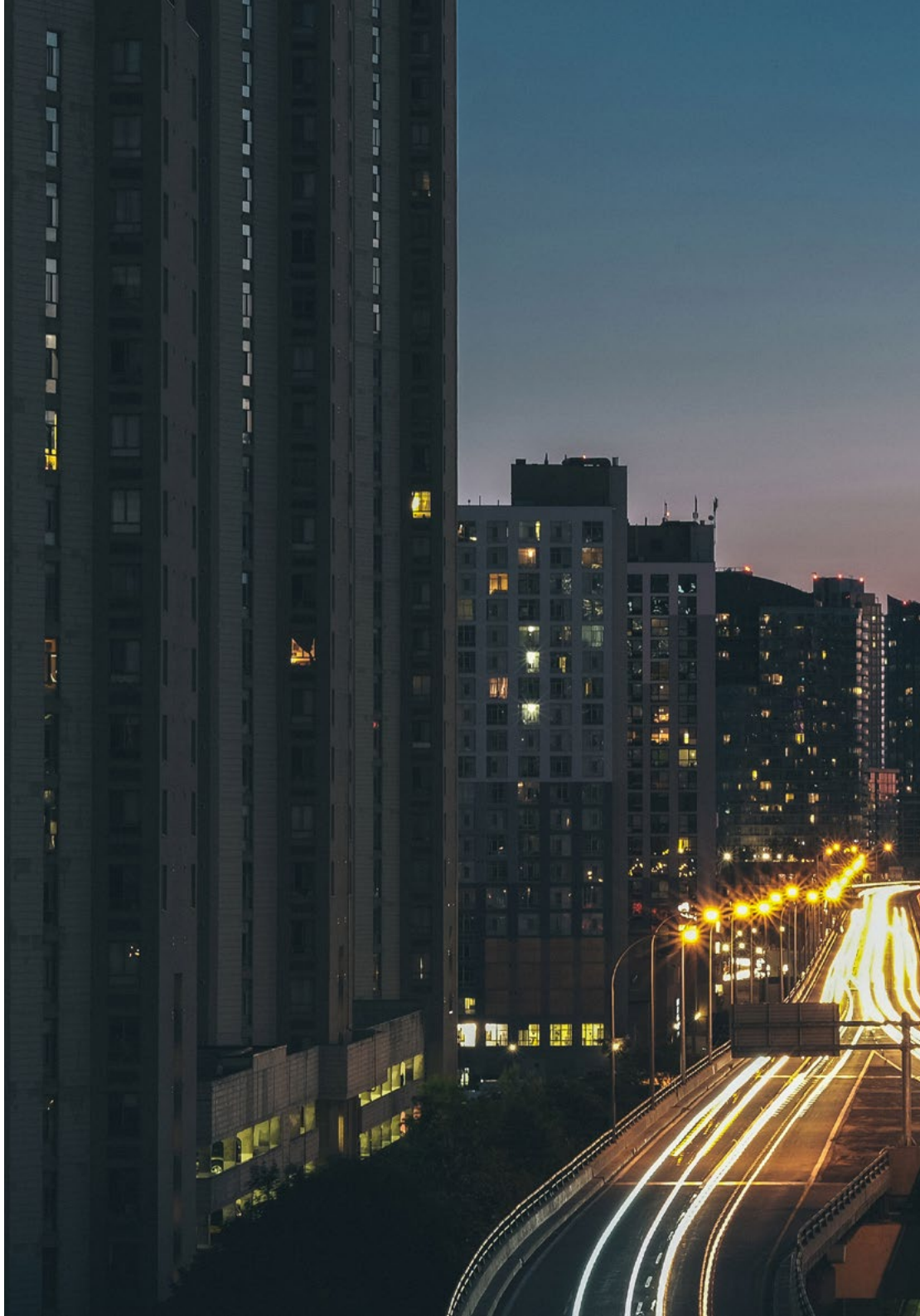
Where Can I Do the Internship Program?

Committed to offering high quality academic programs, TECH carefully selects the institutions for its students' internships. This meticulous process has allowed the selection of internationally recognized companies, ensuring that graduates carry out their on-site stay in an environment of the highest level. Therefore, they will have the opportunity to be part of a multidisciplinary work team, composed of true experts in Hydrogen Technology.

You will carry out your internship program in a prestigious company, where you will have the support of the best professionals in Hydrogen Technology"



The student will be able to do this program at the following centers:

Neuwalme

Country
Spain

City
Pontevedra

Address: Estrada Fragosiño, 32, 34, Sárdoma, 36214 Vigo, Pontevedra

Neuwalme stands out for its specialization in the sale of Oleo-hydraulics and Pneumatics.

Related internship programs:
-Hydrogen Technology

Make the most of this opportunity to surround yourself with expert professionals and learn from their work methodology"

06

General Conditions

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the students and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the Internship Program period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.

General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Internship Program, students will be assigned two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. NOT INCLUDED: The Internship Program shall not include any element not described in these conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

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Certificate

This **Internship Program in Hydrogen Technology** contains the most complete and up-to-date program in the professional and academic landscape.

After the student has passed the assessments, they will receive their corresponding **Internship Program** diploma issued by **TECH Technological University** via tracked delivery*.

The diploma issued by TECH will reflect the grade obtained in the test.

Title: **Internship Program in Hydrogen Technology**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour consecutive shifts**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having successfully passed and accredited the following program

INTERNSHIP PROGRAM

in

Hydrogen Technology

This is a qualification awarded by this University, with a duration of 120 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.

Unique TECH Code: AFWORD23S techtitute.com/certificates

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