Professional Master's Degree

Industrial Safety and the Environment

tech global university

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Professional Master's Degree
Industrial Safety and the Environment

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Accreditation: **90 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/us/engineering/professional-master-degree/master-industrial-safety-environment**

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01

Introduction to the Program

Industrial Safety and the Environment are two key pillars for the responsible operation of modern industries, positioning themselves as a competitive advantage that allows companies to reduce risks, improve their operational efficiency and position themselves as responsible players in the market. This scenario creates a growing demand for experts capable of implementing safety and sustainability practices at all operational levels. In this context, TECH has designed a program that trains graduates to become leaders capable of ensuring employee safety, compliance with current regulations and continuous improvement of environmental efficiency. All this, through a 100% online format and the most innovative teaching methodology: Relearning.

A 100% online program that will provide you with in-depth knowledge of the fundamental tools in Industrial Safety and environmental management"

The area of Industrial Safety and the Environment has acquired critical relevance in recent decades, driven both by increased public awareness of occupational hazards and the environmental effects of industrial activity, and by the evolution of global regulations and policies that demand higher standards of protection.

International organizations such as the International Organization for Standardization and the International Labor Organization have established rigorous regulatory frameworks, which have raised the responsibility of companies to unprecedented levels, making it essential to prepare professionals specialized in these fields, capable of leading initiatives that integrate the principles of safety and sustainability within industrial processes.

With this idea in mind, TECH has developed an innovative program focused on promoting a comprehensive view on safety and sustainability in industry, fostering the development of skills in both the identification of risks and the implementation of solutions that promote a safe working environment and minimal environmental impact. Throughout this academic journey, engineers will delve into key areas such as industrial safety management, safety and environmental methodologies and tools, audits, and key indicators in these fields.

In addition, the contents of this program are taught through a 100% online format, allowing professionals to combine their studies with their work and personal responsibilities. At the same time, the syllabus is accessible 24 hours a day, 7 days a week, from any device with an Internet connection and anywhere in the world. On the other hand, the learning methodology is based on the implementation of the Relearning method, which facilitates the assimilation of key concepts through repetition.

This **Professional Master's Degree in Industrial Safety and the Environment** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts with extensive experience in the implementation of safety management systems, environmental protection, international regulations, audits and emerging technologies applied to the industry
- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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

You will be trained to face the current challenges of the industry, managing labor and environmental risks with the most demanding regulations and applying the best global practices"

You will be prepared to implement efficient management systems that not only improve occupational safety, but also promote the reduction of environmental impact in various industries"

Get ready to adapt to technological advances in the field of Engineering with this comprehensive Professional Master's Degree from TECH.

You will gain a global vision of safety and sustainability in the industrial environment, preparing you to take on key roles in different sectors, from manufacturing to energy.

The program's teaching staff includes professionals from the sector who contribute their work experience to this specializing 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned experts.

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Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it relies on an enormous faculty of more than 6,000 professors of the highest international renown.

Study at the world's largest online university and guarantee your professional success. The future starts at TECH"

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

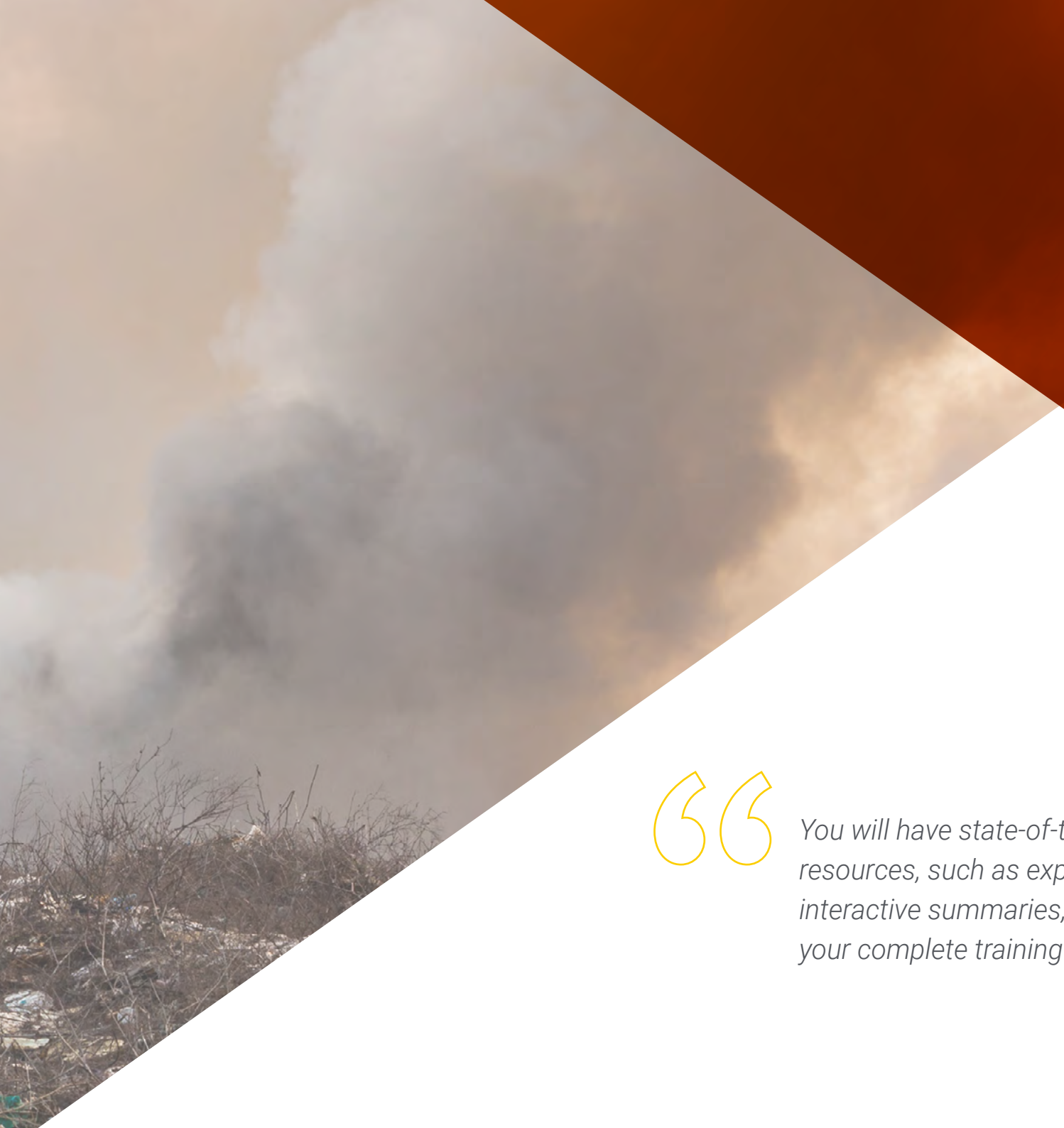
The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

02

Syllabus

This Professional Master's Degree offers a comprehensive and up-to-date approach, covering the key aspects of safety and sustainability in the industrial environment. Through 10 modules, the program delves into essential topics such as Industry and Engineering, addressing the fundamentals, practices and applicable international regulations. In this way, engineers will acquire key skills in safety management and explore various methodologies and tools for both safety and environmental management, providing a complete and detailed preparation to meet today's challenges in the industrial sector.



You will have state-of-the-art multimedia resources, such as explanatory videos and interactive summaries, which will facilitate your complete training in this TECH program"

Module 1. Industrial Safety

1.1. Industry Safety
- 1.1.1. Industrial Safety
- 1.1.2. Objectives of Industrial Security
- 1.1.3. Severity in Industrial Safety

1.2. Risks and Hazards in Industries
- 1.2.1. Types of Hazards in the Industrial Environment
  - 1.2.1.1. Dynamic, Electrical, Chemical and Hygienic Hazards
- 1.2.2. Risk Factors
- 1.2.3. Hazard Identification Techniques

1.3. Occupational Accident Prevention
- 1.3.1. Accident Prevention Models
  - 1.3.1.1. Heinrich Models, Dominoes and Layers of Protection System
- 1.3.2. Preventive Methods in Industrial Safety
  - 1.3.2.1. Safety Barriers, Engineering Controls and Procedures
- 1.3.3. Root Cause Analysis (RCA) of Accidents and Near Misses: Techniques

1.4. Industrial Safety Planning
- 1.4.1. Stages of a Safety Management Plan
- 1.4.2. Safety Planning in Industry
- 1.4.3. International Industrial Safety Standards

1.5. Safety in Work with Machinery and Equipment
- 1.5.1. Types of Machinery and Associated Risks
  - 1.5.1.1. Heavy Equipment, Power Tools and Automation
- 1.5.2. Machine Protection and Access Control
  - 1.5.2.1. Lockout and Tagout Systems (LOTO) and Guards
- 1.5.3. Safe Maintenance of Equipment
  - 1.5.3.1. Preventive and Corrective Maintenance Practices to Avoid Incidents

1.6. Control of Hazardous Substances
- 1.6.1. Hazardous Substances in Industry
  - 1.6.1.1. Chemicals, Gases, Flammable Materials
- 1.6.2. Methods of Safe Storage and Handling of Substances
  - 1.6.2.1. Containment, Labeling and Transport
- 1.6.3. Spill or Leak Response Protocols
  - 1.6.3.1. Protective Equipment and Emergency Plans

1.7. Fire Protection and Thermal Hazards
- 1.7.1. Types of Fire and Extinguishing Methods
  - 1.7.1.1. Fire Classification. Appropriate Extinguishers
- 1.7.2. Protection Systems and Emergency Plans
  - 1.7.2.1. Detectors, Alarms, Sprinklers and Extinguishers
- 1.7.3. Management of Risks Associated with Thermal Contacts

1.8. Electrical Safety
- 1.8.1. Ohm's Law
- 1.8.2. Types of Electrical Hazards: Shocks, Electric Arc
- 1.8.3. Rules for Electrical Risk Management
- 1.8.4. Tools, Barriers and Controls

1.9. Work at Height and Dynamic Risks
- 1.9.1. Work at Height and Main Risks
- 1.9.2. Types of Risk Environments at Heights
- 1.9.3. Personal Protection Equipment (PPE) and Restriction for Working at Heights

1.10. Emergency Management and Incident Response Systems
- 1.10.1. Emergency Response Plans
  - 1.10.1.1. Design and Coordination of Actions for Critical Events
- 1.10.2. Response and First Aid Teams in Industry
  - 1.10.2.1. Training and Equipping of Teams
- 1.10.3. Post-Emergency Evaluation and Continuous Improvement
  - 1.10.3.1. Incident Learning and Protocol Adjustment

Module 2. The Environment in Industry

2.1. The Environment in Industry. Conceptual Framework
- 2.1.1. Historical Evolution of the Relationship between Humankind and the Environment
- 2.1.2. Key Principles of Environmental Management
- 2.1.3. Importance of the Environment for Humankind

2.2. Ecology and Natural Resources
- 2.2.1. Ecological Principles
- 2.2.2. Types of Ecosystems and Biodiversity
- 2.2.3. Energies: Renewable and Non-Renewable Sources

2.3. Waste, Effluents and Emissions
- 2.3.1. Solid Waste
- 2.3.2. Liquid Effluents
- 2.3.3. Atmospheric Emissions

2.4. Soil Pollution
- 2.4.1. Sources and Spread of Soil Contamination
- 2.4.2. Contaminated Soil: Risks to the Population
- 2.4.3. Technologies for Soil Treatment

2.5. Water Pollution
- 2.5.1. Sources and Spread of Contamination in Surface Waters
- 2.5.2. Spread of Contamination in Groundwater
- 2.5.3. Contaminated Water
  - 2.5.3.1. Risks for the Population
- 2.5.4. Water Treatment Technologies

2.6. Air Pollution
- 2.6.1. Sources and Spread of Pollution in the Atmosphere
- 2.6.2. Harmful Atmospheres
  - 2.6.2.1. Risks for the Population
- 2.6.3. Technologies for the Treatment of Gaseous Effluents

2.7. Industrial Waste Management
- 2.7.1. Industrial Waste Management
- 2.7.2. Hazardous, Non-Hazardous and Recyclable
- 2.7.3. Waste Treatment Methods
  - 2.7.4.1. Reduction, Reuse and Recycling
- 2.7.4. Final Waste Disposal
  - 2.7.4.1. Landfills, Sanitary Landfills and Safety Landfills

2.8. Water Management in Industrial Processes
- 2.8.1. Water Footprint: Calculation
- 2.8.2. Efficient Use of Water in Industry: Reduction of Consumption and Optimization
- 2.8.3. Wastewater Treatment: Treatment and Reuse Technologies
- 2.8.4. Discharges and Water Quality: Controls

2.9. Energy Management and Emission Reduction
- 2.9.1. Carbon Footprint. Calculation
- 2.9.2. Energy Efficiency in Industry: Strategy and Technologies
- 2.9.3. Greenhouse Gas Reduction. Renewable Energy Sources
- 2.9.4. Emissions Monitoring and Reporting. Tools

2.10. Sustainable Development and Circular Economy
- 2.10.1. Principles of Circular Economy. Life Cycle of Products and Materials
- 2.10.2. Cleaner Production in Industry. Sustainable Processes and Waste Minimization
- 2.10.3. Examples of Circular Economy Implementation. Success Stories

Module 3. International Regulatory Framework for Industrial Safety and the Environment

3.1. International Regulatory Framework for Industrial Safety and the Environment
- 3.1.1. Key International Organizations. ILO, ISO, WHO, UNEP, UNEP
- 3.1.2. Principles and Objectives of International Standards
- 3.1.3. Outline and Classification of Relevant Regulations: Conventions, Recommendations, Standards

3.2. Comparative Safety and Environmental Law
- 3.2.1. Case Studies of Different Countries
- 3.2.2. Identification of Similarities and Differences in International Regulatory Approaches
- 3.2.3. Factors that Influence Diversity of Legal Systems

3.3. Legal Aspects of Industrial and Environmental Safety at the International Level
- 3.3.1. Civil and Criminal Liability at the International Level: Fault, Negligence, and Risk
- 3.3.2. Compensation for Damages at the International Level
- 3.3.3. Jurisprudence. Compensation for Damages at the International Level

3.4. Ethical Aspects of Industrial and Environmental Safety
- 3.4.1. Ethical Values and Principles in the Labor and Environmental Sphere
- 3.4.2. Conflicts of Interest and Ethical Dilemmas
- 3.4.3. Sustainable Development and Its Relationship to Safety and the Environment

3.5. Key International Standards
- 3.5.1. ISO 45001 and 14001 Standards: Integrated Management Systems
- 3.5.2. Structure and Requirements of the Standards
- 3.5.3. Implementation and Certification

3.6. Other Relevant International Standards. GHS, IEC, EMAS
- 3.6.1. Information Security Management Systems
- 3.6.2. Electrical Safety. Associated Risks
- 3.6.3. Harmonization of International Norms and Standards

3.7. Prevention, Analysis and Evaluation of Environmental Risks and Accidents
- 3.7.1. Identification and Risk Assessment
  - 3.7.1.1. Methods and Tools for Risk Assessment
- 3.7.2. Hazard Analysis and Assessment. HAZOP, FMEA
- 3.7.3. Risk Ranking

3.8. Control and Prevention Measures
- 3.8.1. Prevention Measures
- 3.8.2. Analysis of the Different Types of Monitoring
- 3.8.3. Accident and Incident Investigations

3.9. Prevention of Waste Contamination and Management
- 3.9.1. Product Life Cycle. Manufacturer's Responsibility
- 3.9.2. Hazardous Waste Management
- 3.9.3. Mitigation of Climate Change

3.10. Future Trends and Challenges in Industrial and Environmental Safety
- 3.10.1. Impact of New Technologies on Safety and Environmental Management
  - 3.10.1.1. Industry 4.0 and Safety
- 3.10.2. Artificial Intelligence and Robotics in Industrial and Environmental Safety
- 3.10.3. Telecommuting and Teleworking

Module 4. Safety Management in Industry

4.1. Safety Management in Industry
- 4.1.1. Industrial Safety Management
- 4.1.2. International Industrial Safety Standards
- 4.1.3. Importance of Safety Management in Industry

4.2. Identification and Assessment of Risks in Industry
- 4.2.1. Risk Identification Methods. MAT, FMEA
- 4.2.2. Risk Analysis and Assessment
- 4.2.3. Risk Prioritization and Development of Mitigation Plans

4.3. Design of Safety Management Systems in Industry
- 4.3.1. Safety Policy and Objectives
- 4.3.2. Organizational Structure and Responsibilities
- 4.3.3. Security Procedures and Protocols

4.4. Emergency Management and Incident Response in Industry
- 4.4.1. Emergency Planning and Incident Response
- 4.4.2. Evacuation and Rescue Procedures
- 4.4.3. Communication in Emergency Situations

4.5. Safety of Industrial Processes
- 4.5.1. Risk Analysis in Industrial Processes
- 4.5.2. Risk Control in Industrial Operations
- 4.5.3. Process Change Management

4.6. Incident Investigation and Analysis Techniques
- 4.6.1. Incident Investigation Techniques
- 4.6.2. Root Cause Analysis
- 4.6.3. Incident Logging to Generate Databases

4.7. Lessons Learned and Training in Industrial Safety
- 4.7.1. Preparation of Lessons Learned and Dissemination
- 4.7.2. Safety Committees
- 4.7.3. Training and Awareness Plan

4.8. Safety Management Audits and Assessment
- 4.8.1. Types of Audits and Management Assessments
- 4.8.2. Security Management Audit and Assessment Methodologies
- 4.8.3. Reports and Recommendations

4.9. Security Technologies and Tools
- 4.9.1. Statistical Analysis Tools
- 4.9.2. Fire Protection Technologies
- 4.9.3. Surveillance Systems and the Use of Artificial Intelligence

4.10. Management of Continuous Improvement in Security Management
- 4.10.1. Evaluation of Results and Comparison with Objectives
- 4.10.2. Design of Corrective Actions to Adjust Safety Management
- 4.10.3. Updating Objectives and Procedures Based on Historical Statistical Data

Module 5. Industrial Safety Methodologies and Tools

5.1. Quantitative Risk Analysis (QRA)
- 5.1.1. QRA Approach: Quantitative Risk Analysis in Industrial Safety
- 5.1.2. Probabilistic Methods for Risk Estimation: Statistical Analysis and Numerical Risk Assessment
- 5.1.3. QRA: Examples in the Process and Manufacturing Industry. Case Studies

5.2. Root Cause Analysis (RCA)
- 5.2.1. Root Cause Analysis. Objectives in Industrial Safety
- 5.2.2. Methodologies for RCA
- 5.2.3. Practical Application of RCA. Identification of Underlying Causes and Corrective Actions

5.3. Hazard and Operability Study (HAZOP)
- 5.3.1. HAZOP: Objectives and Application
- 5.3.2. Steps in HAZOP: Identification of Deviations and Risk Assessment
- 5.3.3. Practical Examples of HAZOP: Application in Chemical and Industrial Processes

5.4. Hazard Identification (HAZID)
- 5.4.1. HAZID: Purpose in Hazard Identification
- 5.4.2. Differences between HAZOP and HAZID. Uses
- 5.4.3. Steps in HAZID: Early Hazard Identification and Prevention

5.5. Design Failure Mode and Effect Analysis (DFMEA)
- 5.5.1. DFMEA: Purpose and Approach to Design Safety
- 5.5.2. Procedure in DFMEA: Identification of Failure Modes and Their Impact
- 5.5.3. Examples in Industrial Design. Application of DFMEA in the Automotive, Manufacturing and Process Industries

5.6. Quantitative Risk Assessment and Risk Matrix
- 5.6.1. Risk Matrix
- 5.6.2. Calculation of Probability and Severity
  - 5.6.2.1. Methodologies to Estimate and Evaluate Risks
- 5.6.3. Practical Use of the Risk Matrix
  - 5.6.3.1. Examples in Sectors such as Construction and Energy

5.7. ALARP (As Low As Reasonably Practicable) Criteria
- 5.7.1. ALARP Criteria
  - 5.7.1.1. Application of the ALARP Criteria in Risk Management
- 5.7.2. Cost-Benefit Assessment of Safety Measures
  - 5.7.2.1. Risk Reduction Decisions
- 5.7.3. Implementing the ALARP Criteria
  - 5.7.3.1. Examples from Different Industries

5.8. IEC 61511 Standard. Functional Safety for the Process Industry
- 5.8.1. IEC 61511 Standard
  - 5.8.1.1. Functional Safety as Applied to Safety Instrumented Systems
- 5.8.2. Safety Life Cycle
  - 5.8.2.1. Planning, Design, Operation and Maintenance according to IEC 61511
- 5.8.3. IEC 61511 Implementation Examples
  - 5.8.3.1. Safety Cases in Chemical and Petrochemical Plants

5.9. Risk Assessment with Bow-Tie Analysis
- 5.9.1. Bow-Tie Analysis. Visual Tool for Risk Assessment
- 5.9.2. Key Components of Bow-Tie Analysis
  - 5.9.2.1. Identification of Preventive and Mitigation Barriers
- 5.9.3. Example of the Bow-Tie Method. Cases in Industrial Risk Management

5.10. Risk-Based Safety Evaluation Methods (RBSE)
- 5.10.1. Risk-Based Safety
  - 5.10.1.1. Prioritization of Safety Resources by Risk
- 5.10.2. Risk-Based Assessment Techniques: Qualitative and Quantitative Assessments
- 5.10.3. Implementation in Industry: Application in Sectors such as Energy, Transportation and Manufacturing

Module 6. Environmental Management in Industry

6.1. Environmental Management in Industry
- 6.1.1. Environmental Management in Industry
- 6.1.2. Importance of Environmental Management in Industry: Benefits and Responsibilities
- 6.1.3. Preventive vs. Corrective Approach in Environmental Management: Advantages and Limitations

6.2. Identification and Evaluation of Environmental Aspects and Impacts
- 6.2.1. Methods for Identification of Environmental Aspects and Impacts: Tools and Techniques
- 6.2.2. Evaluation of the Significance of Impacts: Matrices and Evaluation Criteria
- 6.2.3. Types of Environmental Impact Studies: Structure and Objectives
- 6.2.4. Strategies to Mitigate Negative Environmental Impacts: Best Practices and Technologies

6.3. Environmental Management Systems (EMS)
- 6.3.1. Environmental Policies and Objectives in Companies
- 6.3.2. Environmental Management Systems (EMS): Structure, Objectives and Benefits
- 6.3.3. Environmental Procedures and Protocols in Companies

6.4. Implementation of an Environmental Management System (EMS) in Industry
- 6.4.1. Planning and Implementation of an EMS: Scope and Environmental Policies
- 6.4.2. Matrices of Aspects and Impacts and Their Relevance within the EMS
- 6.4.3. Documentation and Process Control in the EMS: Manuals, Procedures and Records

6.5. Integration of an Environmental Management System (EMS) with Other Management Systems
- 6.5.1. ISO001 (Quality) and OHSAS 18001/ISO 45001 (Occupational Health and Safety): Benefits of Integration
- 6.5.2. Synergies between Environmental Management and Energy Efficiency (ISO 50001)
- 6.5.3. Examples of Successful Integration of Management Systems in Industry: Case Studies

6.6. Environmental Performance Assessment
- 6.6.1. Environmental Key Performance Indicators (KPIs): Definition, Tracking and Reporting
- 6.6.2. Performance Monitoring and Measurement Tools: Software and Emerging Technologies
- 6.6.3. Conformity Assessment and Management Review: Alignment with Strategic Objectives

6.7. Waste and Effluent Management and Resources in the framework of an Environmental Management System (EMS)
- 6.7.1. Waste and Effluent Minimization and Management Strategies: Implementation of Best Practices
- 6.7.2. Efficient Water and Energy Management within the EMS: Consumption Reduction and Optimization
- 6.7.3. Circular Economy and Its Integration into the EMS: Cleaner Production and Recycling

6.8. Environmental Emergency Management in Industry
- 6.8.1. Environmental Emergency Response Planning
- 6.8.2. Environmental Emergency Response Procedure
- 6.8.3. Internal and External Communication of Environmental Emergencies

6.9. Corporate Social Responsibility (CSR)
- 6.9.1. Staff Training and Environmental Awareness: Ongoing Training Programs
- 6.9.2. Internal and External Communication of Environmental Performance: Sustainability and Transparency Reports
- 6.9.3. Stakeholder Engagement and Corporate Social Responsibility (CSR)
- 6.9.4. Environmental Management as Part of CSR. Integration into Corporate Strategy
- 6.9.5. Communication and Sustainability Reporting. Transparency and Stakeholder Relations
  - 6.9.5.1. Success Stories in Industry. Examples of Companies with Good Practices in Environmental Management and CSR

6.10. Future of Environmental Management and Environmental Management Systems (EMS)
- 6.10.1. Emerging Trends in Sustainability and Environmental Management: Innovations and Future Challenges
- 6.10.2. Evolution of Standards and Regulations: Expected Changes in ISO 14001 and Others
- 6.10.3. The Role of Digitalization in Environmental Management: Industry 4.0 and Sustainability

Module 7. Methodologies and Tools in the Environmental Management of Industry

7.1. Identification of Environmental Impacts and Factors
- 7.1.1. Identification of Environmental Aspects and Impacts
- 7.1.2. Impacts from Projects and Impacts from Operation
- 7.1.3. Environmental Factors and Project Actions

7.2. Environmental Impact Assessment (I). Prior Studies
- 7.2.1. Project Definition
- 7.2.2. Identification of Potential Environmental Impacts
- 7.2.3. Baseline Analysis

7.3. Environmental Impact Assessment (II). Methodology, Analysis and Reporting
- 7.3.1. Environmental Impact Assessment Methodologies
- 7.3.2. Identification and Analysis of Environmental Impacts: Leopold Matrix
- 7.3.3. Preparation of Environmental Impact Reports with Mitigation Measures

7.4. Environmental Analysis Tools
- 7.4.1. Life Cycle Assessment (LCA)
- 7.4.2. Environmental Risk Assessment
- 7.4.3. Environmental Cost-Benefit Analysis

7.5. Waste and Pollution Management
- 7.5.1. Types of Industrial Waste
- 7.5.2. Waste Reduction and Recycling Techniques
- 7.5.3. Air and Water Pollution Control

7.6. Environmental Monitoring and Follow-Up
- 7.6.1. Design of Environmental Monitoring Programs
- 7.6.2. Environmental Data Sampling and Analysis Techniques
- 7.6.3. Reporting and Communication of Monitoring Results

7.7. Environmental Risk Management Tools
- 7.7.1. Identification and Evaluation of Environmental Risks
- 7.7.2. Environmental Risk Analysis Methodology
- 7.7.3. Strategies for the Mitigation and Control of Environmental Risk

7.8. Communication and Public Participation in Environmental Results
- 7.8.1. Strategies for Environmental Communication
- 7.8.2. Public Participation in Environmental Management
- 7.8.3. Development of Strategies for Community Engagement

7.9. Environmental Economics and Finance
- 7.9.1. Economic Analysis of Environmental Projects
- 7.9.2. Financing of Environmental Projects
- 7.9.3. Environmental Cost-Benefit Assessment

7.10. Environmental Data Analysis Tools
- 7.10.1. Descriptive and Inferential Statistics
- 7.10.2. Regression and Correlation Analysis
- 7.10.3. Modeling and Simulation

Module 8. Integrated Safety and Environmental Management Systems

8.1. Safety and Environment Integrated Management Systems (IMS)
- 8.1.1. Integrated Management Systems (IMS)
- 8.1.2. Integrated Management. Advantages and Disadvantages
- 8.1.3. Importance of Senior Management's Commitment to the IMS

8.2. Conceptual Framework ISO 45001
- 8.2.1. ISO 45001 Standard
- 8.2.2. Benefits of Implementation
- 8.2.3. Legal Requirements

8.3. Planning and Preparation for ISO 45001
- 8.3.1. Organizational Culture Analysis. Identification of the Organization's Needs and Expectations
- 8.3.2. Development of the Occupational Health and Safety Policy. Establishment of Objectives and Goals
- 8.3.3. Development of Procedures, Instructions and Records

8.4. Implementation and Maintenance of ISO 45001
- 8.4.1. Risk Assessment and Implementation of Control Measures
- 8.4.2. Training and Awareness Plan
- 8.4.3. Identification of Improvement Opportunities

8.5. Conceptual Framework of ISO 14001
- 8.5.1. ISO 14001 Standard
- 8.5.2. Benefits of Implementation
- 8.5.3. Legal Requirements

8.6. Planning and Preparation for ISO 14001
- 8.6.1. Initial Assessment of the Environmental Management System. Establishment of Environmental Policy
- 8.6.2. Establishment of Environmental Objectives and Targets
- 8.6.3. Development of Procedures, Instructions and Records

8.7. Implementation and Maintenance of ISO 14001
- 8.7.1. Identification of Significant Environmental Aspects and Assessment of Environmental Impacts
- 8.7.2. Establishment of Environmental Performance Indicators
- 8.7.3. Implementation of Control Measures for Significant Environmental Aspects

8.8. Integrated Management System (IMS)
- 8.8.1. Integration of Safety and Environmental Management Systems
- 8.8.2. Development of an Integrated Management System
- 8.8.3. Implementation and Maintenance of an IMS

8.9. Continuous Improvement Process in the Integrated Management System (IMS)
- 8.9.1. Continuous Improvement Framework
- 8.9.2. Development of Continuous Improvement Plans
- 8.9.3. Continuous Improvement Framework

8.10. Safety and Environmental Audits and Reviews
- 8.10.1. Planning and Execution of Internal Audits
- 8.10.2. Review and Evaluation of IMS Effectiveness
- 8.10.3. Development of Corrective Action Plans

Module 9. Indicators in Safety and Environmental Management

9.1. Safety and Environmental Indicators. Conceptual Framework
- 9.1.1. Definition and Objectives of Safety and Environmental Indicators
- 9.1.2. Types of Indicators: Quantitative, Qualitative, Leading and Lagging Indicators
- 9.1.3. Regulatory Framework and Applicable Standards: International Norms and Standards ISO 14001, ISO 45001

9.2. Selection of Key Performance Indicators (KPIs)
- 9.2.1. KPIs: Identification and Importance
- 9.2.2. Criteria for Selecting KPIs: Relevance, Measurability, Achievability, Timing
- 9.2.3. Examples of KPIs in Safety and Environment: Occupational Accidents, CO2 Emissions, Resource Consumption

9.3. Design of Effective Safety and Environment Indicators
- 9.3.1. Characteristics of a Good Indicator: Accuracy, Clarity, Relevance
- 9.3.2. Establishment of Targets and Thresholds: Definition of Clear Objectives for Indicators
- 9.3.3. Designing Dashboards and Reports: How to Present Data Effectively

9.4. Industrial Safety Indicators
- 9.4.1. Reactive Indicators (Lagging Indicators): Accidents, Incidents and Occupational Diseases
- 9.4.2. Leading Indicators: Inspections, Training and Safety Audits
- 9.4.3. Trends and Root Cause Analysis: Identifying Patterns and Preventing Accidents

9.5. Environmental Indicators in Industry
- 9.5.1. Emission Indicators: Measurement of Greenhouse Gases, Particulate Contaminants, and Others
- 9.5.2. Resource Consumption Indicators: Water, Energy, Raw Materials
- 9.5.3. Waste Management Indicators: Recycling Rate, Generation of Hazardous Waste, among Others
- 9.5.4. Sustainability Indicators

9.6. Data Sources and Information Collection
- 9.6.1. Internal and External Data Sources: Management Systems, Regulatory Reports, Audits, etc
- 9.6.2. Data Collection Methods: Digital Tools, Surveys, Manual Records
- 9.6.3. Data Validation and Consistency: How to Ensure the Quality and Reliability of Information

9.7. Analysis and Interpretation of Indicators in Industry
- 9.7.1. Methods of Analysis: Analysis of Trends, Variability, Comparison of Indicators
- 9.7.2. Use of Software for Indicator Analysis: Excel, Power BI, Specialized Tools
- 9.7.3. Interpretation of Results: Translation of Data into Strategic Decisions and Actions

9.8. Implementation of Indicators in Industry
- 9.8.1. Integration of Indicators in Operational Management: Incorporation of KPIs into Daily Processes
- 9.8.2. Internal Communication of Results: Communication of Results with the Team and Management
- 9.8.3. Adjustment and Optimization of Indicators: Adaptation of Indicators according to the Evolution of the Company

9.9. Indicators as Tools for Continuous Improvement in Industry
- 9.9.1. Periodic Evaluation of Indicators: Audits and Periodic Reviews of KPIs
- 9.9.2. Indicators for Improvement and Evolution: Use of Results to Promote Continuous Improvement
- 9.9.3. Lessons Learned and Adjustments: Use of Indicators to Adjust Policies and Procedures

9.10. Future of Indicators in Safety and Environment
- 9.10.1. New Technologies and Automation: Use of Big Data, IoT and AI in Data Collection and Analysis
- 9.10.2. Sustainability and Circular Economy: Support of Indicators in the Transition to Sustainable Models
- 9.10.3. Innovations and Global Trends: Contribution of Indicators in a Context of Increasing Regulation and Environmental Demands

Module 10. Industrial Safety and Environmental Audits

10.1. Industrial Safety and Environmental Audits Conceptual Framework
- 10.1.1. Audit: Definition, Objectives and Types of Audits
- 10.1.2. Importance of Safety and Environmental Audits. Continuous Improvement and Regulatory Compliance
- 10.1.3. Main Standards Applicable in Industry: ISO 14001-Environment and ISO 45001-Safety

10.2. International Standards and Regulations Applicable to Industrial Safety and the Environment
- 10.2.1. International Safety Regulations: Key Requirements and Standards, ISO 45001, OHSAS 18001
- 10.2.2. International Environmental Regulations: Key Requirements and Standards, ISO 14001, EMAS
- 10.2.3. Legal and Regulatory Compliance: Audits as a Tool for Legal Compliance, ISO 45001, OHSAS 18001

10.3. Industrial Safety and Environmental Audit Planning
- 10.3.1. Scope of the Audit: Areas to Be Evaluated, Objectives and Constraints
- 10.3.2. Review of the Documentation: Procedures, Reports and Internal Policies
- 10.3.3. Timeline and Resources Required: Time Allocation, Auditing Team and Budget

10.4. Audit Process: Stages, Actions and Auditor's Roles
- 10.4.1. Audit Stages: Planning, Execution, Reporting and Follow-Up
- 10.4.2. Audit Methods and Techniques: Inspection, Interviews, Documentary Review
- 10.4.3. Audit Team Management: Roles and Responsibilities of the Audit Team

10.5. Industrial Safety Audit
- 10.5.1. Auditing Working Conditions: Assessment of Occupational Risks
- 10.5.2. Inspection of Equipment and Processes: Review of Machinery, Tools and Procedures
- 10.5.3. Training and Qualification Audit: Verification of Personnel Safety Training

10.6. Environmental Audit
- 10.6.1. Environmental Compliance Assessment: Compliance with Regulations and Sustainability Objectives
- 10.6.2. Waste and Emissions Management: Review of Waste and Emissions Records and Practices
- 10.6.3. Resource Control and Energy Efficiency: Audit of Water, Energy and Raw Material Use

10.7. Data Collection and Analysis Techniques in Audits
- 10.7.1. Sources of Information in Audits: Review of Documents, Records and Interviews
- 10.7.2. Sampling Techniques: How to Select Representative Areas, Processes or Data
- 10.7.3. Technological Tools for Auditing: Use of Software and Digital Platforms for Analysis

10.8. Audit Report
- 10.8.1. Structure of the Audit Report: Format and Content
- 10.8.2. Communication of Findings and Recommendations: Presentation of Results and Suggestions for Improvement
- 10.8.3. Examples of Non-Conformities and Observations: Practical Examples in Safety and Environment

10.9. Corrective Actions and Follow-Up
- 10.9.1. Implementation of Corrective Actions: Taking Measures
- 10.9.2. Follow-Up of Non-Conformities: Verification of Implemented Actions
- 10.9.3. Continuous Improvement in Management Systems: Use of Audit Results for Improvement

10.10. Internal and External Audits
- 10.10.1. Differences between Internal and External Audits: Purposes and Approaches
- 10.10.2. Preparing for External Audits: Compliance with Requirements
- 10.10.3. Audit Success Stories: Examples of Well-Executed Audits and Their Positive Impact
- 10.10.4. Cases of Unsuccessful Audits. Examples of Audits Executed Incorrectly

03

Teaching Objectives

Through this program, engineering professionals will acquire key skills to comprehensively manage safety and environmental impact in industrial environments. The proposed objectives range from understanding the concepts of Safety and Environment in industry to a thorough knowledge of the international regulatory framework and the implementation of integrated management systems. In addition, they will develop skills to apply advanced methodologies in the identification and evaluation of risks, the use of performance indicators and the performance of specialized audits, thus promoting a culture of continuous improvement and sustainability in their organizations.

Become an expert in industrial processes, and learn about the best treatment and management alternatives for the mitigation of pollutants"

General Objectives

- Delve into the concepts and fundamentals of environmental management and industrial safety, covering their impact on industrial processes
- Know and analyze the international regulatory framework in Industrial Safety and Environment, applicable to different contexts
- Develop skills to implement safety and environmental management systems that ensure compliance with regulations and standards
- Apply advanced methodologies for the identification, evaluation and control of environmental and safety risks in the industry
- Design and implement environmental and safety management plans to optimize resources and mitigate negative impacts
- Establish and use key indicators for monitoring and continuous improvement in safety and environmental management
- Analyze and apply industrial safety and environmental auditing techniques to ensure the effectiveness of management systems
- Identify and employ reactive and proactive analysis tools to improve safety and environmental performance in industry

Specific Objectives

Module 1. Industrial Safety

- Understand the main types of risks existing in an industrial environment and identify the basic mechanisms to mitigate them
- Differentiate the concepts of risk, hazard and severity
- Identify and classify the different risk factors existing in the industry
- Analyze the concept of safety management plan, describe its fundamental phases and the main related international standards
- Develop the main types of risk in the industry and the main existing control, mitigation and prevention measures
- Identify the fundamental aspects to define an emergency management system

Module 2. The Environment in Industry

- Analyze the term Environment for the industrial field
- Analyze the methodologies for the identification and evaluation of environmental impacts
- Determine the types of treatment that exist for solid waste, liquid effluents and gaseous emissions
- Contextualize the concept of environmental management, pointing out its importance within the Integrated Management System (IMS) of the companies
- Identify the environmental management tools that companies have, highlighting their strengths and weaknesses
- Present and delve into the methodologies used in the measurement of environmental impact and management in the industrial field

Module 3. International Regulatory Framework for Industrial Safety and the Environment

- Have an in-depth knowledge of ISO 45001 and 14001 standards, as well as other relevant standards in specific sectors (GHS, IEC, EMAS, among others)
- Develop the ability to assess an organization's compliance with legal and regulatory requirements in safety and environmental matters
- Identify, evaluate and control occupational and environmental risks, implementing effective prevention measures
- Promote a culture of continuous improvement in organizations, proposing innovative solutions to improve safety and environmental performance

Module 4. Safety Management in Industry

- Identify and assess the risks associated with industrial processes in order to prioritize them and make efficient use of resources for mitigation
- Apply risk assessment methods such as FMEA Develop mitigation and control plans for the main risks
- Develop procedures for the identification, evaluation and control of risks
- Design a system for recording and follow-up of incidents and accidents

Module 5. Industrial Safety Methodologies and Tools

- Incorporate specific methodologies to identify and quantify risks
- Use preventive tools such as DFMEA
- Consolidate the concept of root cause, master the different methodologies for its identification
- Incorporate the concepts of HAZID and HAZOP, differentiate them and understand their benefits in the industry
- Consolidate the concept of functional safety and the central aspects of the IEC 61511 standard
- Consolidate the use of statistical tools to support safety management in industry

Module 6. Environmental Management in Industry

- Present the different tools that can be used to implement, maintain and strengthen the environmental management system
- Understand the complexity of environmental phenomena that imply the need for integrated, intelligent and coordinated efforts from different actors of the companies
- Incorporate a methodology to define a matrix of environmental aspects and impacts as a tool
- Identify the different procedures to mitigate negative effects and maximize positive ones

Module 7. Methodologies and Tools in the Environmental Management of Industry

- Determine the technical aspects associated with the monitoring and control of emissions
- Identify the phases associated with waste management and the appropriate management measures
- Classify and properly manage effluents derived from the industrial operation
- Assess and quantify environmental risks and develop contingency plans

Module 8. Integrated Safety and Environmental Management Systems

- Analyze the benefits of integrated management
- Develop an integrated management system
- Implement and maintain an Integrated Management System (IMS)
- Design and prepare internal audits to evaluate the performance of the implemented system

Module 9. Indicators in Safety and Environmental Management

- Consolidate the concept of Safety and Environment indicators, their different classifications, their importance and the characteristics they should have
- Define powerful safety and environmental indicators, selecting appropriately those that add value and are relevant
- Identify and establish the necessary steps to implement a proper monitoring system
- Define key indicators in safety and environmental management and use them as a tool in an effective monitoring system to support the continuous improvement process

Module 10. Industrial Safety and Environmental Audits

- Strengthen specialized knowledge of the standards and regulatory framework applicable at the international level
- Develop the concept of audit, the purpose of its execution, its possible classifications and the benefits of its execution
- Identify and delimit the criteria and scope of an audit
- Plan, execute, report, follow up and, when applicable, close the audit process
- Consolidate methodologies and techniques to verify information gathered during the audit process
- Identify and differentiate the unique aspects of safety and environmental audits and the indicators and information relevant to the audit process

Take advantage of this program designed to fit your schedule and personal responsibilities, offering you the opportunity to achieve the professional advancement you are looking for"

05

Career Opportunities

This Professional Master's Degree in Industrial Safety and the Environment opens up various career opportunities for engineers, who will be able to work as safety and environmental managers in industrial organizations, environmental management consultants, auditors of integrated systems or those responsible for occupational risk prevention. Thanks to a comprehensive preparation in international standards, advanced methodologies and practical tools, graduates will be prepared to lead projects of continuous improvement, sustainability and regulatory compliance in industries of different sectors, contributing to create safe and sustainable environments while promoting efficiency and environmental respect in operations.

You will obtain a highly competitive professional profile, which will allow you to work as a consultant, auditor or safety and environmental manager in international companies"

Graduate Profile

Graduates of this academic program will be highly qualified to implement and manage safety and sustainability systems in industrial environments. Their outstanding training in international regulations, risk analysis, and environmental impact management will enable them to design, evaluate and optimize processes to prevent accidents and mitigate adverse environmental effects. With skills in auditing and monitoring of key indicators, they will be prepared to advise and lead continuous improvement and sustainability initiatives. In addition, their mastery of advanced tools and cutting-edge methodologies positions you as a key player in industry innovation and compliance.

You will be prepared to assume key roles in safety and sustainability management, leading teams in industries such as manufacturing, energy, mining and construction.

- **Commitment to Sustainability:** Develops a deep awareness of the importance of protecting the Environment, taking responsibility for implementing sustainable and ethical industry practices in any environment
- **Leadership Ability:** Learns to lead teams in the adoption of standards and safe practices, promoting a culture of prevention and continuous improvement in Safety and Environment
- **Effective Communication:** Acquires skills to clearly and persuasively convey the importance of safety and regulatory compliance to different levels of the organization, fostering collaboration and understanding
- **Critical Thinking and Problem Solving:** Develops the ability to analyze complex situations, assess risks and find innovative solutions that benefit both industrial safety and environmental protection
- **Adaptability and Flexibility:** Trains to respond effectively to regulatory and technological changes, adapting strategies and procedures to maintain safety and sustainability in a dynamic industrial environment
- **Ethics and Social Responsibility:** Internalizes the importance of acting with integrity and transparency in managing resources and making decisions that impact the community and the Environment, promoting responsible and respectful business practices

After completing the program, you will be able to use your knowledge and skills in the following positions:

1. **Industrial Safety Manager:** Coordinates risk assessments, ensures regulatory compliance and leads safety training programs. Their goal is to reduce accidents and promote a safe work environment.
2. **Environmental Management Coordinator:** Responsible for designing and implementing environmental management plans in the industry. Performs environmental impact assessments, promotes the responsible use of resources and ensures compliance with standards such as ISO 14001.
3. **Safety and Environmental Consultant:** Provides advice to companies on safe and sustainable practices. Conducts safety audits, prepares compliance reports and designs action plans to improve environmental practices.
4. **Occupational Health and Safety Specialist:** Focuses on identifying and mitigating risks associated with the work environment. Inspects facilities, identifies risk conditions and develops prevention programs.
5. **Safety and Environmental Auditor:** Performs compliance audits on Industrial Safety and environmental management standards, such as ISO 45001 and 14001. Evaluates the effectiveness of the company's management systems, issues reports on findings and suggests improvements.

6. **Industrial Sustainability Engineer:** Responsible for designing and promoting sustainable industrial practices. Identifies opportunities to improve resource efficiency, reduce the company's environmental footprint and advises on the adoption of clean technologies.
7. **Head of Occupational Safety and Health:** Oversees occupational safety and health programs, leading the implementation of safety policies, training and personal protective equipment.
8. **Environmental Compliance Officer:** Ensures that the company complies with all applicable local and international environmental regulations. Monitors regulations and informs management of changes in environmental laws.
9. **Director of Crisis Management and Industrial Emergencies:** Specializes in developing and coordinating action plans for industrial emergencies, such as hazardous material leaks or major accidents.
10. **Energy Efficiency and Industrial Sustainability Consultant:** Provides advice to companies on how to optimize energy consumption and reduce their environmental impact, promoting the use of renewable energy sources and the implementation of more efficient processes.

You will become a highly demanded professional in a globalized work environment, with the ability to apply innovative solutions in industrial safety and environmental management"

06

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

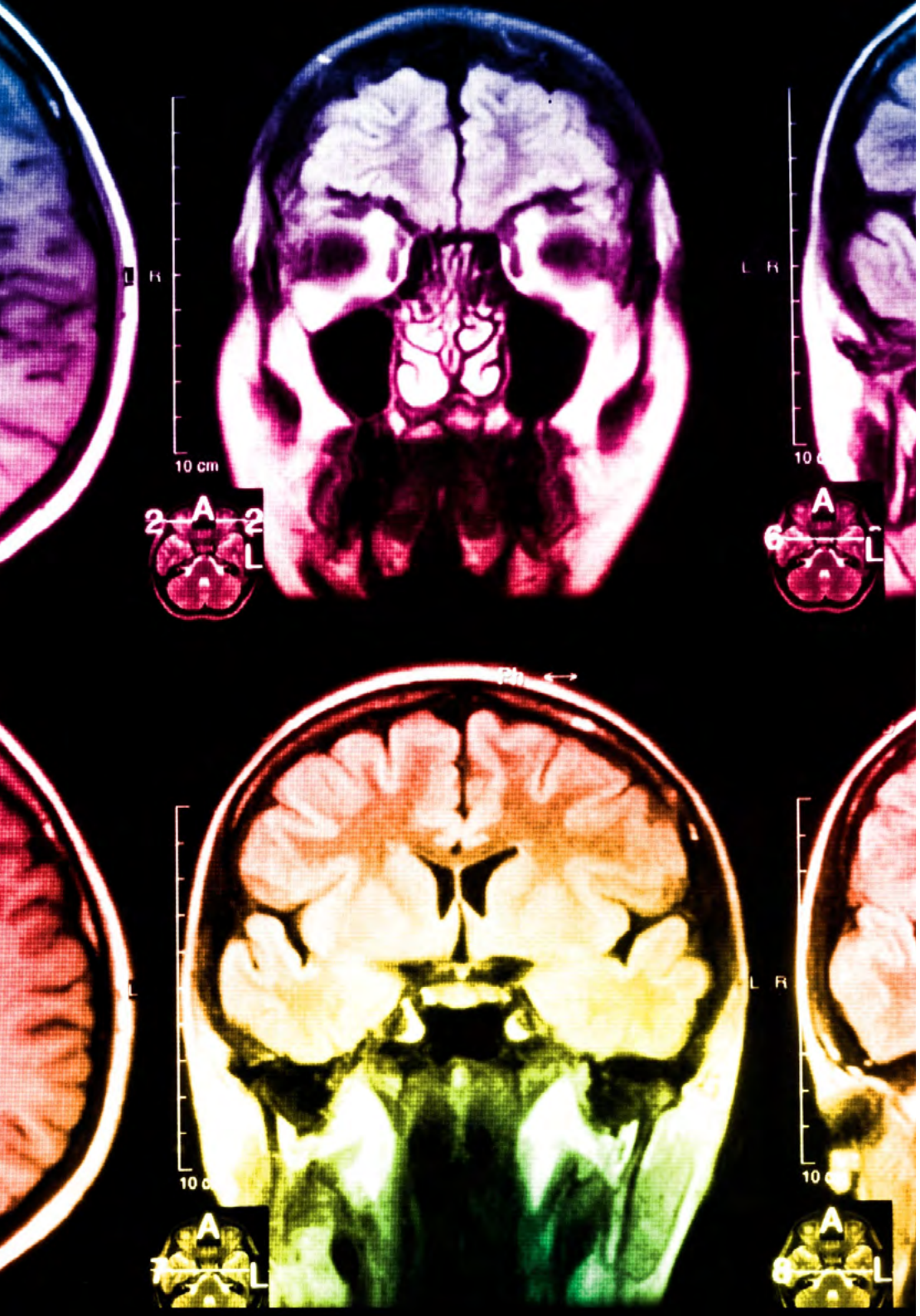
In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

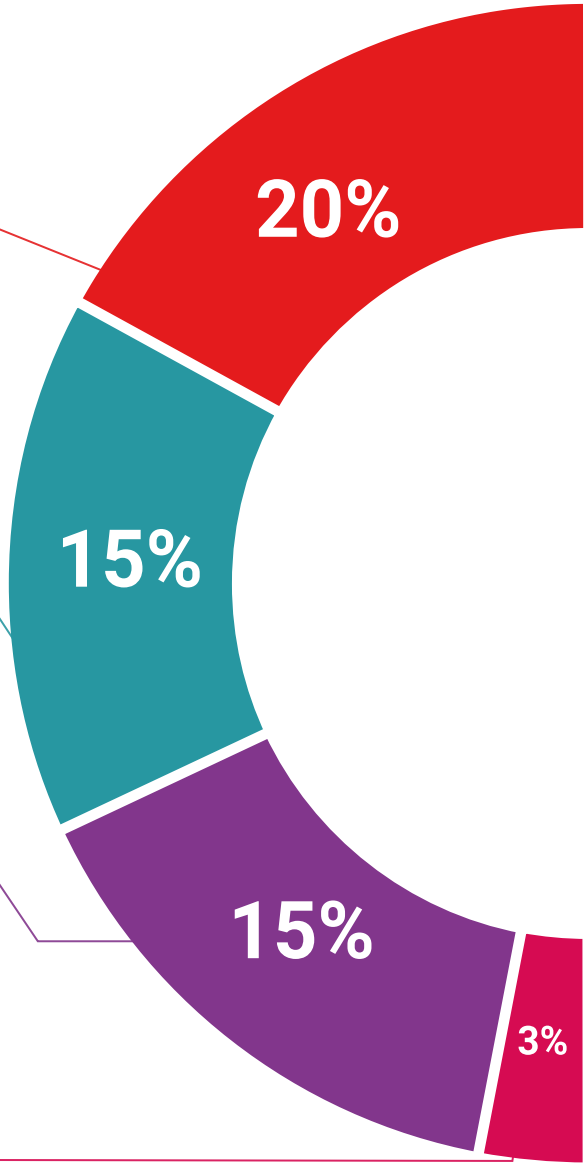
Interactive Summaries

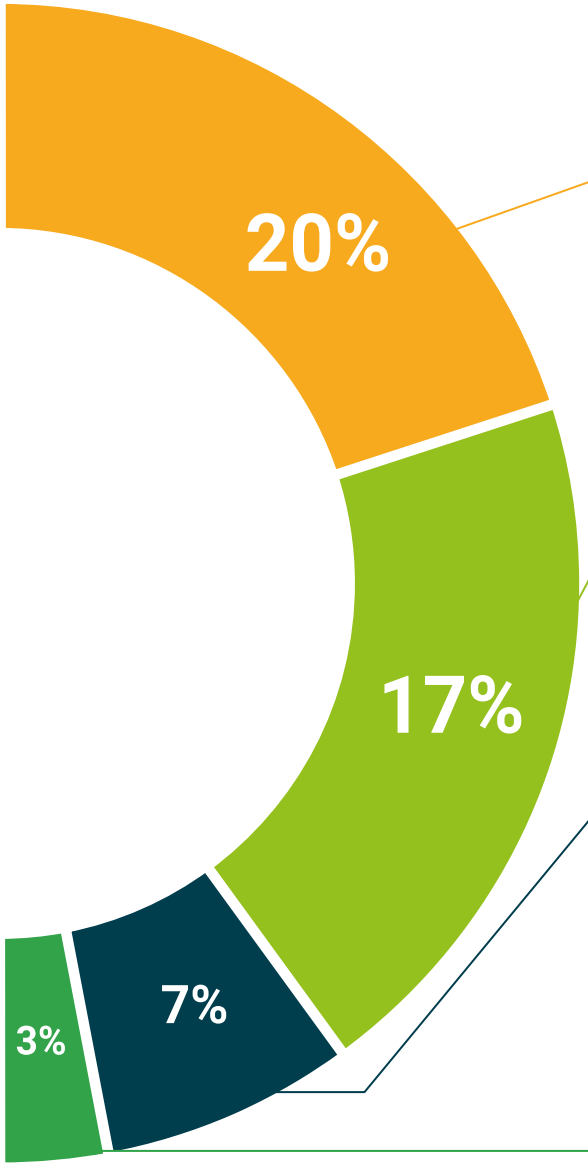
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

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 for future difficult decisions.

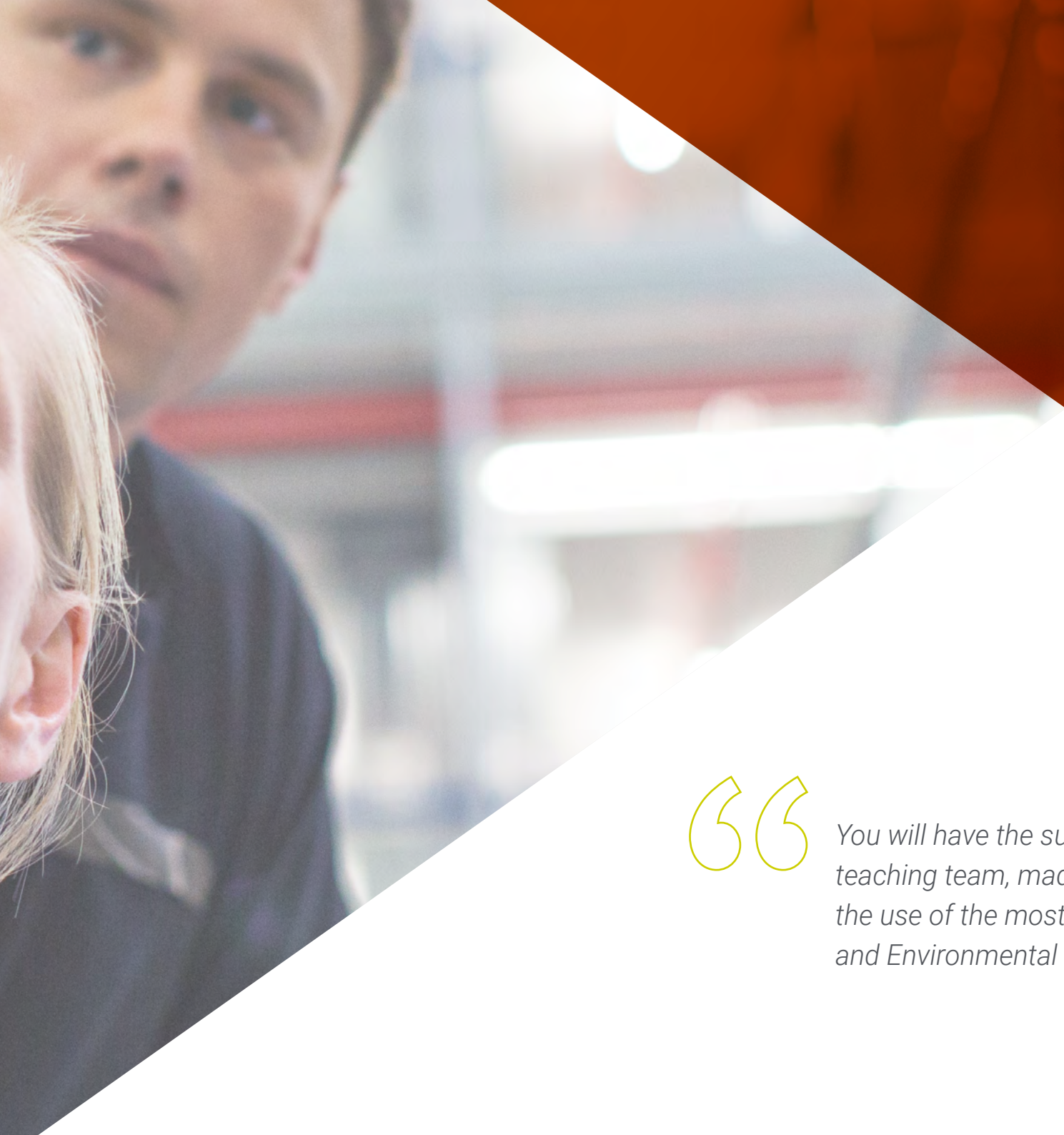
Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

07

Teaching Staff

The teaching team of this program is composed of highly recognized professionals in the field of Engineering, who not only have an outstanding academic background, but also extensive experience in advanced projects in which they have implemented and optimized management systems. Thanks to this combination of theory and practice, graduates will gain a complete vision of the key indicators and best practices in safety and environmental management, which will be fundamental for their professional success in competitive and constantly evolving industrial environments.



You will have the support of a prestigious teaching team, made up of specialists in the use of the most advanced Industrial and Environmental Safety tools"

Management

Mr. Rettori Canali, Ignacio Esteban

- Product Safety Engineer at GE Vernova
- Sustainability Consultant at ALG-INDRA
- Product Safety Engineer at Alten
- HSE Data Analyst at MARS
- Logistics Shift Manager at Repsol YPF
- Environmental Analyst at Repsol YPF
- Environmental Specialist at the National Ministry of Environment
- Specialist in Energy Economics at the Polytechnic University of Catalonia
- Specialist in Renewable Energies and Electric Mobility, Polytechnic University of Catalonia
- Specialist in Energy Management from the National Technological University
- Specialist in Project Management, Liberty Foundation
- Specialist in Safety and Environment from the Catholic University of Argentina
- Degree in Environmental Engineering from the National University of Litoral

Professors

Mr. Barboza, Martín

- Environmental Field Supervisor at Trace Group
- Environmental Management and Training Coordinator at Techint Ingeniería y Construcción
- Environmental Supervisor at Tecpetrol S.A.
- Project Leader at Centro Ambiental y Derrames
- Degree in Environmental Engineering from the National University of Litoral
- Certified in Introduction to the ISO14001 Standard
- Expert in Environmental Impact Assessment

Mr. Peña Vidal, José Alberto

- Environmental Consultant Specializing in Sanitation Projects
- Responsible for Environmental Safety at Construction Sites in Trans Electronic Industries
- Drinking Water and Sanitation Works Inspector at the Secretariat of Water and Sanitation of the Ministry of Infrastructure and Transportation of Argentina
- Environmental Site Manager at NEOCON S.A.
- Specialized Technician in the Environmental Management Department at Aguas Santafesinas S.A.
- Specialization in Sanitary Engineering from the National University of Rosario
- Degree in Environmental Engineering from the National University of Litoral

Mr. Castillo Raineri, Néstor Ariel

- Environmental Safety Engineer specialized in Hygiene and Safety at Work
- Coordinator at CILP Química/Refinery
- Plant shutdown safety supervisor in the Maintenance area at CILP Química/Refinery
- Degree in Environmental Safety Engineering from the University of the Merchant Marine
- Degree in Occupational Health and Safety from the University of Moron
- Certification in Environmental Management

Mr. Martínez Ochoa, Silvio

- Specialist in Environmental Services Contracting at YPF
- Environmental Analyst at YPF
- Process Safety and Industrial Hygiene Analyst in YPF
- Quality Incident Analyst at Renault, Argentina
- Production Quality Manager at Motos Keller
- Specialist in Quality Engineering
- Specialist in Environmental Engineering
- Degree in Industrial Engineering from the National Technological University of Cordoba
- Degree in Labor Engineering from the National Technological University of La Plata

Mr. Larrocca Ruiz, Marcelo

- Responsible for the Sustainability Area of the Argentine Soccer Association
- Legal Advisor at Fundación Ambiente y Recursos Naturales
- Legal advisor on environmental regulations and sustainable development plans for Argentine municipalities
- Head of the agreements section of the Environmental Protection Directorate of the Argentine Naval Prefecture
- Specialist in Environmental Law from the University of Belgrano
- Law Degree from the National University of Litoral

08

Certificate

The Advanced Master's Degree in Industrial Safety and the Environment 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 private qualification will allow you to obtain a **Professional Master's Degree in Industrial Safety and the Environment** 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** private qualification 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: **Professional Master's Degree in Industrial Safety and the Environment**

Modality: **online**

Duration: **12 months**

Accreditation: **90 ECTS**

tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Professional Master's Degree in Industrial Safety and the Environment

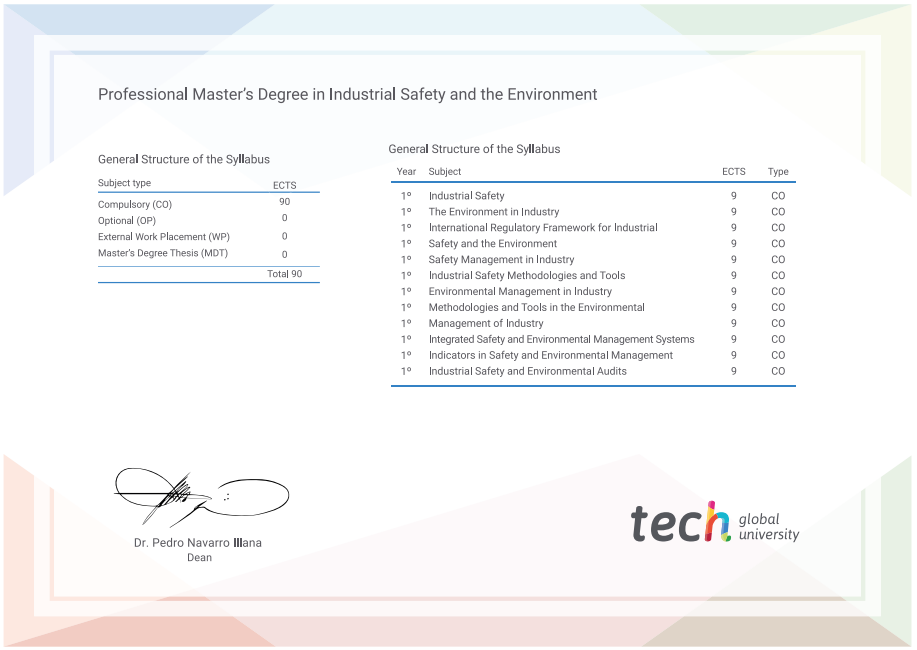
This is a private qualification of 2,700 hours of duration equivalent to 90 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
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



Professional Master's Degree in Industrial Safety and the Environment

General Structure of the Syllabus

Subject type	ECTS
Compulsory (CO)	90
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 90

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Industrial Safety	9	CO
1º	The Environment in Industry	9	CO
1º	International Regulatory Framework for Industrial	9	CO
1º	Safety and the Environment	9	CO
1º	Safety Management in Industry	9	CO
1º	Industrial Safety Methodologies and Tools	9	CO
1º	Environmental Management in Industry	9	CO
1º	Methodologies and Tools in the Environmental	9	CO
1º	Management of Industry	9	CO
1º	Integrated Safety and Environmental Management Systems	9	CO
1º	Indicators in Safety and Environmental Management	9	CO
1º	Industrial Safety and Environmental Audits	9	CO

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*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.

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Professional Master's Degree

Industrial Safety and the Environment

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Global University**
- Accreditation: **90 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Professional Master's Degree

Industrial Safety and the Environment

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