Professional Master's Degree
Environmental Engineering

tech technological university

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Professional Master's Degree
Environmental Engineering

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/pk/engineering/professional-master-degree/master-environmental-engineering**

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01

Introduction

Since the UN adopted the 2030 Agenda for Sustainable Development, there has been a change in society's mentality about caring for the environment and the need to implement actions that reduce the impact of waste and the treatment of pollutants on our environment. It is a transformation process that requires highly qualified engineering professionals who are up-to-date with the advances in the development of environmental programs, many of which are of great importance. For this reason, this academic institution offers a degree with the most advanced and comprehensive content on the organization and management of environmental projects, the new concept of sustainable economy or the most used tools and techniques in soil analysis. Additionally, the program is 100% online and can be easily accessed by the student at any time of day from an electronic device with internet connection.

This Professional Master's Degree will give you the boost you are looking for to grow in Environmental Engineering. Take action and enrol now"

In recent years, human beings have been facing major environmental challenges caused by the effects of pollution from all economic sectors, the disappearance of species, the shortage of natural resources and climate change. The actions taken by organizations and governments around the world to maintain the natural balance have promoted Environmental Engineering. This specialty has thus become a key tool for the development of projects to reverse a situation that has been unsustainable up until now.

Cleaning microplastics from the seas using the latest technology, reducing environmental pollution of soils using the most sophisticated decontamination techniques, the creation of new biodegradable materials or the transformation of the very concept of economy are some of the initiatives that have been launched. In this scenario, the professional engineer has a great opportunity to contribute their extensive knowledge and generate new projects that represent a before and after in environmental protection. For this reason, graduates of this Professional Master's Degree in Environmental Engineering will have the opportunity to receive advanced teaching through innovative multimedia resources in accordance with current academic standards.

Students will follow a 12-month program that will further develop their knowledge of soil science, management systems and environmental impact assessment, as well as the techniques and tools necessary to implement projects in this sector. In addition, students will learn about the different environmental policies that are being implemented and the relevance of social awareness of the environment.

All this, in a program taught exclusively online, which can be accessed 24 hours a day from a computer or *Tablet* with internet connection. In addition, students have the freedom to distribute the course load according to their needs, which allows them to have more flexibility and facilitates the compatibility of a university degree with their professional and/or personal responsibilities.

The environmental challenges we face are diverse: climate change, pollution, habitat destruction, shortages of natural resources, waste etc. Unrestrained development and uncontrolled exploitation of resources are the cause of all these problems, and to tackle them we need professionals who know how to face these challenges.

This **Professional Master's Degree in Environmental Engineering** 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 of Environmental Engineering
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Stand out in a sector that demands highly qualified engineers with a strong environmental awareness"

Implement your ideas and initiatives to care for the environment thanks to the knowledge you will gain during this program"

Delve into current environmental policies and the new concept of sustainable economy.

Acquire the necessary techniques to understand soil quality, the repercussions of waste on the soil and the solutions provided by engineering.

The program includes, in its teaching staff, professionals from the sector who bring to this program the experience of their work, in addition to recognized specialists from prestigious reference societies and universities.

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

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

The Engineering professional is in a promising position to be able to implement their ideas and projects in the management and development of environmental projects. For this reason, this Professional Master's Degree offers a multitude of innovative resources and content so that, by the end of the course, students will be able to design systems that help reduce pollutants, understand the different tools related to environmental auditing or the methods for treating pollutants and the control strategies applicable in each case.

This Professional Master's Degree will boost your career in the Environmental Engineering sector. Click and enroll now"

General Objectives

- Adequately use the technical vocabulary within the scientific bases of the natural environment
- Initiate the engineering design of some simple physical, chemical and biological systems
- Approach the use of environmental and sustainability indicators as a tool to evaluate the state of a system
- Use bibliographic and electronic information critically and work correctly in and outside the classroom and in the laboratory

Get the most advanced knowledge in environmental pollution management with this 100% online academic program"

Specific Objectives

Module 1. Principles of Environmental Engineering

- Proper use and identification of balance sheets as a method for system analysis
- Define and evaluate the necessary energy involved in a process, either for the transport of materials or for the modification of the state of a current
- Know how to use the methodologies to select an operation to separate materials or compounds in two-phase and three-phase systems
- Initiate treatment of contaminants for the recovery of aqueous streams

Module 2. Soil Science

- Understand the complex relationship between the human population and The Environment
- Analyze the connection between geoforms and nature and the arrangement of the materials of the earth's surface and obtain an orderly idea of the geological evolution of the planet
- Correctly use basic field analysis techniques and support materials for geomorphological and pedological analysis and classification
- Understand the importance of soil as a subsystem of convergence in terrestrial ecosystems of the abiotic, biotic and anthropogenic environment

Module 3. Sustainable Economy

- Acquire basic knowledge of science and use its results, integrating them with the social, economic, legal and ethical spheres for the identification of environmental problems
- Understand the conceptual approaches and tools of environmental economics and ecological or sustainable economics
- Understand what is meant by sustainability and know how to apply this concept to production and consumption patterns and land use
- Understand the interrelation of the different dimensions (social, historical, technological, political, etc.) that trigger, in each time and place, different ways of understanding and constructing the environment

Module 4. Project Organization and Management

- Identify the elements, parts and phases of an environmental project
- Elaborate project documents, as well as other complementary documentation
- Apply activity planning and scheduling techniques
- Apply technical and administrative aspects of the different phases of projects

Module 5. Environmental Impact Assessment and Management System

- Differentiate the phases of a project
- Study the feasibility of a project
- Plan a preliminary project for an offer
- Plan and manage deadlines, as well as organize the human resources required for a project
- Plan and manage costs within a project
- Plan and control risks that may affect the development of a project
- Plan and control project execution and its closing activities

Module 6. Environmental Auditing

- Become familiar with the different tools related to environmental auditing
- Identify the auditing tools necessary for the resolution of the problems that arise
- Express in precise terms the problem to be solved
- Interpret the result of the problem from the point of view of environmental auditing

Module 7. Environmental Education and Social Practices

- Understand the fundamentals and evolution of environmental education
- Know the environmental education model
- Contextualize the critique of knowledge, relating theoretical principles with social, economic and ecological problems
- Apply ethical principles related to sustainability values in personal and professional behavior

Module 8. Waste Management

- Describe the management and the different wastewater treatments
- Assess soil contamination and know how to apply contaminated soil treatment techniques
- Describe the management of a wide range of wastes and know how to choose the appropriate treatment for each of them
- Distinguish between the different processes of minimization, preparation for reuse, recycling, other recovery and disposal

Module 9. Environmental Policy

- Know the political structure
- Acknowledge the different policies applied in environmental assessment

Module 10. Treatment of Environmental Pollution

- Know basic models of pollutant dispersion and understand the functioning of pollution control networks
- Understand pollutant treatment methods and control strategies applicable in each case
- Know and understand the preventive or corrective technologies for water and soil pollution
- Design systems for physical and chemical purification of gaseous emissions

03

Skills

This university program, through a theoretical-practical approach, will allow engineering students to acquire knowledge and broaden their skills. In this way, it will be possible to develop skills to apply the most effective methods and tools in environmental projects, control all management processes and development of initiatives, as well as mastering the existing regulations

TECH provides you with all the didactic resources you need to acquire the necessary skills and abilities to initiate environmental projects"

General Skills

- Interpret reality from a systemic point of view
- Identify and develop the most suitable resolution methods at any given time
- Control the quality of a project at all levels
- Apply transversal aspects in environmental projects

Enrol now to a program that will give you the tools and techniques you need to solve the problems caused by plastic pollution"

Specific Skills

- Understand and use the working techniques related to the acquisition, analysis, processing and representation of geographic and cartographic information
- Solve the problem posed, with or without the aid of computer programs
- Understand the regulations and legislation related to projects
- Apply organizational aspects in projects
- Master the main concepts of Environmental Auditing

04

Structure and Content

The curriculum of this Professional Master's Degree has been designed to provide the latest developments in the field of Environmental Engineering and encourage students' learning through educational tools and the *Relearning* method. With this, students will be able to learn the basics of Environmental Engineering, soil science, eco-design, business strategies for climate change and the main techniques used for waste management.

Enrol in a Professional Master's Degree that uses the Relearning system which will reduce long hours of studying"

Module 1. Principles of Environmental Engineering

1.1. Introduction: General Concepts and Indicators
- 1.1.1. Introduction
- 1.1.2. Basic Concepts
- 1.1.3. Magnitudes
- 1.1.4. Magnitudes and Sustainability

1.2. Basic Operations and Facilities of Environmental Interest
- 1.2.1. Introduction
- 1.2.2. Water Treatment
- 1.2.3. Basic Operations of Water Treatment
- 1.2.4. Gas Treatment
- 1.2.5. Soil Treatment

1.3. Global Scales Sheet of Matter and Energy
- 1.3.1. Introduction and Concept of a Balance Sheet
- 1.3.2. Global Balance Sheet of Matter and Energy
- 1.3.3. General Expressions in a Balance Sheet
- 1.3.4. Transaction Balance Sheet
- 1.3.5. Work Method
- 1.3.6. Enthalpy Changes

1.4. Transport Phenomena
- 1.4.1. Introduction
- 1.4.2. Definition of Transport Phenomena
- 1.4.3. General Expressions
- 1.4.4. Balance Sheets in Single-Phase Systems
- 1.4.5. Balance Sheets in Single-Phase Laminar Flow Systems
- 1.4.6. Balance Sheets in Single-Phase Turbulent Flow Systems
- 1.4.7. Matter Transfer in a Single Phase Without Convective Motion
- 1.4.8. Transport Phenomena in Two-Phase Systems
- 1.4.9. Friction

1.5. Fluid Current Energy Balance Sheet
- 1.5.1. Balance Sheet on a Moving Fluid Current
- 1.5.2. Incompressible Fluids
- 1.5.3. Compressible Fluids

1.6. Heat Transport
- 1.6.1. Introduction
- 1.6.2. Conduction
- 1.6.3. Convection
- 1.6.4. Radiation
- 1.6.5. Emission and Absorption of Energy by the Earth

1.7. Sedimentation Operations
- 1.7.1. Introduction
- 1.7.2. Sedimentation Rate
- 1.7.3. Design of a Sedimentation Tank
- 1.7.4. Colloids and Flocs
- 1.7.5. Delayed Sedimentation
- 1.7.6. Environmental Applications

1.8. Absorption
- 1.8.1. Introduction
- 1.8.2. Physical Adsorption
- 1.8.3. Design

1.9. Adsorption
- 1.9.1. Introduction
- 1.9.2. Adsorbents
- 1.9.3. Equilibrium Adsorption
- 1.9.4. Adsorption Dynamics
- 1.9.5. Adsorption in River Beds
- 1.9.6. Design

1.10. Chemical and Biological Reactors
- 1.10.1. Biological Processes in Sewage Water
- 1.10.2. Bacterial Microorganisms
- 1.10.3. Chemical Treatments
- 1.10.4. Bacterial Growth
- 1.10.5. Anaerobic Digestion

Module 2. Soil Science

2.1. Introduction to Soil Science
- 2.1.1. Concept of Soil Science
- 2.1.2. Soil Formation
- 2.1.3. Soil Profile

2.2. Soil Dynamics
- 2.2.1. Solid Phase in Soil
- 2.2.2. Sourcing Mechanisms
- 2.2.3. Properties and Distribution of Matter in Soil

2.3. Soil Classification
- 2.3.1. Importance of Environmental Factors in Soil Formation
- 2.3.2. General Soil Classification

2.4. Soil Horizons and Taxonomy
- 2.4.1. Classification of Soil Horizons
- 2.4.2. The Climate as a Factor of Soil Formation
- 2.4.3. The Importance of Bedrock

2.5. Soil Degradation and Rehabilitation
- 2.5.1. Environmental Problems of Soil
- 2.5.2. Contaminated Soil Rehabilitation Techniques

2.6. Soil as an Environmental Resource
- 2.6.1. Soil as a Resource
- 2.6.2. Minerals
- 2.6.3. Materials of Interest

2.7. Soil Contamination from Metals
- 2.7.1. Heavy Metals
- 2.7.2. Effects of Metals in Soil

2.8. Soil Contamination from Organic Pollutants
- 2.8.1. Main Organic Pollutants
- 2.8.2. Effects of Organic Pollutants in Soil

2.9. Soil Contamination from Leachates
- 2.9.1. Landfills: A Leachates Source
- 2.9.2. Pollutants Derived from Leaching
- 2.9.3. Leachate Restoration Techniques

2.10. Soil Contamination from Plastics
- 2.10.1. Plastics Environmental Issues
- 2.10.2. Microplastics in Soil

Module 3. Sustainable Economy

3.1. Aspects and Characteristics of Circular Economy
- 3.1.1. Origin of Circular Economy
- 3.1.2. Principles of Circular Economy
- 3.1.3. Key Features

3.2. Adaptation to Climate Change
- 3.2.1. Circular Economy as a Strategy
- 3.2.2. Economic Advantages
- 3.2.3. Social Benefits
- 3.2.4. Business Benefits
- 3.2.5. Environmental Benefits

3.3. Efficient and Sustainable Water Use
- 3.3.1. Rainwater
- 3.3.2. Gray Water
- 3.3.3. Irrigation water: Agriculture and Gardening
- 3.3.4. Process water: Agri-food industry

3.4. Revaluation of Wastes and By-Products
- 3.4.1. Waste Water Footprint
- 3.4.2. From Waste to By-Product
- 3.4.3. Classification According to Production Sector
- 3.4.4. Revaluation Undertakings

3.5. Life Cycle Analysis
- 3.5.1. Life Cycle Assessment (LCA)
- 3.5.2. Stages
- 3.5.3. Reference Standards
- 3.5.4. Methodology
- 3.5.5. Data Science

3.6. Ecodesign
- 3.6.1. Ecodesign Principles and Criteria
- 3.6.2. Characteristics of the Products
- 3.6.3. Ecodesign Methodologies
- 3.6.4. Ecodesign Tools
- 3.6.5. Success Stories

3.7. Zero Discharge
- 3.7.1. Principles of Zero Discharge
- 3.7.2. Benefits
- 3.7.3. Systems and Processes
- 3.7.4. Success Stories

3.8. Green Public Procurement
- 3.8.1. Legislation
- 3.8.2. Green Procurement Manual
- 3.8.3. Guidelines for Public Procurement
- 3.8.4. Public Procurement Plan 2018-2025

3.9. Innovative Public Procurement
- 3.9.1. Types of Innovative Public Procurement
- 3.9.2. Contracting Process
- 3.9.3. Sheet Design

3.10. Environmental Accounting
- 3.10.1. Best Available Environmental Technologies (BAT)
- 3.10.2. Ecotaxes
- 3.10.3. Ecological Account
- 3.10.4. Environmental Cost

Module 4. Project Organization and Management

4.1. Classical Project Theory
- 4.1.1. Traditional Concept of Project
- 4.1.2. The Preliminary Project
- 4.1.3. The Project
- 4.1.4. Project Documentation
- 4.1.5. Entities Involved in the Project
- 4.1.6. Types of Projects

4.2. Modern Project Management
- 4.2.1. General concepts
- 4.2.2. Multidimensional Approach
- 4.2.3. Project Phases and Milestones
- 4.2.4. Process Model

4.3. Initial Project Phases
- 4.3.1. Detection of Opportunities
- 4.3.2. Project Selection Criteria
- 4.3.3. Preparation and Submission of Bids
- 4.3.4. Feasibility Studies
- 4.3.5. Cost Estimation
- 4.3.6. Disaggregated Project Structure
- 4.3.7. Project Technology
- 4.3.8. Definition and objectives (scope): the project plan

4.4. Human Resources in the Project
- 4.4.1. Organization of the Project in the Company
- 4.4.2. Project Manager and ProjectTeam
- 4.4.3. Motivation: Time management, Meetings
- 4.4.4. Consulting and Engineering Companies

4.5. Time, Cost and Resource Planning
- 4.5.1. Elements of Scheduling and Planning
- 4.5.2. PMBOK Schedule Management
- 4.5.3. Cost Management PMBOK
- 4.5.4. Scheduling Tools (Gantt, CPM, PERT)
- 4.5.5. Resource Optimization
- 4.5.6. Use of the ProjectLibre Software Application

4.6. The Contracting and Procurement Process
- 4.6.1. Contract Management
- 4.6.2. Contract Specifications
- 4.6.3. Legal Clauses
- 4.6.4. Change and Revision Mechanisms
- 4.6.5. Procurement Management (PMBOK)
- 4.6.6. The Purchasing Cycle

4.7. Project Quality Management
- 4.7.1. Introduction to Quality
- 4.7.2. Regulations Related to Quality
- 4.7.3. Quality System in the Company
- 4.7.4. Quality in Project Management

4.8. Project Risk Management
- 4.8.1. Introduction to Risk Management
- 4.8.2. Risk Management Models
- 4.8.3. Risk Management Processes

4.9. Project Communications Management
- 4.9.1. Introduction to Communications Management(PMBOK)
- 4.9.2. Communications Management
  - 4.9.2.1. Identify Stakeholders
  - 4.9.2.2. Planning Communication
  - 4.9.2.3. Planning Communication
  - 4.9.2.4. Information Distribution
  - 4.9.2.5. Stakeholder Expectation Management
  - 4.9.2.6. Performance Reporting

4.10. Control of the Execution and Closure of the Project
- 4.10.1. Project Administration and ControlProject Administration. and Control
- 4.10.2. Integrated Control of Deadlines and Costs (Earned Value Method)
- 4.10.3. Project Closing

Module 5. Environmental Impact Assessment and Management System

5.1. Business Strategies for Climate Change
- 5.1.1. Greenhouse Effect and Climate Change: Causes and Consequences
- 5.1.2. Climate Change Projections
- 5.1.3. Corporate Action against Climate Change. Roadmap for the Integration of Climate Change in Companies

5.2. Identification and Classification of Environmental Factors
- 5.2.1. Environmental catalog: Environmental variables
- 5.2.2. Search for Environmental Information and Inventory
- 5.2.3. Inventory Valuation

5.3. Evaluation and Assessment of the Environmental Impacts of a Project
- 5.3.1. Environmental Analysis of a Project
- 5.3.2. Pre-Operational Status
- 5.3.3. Construction, Operation and Abandonment Phase
- 5.3.4. Quantitative Methods

5.4. Preventive and Corrective Measures
- 5.4.1. Preventative Actions
- 5.4.2. Corrective actions
- 5.4.3. Compensatory Actions

5.5. Environmental Monitoring Program
- 5.5.1. EMP
- 5.5.2. Objectives and Structure of an EMP
- 5.5.3. Phases in the Development of an EMP

5.6. Strategic Environmental Assessment
- 5.6.1. European Regulatory Context (Directive 2001/42/EC)
- 5.6.2. Modalities for Integrating the Environmental Dimension
- 5.6.3. Environmental Assessment in the Phases of the Program

5.7. Analysis of Climate Change Risks and Opportunities
- 5.7.1. Regulations related to Environmental Risks
- 5.7.2. Environmental Risk Analysis and Assessment
- 5.7.3. Risk Management

5.8. Development of Climate Change Adaptation Plans for Organizations
- 5.8.1. Adaptation to Climate Change
- 5.8.2. Climate Change Vulnerability Assessment
- 5.8.3. Methodology for Prioritizing Climate Change Adaptation Measures

Module 6. Environmental Auditing

6.1. Introduction to ISO-14001
- 6.1.1. What Is ISO 14001?
- 6.1.2. ISO 14001 Model
- 6.1.3. Description of ISO 14000 Standards

6.2. Audits of Environmental Management Systems
- 6.2.1. The Audit Process
- 6.2.2. The Audit Process
- 6.2.3. General Principles of Environmental Auditing
- 6.2.4. General Principles of Environmental Auditing
- 6.2.5. Elements of an Auditing Protocol
- 6.2.6. EMS Audits and Compliance Audits: Relationship

6.3. Responsibilities in an EMS Audit
- 6.3.1. Auditor's Responsibilities
- 6.3.2. Responsibility of the Auditee
- 6.3.3. Non-compliance with responsibilities: Legal effects

6.4. Guidance for Planning and Conducting an Internal EMS Audit
- 6.4.1. EMS Internal Audit Program and Procedures
- 6.4.2. Conducting an Internal EMS Audit
- 6.4.3. Objectives and Instructions
- 6.4.4. Environmental Management Program
- 6.4.5. Structure and Responsibility: Training, Knowledge and Competence
- 6.4.6. Communication: SGM documentation
- 6.4.7. Documentary control: Control of Operations
- 6.4.8. Emergency Preparation and Response
- 6.4.9. Monitoring and Measurement: Non-conformity, Preventive and Corrective action
- 6.4.10. Records. MGS audit: Management Review Exercises

6.5. Development of Registration Audit
- 6.5.1. The process: Maintenance, Recorder
- 6.5.2. Preparation of the Registration Audit. Self-Declaration

6.6. Value of ISO 14001
- 6.6.1. Benefits of Implementing ISO 14001 in a Company
- 6.6.2. Benefits of a Company's Registration to ISO 14001
- 6.6.3. Continuous Improvement Activities

6.7. Keys to the Correct Implementation of an EMS Audit Program
- 6.7.1. Necessary Elements of an Effective and Efficient Audit Program

Module 7. Environmental Education and Social Practices

7.1. Organizational and Business Fundamentals
- 7.1.1. Organization Management
- 7.1.2. Types and Structure of an Organization
- 7.1.3. Standardization of Business Management

7.2. Sustainable Development: Business and Environment
- 7.2.1. Sustainable Development: Goals and Targets
- 7.2.2. Economic Activity and Its Impact on the Environment
- 7.2.3. Corporate Social Responsibility

7.3. Environmental and Energy Issues: Scope and Current Framework
- 7.3.1. Major Current Environmental Problems: Waste, Water, Food
- 7.3.2. Energy Problems: Demand, Consumption Distributions and Sources
- 7.3.3. Current Energy Projections

7.4. European Summits and the Paris Agreement
- 7.4.1. EU Climate Targets
- 7.4.2. European Summits
- 7.4.3. The Paris Agreement

7.5. The 2030 Agenda and the Sustainable Development Goals
- 7.5.1. The 2030 Agenda: Background, Approval Process and Content
- 7.5.2. The 17 Sustainable Development Goals (SDGs)
- 7.5.3. SGD Compass Guide

7.6. Circular Economy
- 7.6.1. Circular Economy
- 7.6.2. Legislation and strategies to support the Circular Economy
- 7.6.3. Circular Economy System Diagrams

7.7. Sustainability Reports
- 7.7.1. Communication of Social Responsibility Management
- 7.7.2. Law 11/2018. Non-Financial Reporting
- 7.7.3. Preparing Sustainability Report Process According to GRI

Module 8. Waste Management

8.1. What Is Considered Waste
- 8.1.1. Evolution of Waste
- 8.1.2. Current Situation
- 8.1.3. Future Perspectives

8.2. Existing Waste Streams
- 8.2.1. Analysis of Waste Streams
- 8.2.2. Grouping Streams
- 8.2.3. Characteristics of the Streams

8.3. Classification of Waste and Characteristics
- 8.3.1. Classification According to Standards
- 8.3.2. Classification According to Management
- 8.3.3. Classification According to Origin

8.4. Characteristics and Properties
- 8.4.1. Chemical Characteristics
- 8.4.2. Physical Characteristics
  - 8.4.2.1. Humidity
  - 8.4.2.2. Specific Weight
  - 8.4.2.3. Granulometry
- 8.4.3. Hazard Characteristics

8.5. Waste issues: origin and types of waste
- 8.5.1. Main Problems of Waste Management
- 8.5.2. Generation Problems
- 8.5.3. Problems with Transport and Final Treatment

8.6. Environmental Liabilities
- 8.6.1. Liabilities for environmental damage
- 8.6.2. Damage Prevention, Mitigation and Remediation
- 8.6.3. Financial Guarantees
- 8.6.4. Environmental Requirement Procedures

8.7. Integrated Pollution Prevention and Control
- 8.7.1. Fundamental Aspects
- 8.7.2. Environmental Requirement Procedures
- 8.7.3. Integrated Environmental Authorization (IEA) and Review of IEA
- 8.7.4. Information and Communication
- 8.7.5. Best Available Techniques (BAT)

8.8. European Emission Source Inventory
- 8.8.1. Emission Inventory Background
- 8.8.2. European Pollutant Emission Inventory
- 8.8.3. European Pollutant Release and Transfer Register (E-PRTR)
- 8.8.4. Legal Framework of PRTR in Spain
- 8.8.5. PRTR-Spain

8.9. Environmental Impact Assessment
- 8.9.1. Environmental Impact Assessment (EIA)
- 8.9.2. Administrative Procedures of EIA
- 8.9.3. Environmental Impact Assessment (EIA)
- 8.9.4. Abbreviated Procedures

8.10. Climate Change and the Fight against Climate Change
- 8.10.1. Elements and Factors that Determine the Climate
- 8.10.2. Definition of Climate Change Climate Change Effects
- 8.10.3. Actions Against Climate Change
- 8.10.4. Organizations Facing Climate Change
- 8.10.5. Predictions about Climate Change
- 8.10.6. Bibliographical References

Module 9. Environmental Policy

9.1. Principles of Environmental Planning
- 9.1.1. Introduction
- 9.1.2. Environmental Planning of the Territory

9.2. Right to Information and Environmental Public Participation
- 9.2.1. Introduction
- 9.2.2. Right to Environmental Information
- 9.2.3. Citizen Participation in Environmental Policy Issues

9.3. Land Use and Urban Organization
- 9.3.1. Spatial Planning as a Policy Tool
- 9.3.2. Policy and Urban Planning

9.4. Environmental Policy Regulations
- 9.4.1. European Regulations
- 9.4.2. Regulations in Latin America
- 9.4.3. U.S. Environmental Regulations

9.5. Scope of the Environmental Policy
- 9.5.1. Introduction to the Application of the Environmental Policy
- 9.5.2. History of Environmental Policy
- 9.5.3. Enforcement of Environmental Policy

9.6. Environmental Impact Statement
- 9.6.1. Introduction
- 9.6.2. Environmental Impact
- 9.6.3. Repercussions of Environmental Impact

9.7. Environmental Impact Assessment
- 9.7.1. Introduction to SEA
- 9.7.2. Environmental Impact Assessment (EIA)
- 9.7.3. EIA Phases

9.8. Strategic Environmental Assessment
- 9.8.1. Introduction to SEA
- 9.8.2. Strategic Environmental Assessment (SEA)
- 9.8.3. Phases of an SEA

Module 10. Treatment of Environmental Pollution

10.1. Environmental Pollution
- 10.1.1. Introduction to the Concept of Pollution
- 10.1.2. History of Environmental Pollution
- 10.1.3. Current Environmental Issues

10.2. Air Pollution
- 10.2.1. Introduction to Air Pollution
- 10.2.2. Air Pollution Problems
- 10.2.3. Solutions to Air Pollution

10.3. Soil Pollution
- 10.3.1. Introduction to Soil Pollution
- 10.3.2. Soil Pollution Problems
- 10.3.3. Solutions to Soil Pollution

10.4. Water Pollution
- 10.4.1. Introduction to Water Pollution
- 10.4.2. Ocean Pollution
- 10.4.3. River and Lake Pollution

10.5. Soil Decontamination
- 10.5.1. Introduction
- 10.5.2. Soil Decontamination Techniques
- 10.5.3. Results of Soil Decontamination Techniques

10.6. Water Decontamination
- 10.6.1. Water Potabilization
- 10.6.2. Water Purification
- 10.6.3. Results of Water Decontamination

10.7. Solid Waste
- 10.7.1. Introduction to the USW Problem
- 10.7.2. Concept of Solid Urban Waste
- 10.7.3. Types of USW

10.8. USW Management
- 10.8.1. Landfills and Collection System
- 10.8.2. Recycling
- 10.8.3. Other Management Techniques

10.9. Dangerous Waste
- 10.9.1. Introduction
- 10.9.2. Radioactive Waste
- 10.9.3. Waste from Medical Activity

10.10. Emerging Environmental Issues: The Impact of Microplastics
- 10.10.1. What Is Plastic?
- 10.10.2. Plastic and Recycling
- 10.10.3. Microplastics and Their interaction with the Environment
- 10.10.4. Brief *Review* of The Environment Problem

This is a 100% online program that will allow you to learn about new environmental problems and the solutions used for decontamination"

05

Methodology

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

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

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"

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

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

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

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

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

Relearning Methodology

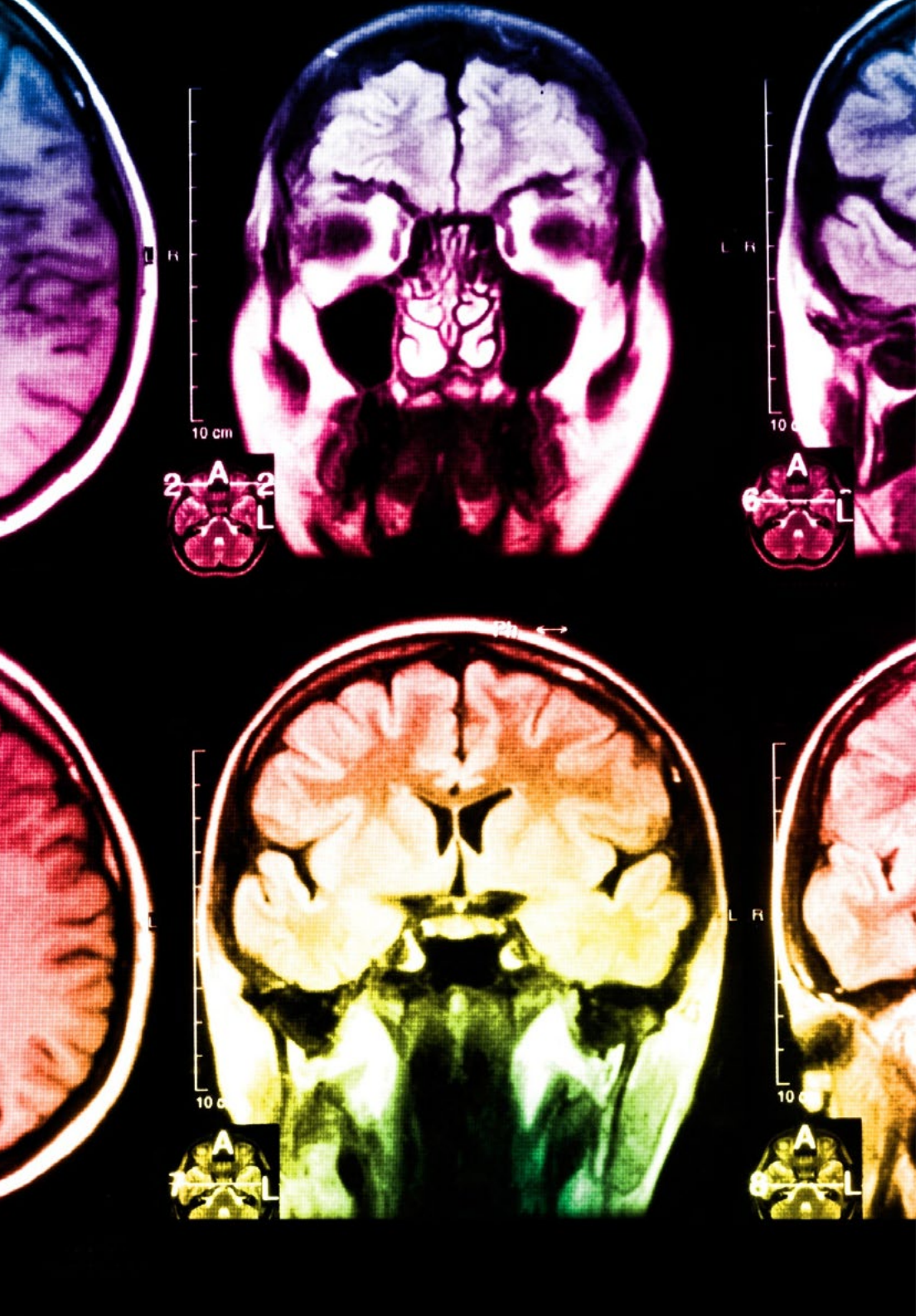
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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

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

At TECH, you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

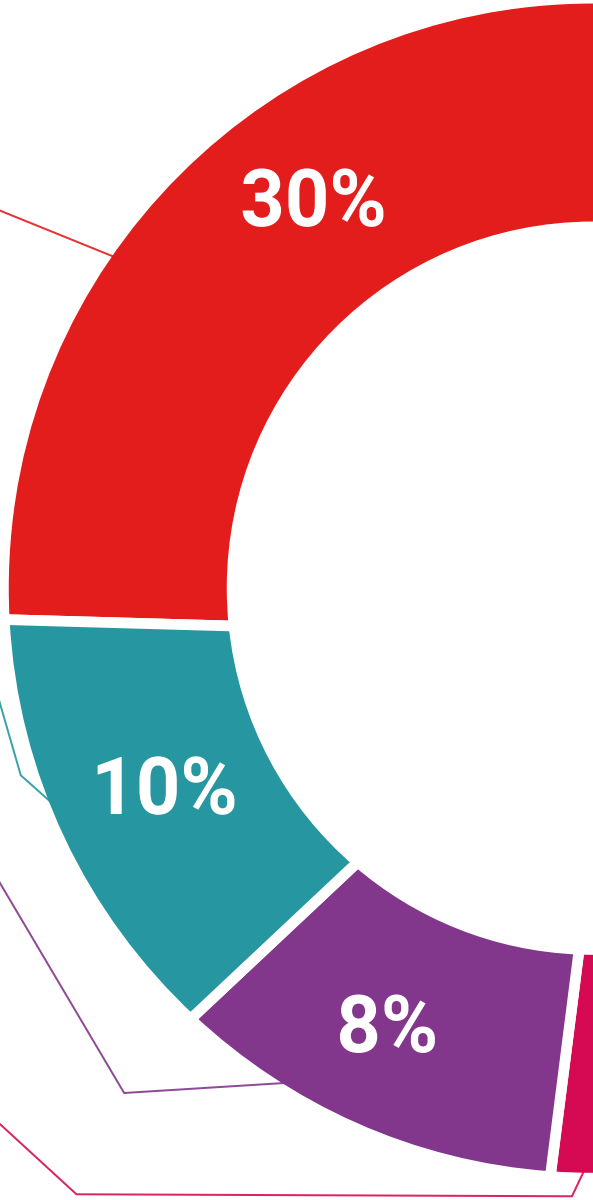
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

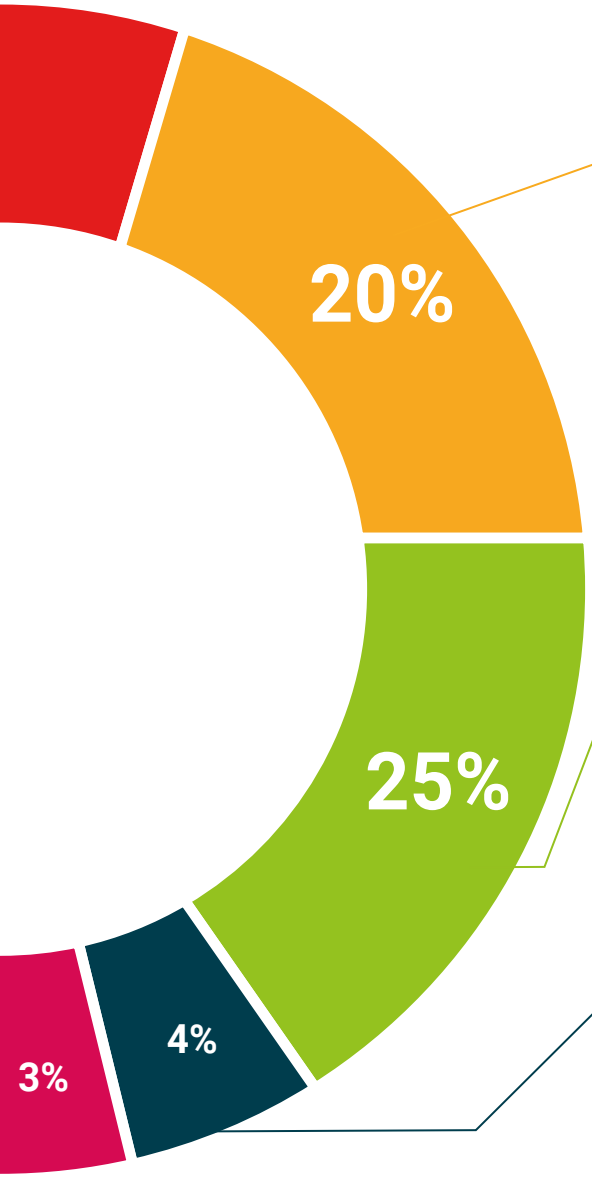
Practising Skills and Abilities

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

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

06

Certificate

The Professional Master's Degree in Environmental Engineering guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.

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

This **Professional Master's Degree in Environmental Engineering** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree diploma** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Environmental Engineering**

Official Nº of Hours: **1,500 h.**


tech technological university

Awards the following

CERTIFICATE

to

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

For having successfully passed and accredited the following program

PROFESSIONAL MASTER'S DEGREE

in

Environmental Engineering

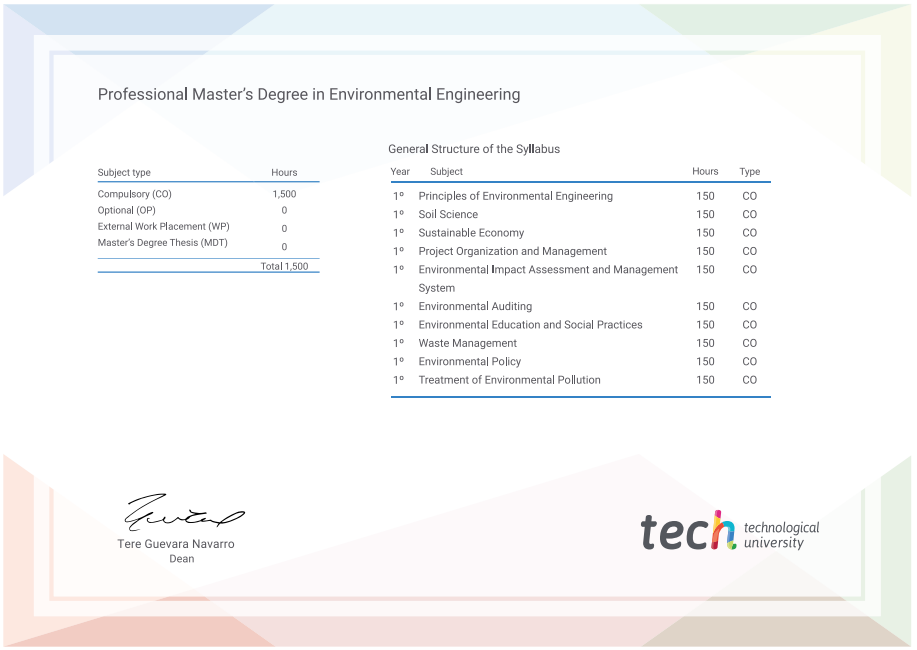
This is a qualification awarded by this University, equivalent to 1,500 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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


Professional Master's Degree in Environmental Engineering

Subject type	Hours
Compulsory (CO)	1,500
Optional (OP)	0
External Work Placement (WP)	0
Master's Degree Thesis (MDT)	0
	Total 1,500

General Structure of the Syllabus

Year	Subject	Hours	Type
1º	Principles of Environmental Engineering	150	CO
1º	Soil Science	150	CO
1º	Sustainable Economy	150	CO
1º	Project Organization and Management	150	CO
1º	Environmental Impact Assessment and Management System	150	CO
1º	Environmental Auditing	150	CO
1º	Environmental Education and Social Practices	150	CO
1º	Waste Management	150	CO
1º	Environmental Policy	150	CO
1º	Treatment of Environmental Pollution	150	CO

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Dean

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*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Professional Master's Degree
Environmental Engineering

- Modality: **online**
- Duration: **12 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Professional Master's Degree
Environmental Engineering

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