Professional Master's Degree

Conservation Ecology

tech technological university

tech technological university

Professional Master's Degree
Conservation Ecology

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

Website: **www.techtitute.com/in/engineering/professional-master-degree/master-conservation-ecology**

Index

01 Introduction p. 4

02 Objectives p. 8

03 Skills p. 14

04 Structure and Content p. 18

05 Methodology p. 30

06 Certificate p. 38

01

Introduction

The terms ecology and engineering are inseparable nowadays, especially given the greater environmental awareness in both society and among professionals themselves. In recent decades, the degradation of ecosystems has made it essential for engineers to have a greater body of knowledge of the conservation of natural spaces through ad hoc projects or initiatives that take into account the natural environment from the beginning. In this way, this program provides graduates with the most exhaustive knowledge on land management, environmental microbiology and modernizing environmental systems. A knowledge that will allow them to advance with solid steps in their professional career, thanks to the innovative didactic resources provided by this program taught exclusively online.

This Professional Master's Degree will help you to advance your professional engineering career and contribute to environmental conservation"

The figures and data provided by the United Nations with Cone to the consumption of environmental resources and pollution leave no doubt as to the urgent need to implement effective measures and develop new projects. In this scenario, engineers play a leading role thanks to their technical knowledge and how their activity transforms The environment.

Thus, their technical and technological initiatives can contribute to reducing water consumption and pollution, or to implementing methodologies that will decontaminate the air or soil. However, to achieve this, engineers must have some knowledge of Conservation Ecology, which they will be able to acquire through this TECH Professional Master's Degree.

In this way, through a 100% online program, graduates will be able to delve into ecology, environmental epidemiology and public health, land management, technical developments on the diagnosis and recovery of the landscape, as well as geographic information systems. All this, with a theoretical approach, but at the same time practical thanks to the case studies provided by the specialists who teach this program.

Engineering professionals are, therefore, upon an excellent opportunity to study a Professional Master's Degree at their own convenience. You only need an electronic device with an Internet connection to access the Virtual Classroom where the syllabus of this program is hosted. What is more, the Relearning system, used by TECH in all its programs, will allow students to reduce the long study hours so common to other methods.

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

- Practical cases presented by experts in Ecology and 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 self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Take this program and acquire an advanced education in geographic information systems and modernizing environmental systems"

Do you have an engineering project in mind that favors human wel-being? Before taking the plunge, enroll in the Professional Master's Degree in Conservation Ecology"

If you have a computer with an Internet connection, you already have the necessary tool to take this 100% online program. Enroll now.

With this academic program you will gain an improved understanding of the way ecosystems function and their link to engineering.

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

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

The design of this program focuses on Problem-Based Learning, by means of which professionals must try to solve the different professional practice situations that are presented to them throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

Creating engineering projects requires sound knowledge of the environment and its conservation, which is why, with this program, professionals will be able to acquire the necessary knowledge of ecology, wildlife protection, and environmental conservation. A learning that will be much more dynamic and visual thanks to the video summaries, detailed videos and the specialized readings provided throughout the program.

Delve into the study of the effects of pollution on human health and generate technical actions to reduce its impact"

General Objectives

- Analyze some classical environmental models in detail
- Identify the organizational levels of nature, from individual specimens to the whole ecosystem
- Become familiar with the history of territorial planning from antiquity to present day, its different phases - pre-industrial, industrial and post-industrial– and the importance of the natural environment in this planning
- Understand both intrinsic and extrinsic factors that affect compound toxicity and organism response to it

You will take a step further in your professional career thanks to the comprehensive content you will acquire on landscape restoration"

Specific Objectives

Module 1. Ecology

- Describe and understand the physico-chemical processes that structure and make ecosystems function
- Establish and understand the interrelationships between the different components that structure and allow an ecosystem to function
- Qualitatively and quantitatively analyze the structural and functional aspects of the different organizational levels
- Gain systematic and standardized understanding of the samples obtained in order to render reliable and comparable data

Module 2. Wildlife Management

- Describe the morphological and functional organization of organisms, and understand the basis of taxonomy and biological classifications
- Know the main biomes of the earth and general ecological processes, the factors that affect them and their dynamics
- Use procedures to estimate, represent and interpret biodiversity at various scales, population, taxonomic, ecological, their interactions in the natural and anthropized environment, and their environmental significance

Module 3. Environment and Society

- Know and understand the psychological models used for the analysis of environmental problems
- Develop a critical awareness of the potential articulation of the fields of research on environmental problems
- Learn about the reciprocal relationships between the individual and the socio-physical environment from the perspective of Environmental Psychology
- Acquire the basic scientific, theoretical and methodological knowledge to implement psychosocial assessment and intervention programs for problems arising from the relationship of individuals with their physical space and environment

Module 4. Environmental Microbiology

- Identify and understand the basis of microbial diversity and its role in the biosphere
- Know and understand the physiological state of microorganisms in the environment and the dynamics of microbial communities
- Understand modern techniques to estimate and interpret microbial biodiversity, and assess their potential application in environmental and industrial processes
- Analyze the importance of using microorganisms to solve environmental problems: water supply treatment, wastewater treatment and biomining techniques

Module 5. Wildlife Management and Conservation

- Identify space management
- Know the action plans carried out for endangered species conservation
- Understand management tools used by institutions
- Analyze wildlife conservation planning and management

Module 6. Environmental Epidemiology and Public Health

- Understand the processes toxins undergo upon entering a living organism and the response mechanisms that are activated to counteract their impact
- Know the different methods used to asses toxicity and the requirements that validate them
- Understand the mechanisms of toxicity at a cellular level
- Learn the toxic effects on different organs and systems of living beings
- Detect the mode of action of different types of toxins at the molecular, cellular and systemic levels
- Differentiate the sources of pollution found in ecosystems, both natural and anthropogenic, and toxin mobility between the different compartments of ecosystems
- Identify the main methods used in risk assessment and environmental remediation strategies that have been developed to counteract the effect of pollutants

Module 7. Geographical Information Systems

- Generally introduce geographic databases
- Know the database work The procedures
- Solve environmental problems with the help of a GIS
- Prevent and plan for environmental risk using these computer tools

Module 8. Landscape Diagnosis and Restoration

- Present the concept of landscape in its different dimensions and its treatment in the regulatory context
- Understand the system underlying the landscape and the factors that determine the different types of landscape
- Understand the spatial dimension of landscape phenomena at different scales
- Define and characterize the different types of landscapes
- Learn how to evaluate the landscape in terms of quality, fragility and capacity of use according to its characteristics and using different techniques

Module 9. Spatial Planning and Environment

- Know the conceptualization and theoretical bases on which land use planning, models, plans, justifications, etc. are based
- Distinguish the evolution of land-use plans since they began to be systematically developed in the 20th century, up to present day
- Know the methods of environmental analysis used to assess, conserve and manage natural resources
- Become familiar with the European Legislation that regulates everything involved in spatial planning
- Know how to value natural resources, their management and conservation, when formulating policies, regulations, plans and development programs

Module 10. Modeling Environmental Systems

- Describe the concept of model and study the use of mathematical models in environmental sciences
- Understand the difference between discrete and continuous models
- Distinguish between spatially homogeneous and heterogeneous models
- Explain potential problems in building and validating models and sensitivity analyses
- Study the mathematical expression of some general behaviors
- Know how to verify and validate a model by comparison with experimental data

03

Skills

The students who enter this university program are provided with case studies on Conservation Ecology, which will help them to approach situations that will be very useful in their daily practice. This will allow them to broaden their skills in project management and development that respects land management and existing species, and will strengthen their analytical and interpretative skills of environmental studies and maps.

You will obtain the competences you need to create initiatives that favor wildlife conservation"

General Skills

- Acquire, develop and exercise the skills required to work in an environmental microbiology laboratory, and the ability to integrate the experimental evidence obtained into field studies
- Identify the methodology to be followed in any land management plan, including the type, the area to be studied, means of study, work team, presentation and monitoring
- Acquire the skills to required to elaborate, interpret and criticize environmental data, studies and maps
- Interpret the basic sources of information in landscape treatment

Specific Skills

- Obtain samples in nature following the methodology according to the study to be carried out
- Know how to estimate the different scales relevant to natural phenomena and, accordingly, choose the variables and parameters of interest to build a model
- Recognize the requirements of model organisms and their suitability for toxicity studies
- Distinguish the main groups of pollutants, their characteristics and properties

The knowledge acquired on this Professional Master's Degree program will allow you to create engineering projects that respect land management and the ecosystem"

04

Structure and Content

The syllabus for this Professional Master's Degree includes 10 modules that will favor advanced learning in Conservation Ecology and will promote the professional careers of the engineers who take it. Thus, by means of the most innovative pedagogical tools, and over 12 months time, students will learn about biodiversity conservation, the influences of the environment on perceived well-being or the ecological aspects in biodeterioration control and in soil, water and waste management.

Fluidly advance through this program's syllabus thanks to the Relearning method used by TECH"

Module 1. Ecology

1.1. General Ecology I
- 1.1.1. Reproduction Strategies
- 1.1.2. Biological Indicators
  - 1.1.2.1. Productivity
  - 1.1.2.2. Sex Ratio
  - 1.1.2.3. Flight Rate
  - 1.1.2.4. Operational Birth Rate
  - 1.1.2.5. Reproductive Success

1.2. General Ecology II
- 1.2.1. Birth Rate and Mortality
- 1.2.2. Growth.
- 1.2.3. Density and Assessment

1.3. Population Ecology
- 1.3.1. Gregariousness and Territorialism
- 1.3.2. Feeding Area
- 1.3.3. Activity Patterns
- 1.3.4. Age Structure
- 1.3.5. Predation
- 1.3.6. Animal Nutrition
- 1.3.7. Extinction: Critical Periods

1.4. Biodiversity Preservation
- 1.4.1. Life Cycle Critical Periods
- 1.4.2. International Union for Conservation of Nature (IUCN) Categories
- 1.4.3. Conservation Indicators
- 1.4.4. Vulnerability to Extinction

1.5. Surrogate Species
- 1.5.1. Keystone Species
  - 1.5.1.1. Description
  - 1.5.1.2. Real Examples
- 1.5.2. Umbrella Species
  - 1.5.2.1. Description
  - 1.5.2.2. Real Examples

1.6. (Surrogate Species) II
- 1.6.1. Flagship Species)
  - 1.6.1.1. Description
  - 1.6.1.2. Real Examples
- 1.6.2. Indicator Species
  - 1.6.2.1. Biodiversity Status
  - 1.6.2.2. Habitat Status
  - 1.6.2.3. Population Status

1.7. Plant Ecology
- 1.7.1. Plant Successions
- 1.7.2. Animal-Plant Interaction
- 1.7.3. Biogeography

1.8. Ecosystems
- 1.8.1. Structure
- 1.8.2. Factors

1.9. Biological Systems and Communities
- 1.9.1. Community
- 1.9.2. Structure
- 1.9.3. Biomass

1.10. Energy Flows
- 1.10.1. Nutrient Cycles

Module 2. Wildlife Management

2.1. Convention on Biological Diversity
- 2.1.1. Mission and Objectives
- 2.1.2. Strategic Plan for Biological Diversity

2.2. Convention on International Trade in Endangered Species of Wild Fauna and Flora
- 2.2.1. Structure and Objectives
- 2.2.2. Appendices I, II and III

2.3. Ramsar Convention
- 2.3.1. Structure and Objectives
- 2.3.2. Designation of Ramsar Sites

2.4. Other International Conventions
- 2.4.1. United Nations Convention to Combat Desertification
- 2.4.2. Bonn Convention on the Conservation of Migratory Species
- 2.4.3. OSPAR Convention

2.5. Berna Convention
- 2.5.1. Structure and Objectives

2.6. South America: National Strategies for Biodiversity
- 2.6.1. Mission and Objectives
- 2.6.2. Main Lines of Action

Module 3. Environment and Society

3.1. Environmental psychology: concept and structure
- 3.1.1. Defining Characteristics of Environmental Psychology
- 3.1.2. Basic Concepts
- 3.1.3. Structure and Approaches of Environmental Psychology

3.2. Environmental Identity and Relationship with the Environment
- 3.2.1. Environmental identity: concept and structure
- 3.2.2. Environmental Identity as a Personal Psychological Construct
- 3.2.3. Human Relationship with the Environment and the Construction of Environmental Identity

3.3. Well-Being and Environment
- 3.3.1. Influences of the Environment on Perceived Well-Being
- 3.3.2. Factors Influencing Perceived Well-Being
- 3.3.3. Individual Differences in the Well-Being-Environment Relationship
- 3.3.4. Interventions on the Environment to Improve Well-being

3.4. Interdisciplinarity in Environmental Psychology
- 3.4.1. Approaches to Environmental Psychology
- 3.4.2. Environmental Psychology and Its Relation to Other Scientific Disciplines
- 3.4.3. Contributions and Evidence from Other Disciplines to Environmental Psychology

3.5. Beliefs, Attitudes and Behavior
- 3.5.1. Rule Formation
- 3.5.2. Frame Formation
- 3.5.3. Belief Formation
- 3.5.4. Influence of Personal Beliefs and Attitudes on Human Behavior
- 3.5.5. Interventions Based on Cognitive Restructuring or Behavior Modification

3.6. Risk Perception
- 3.6.1. Risk Assessment and Analysis
- 3.6.2. Influence of Risk Perception on Behavior
- 3.6.3. Interventions Aimed at Improving Risk Perception

3.7. Influence of Environmental Variables on Behavior
- 3.7.1. Evidence of the Relationship Between Environmental Variables and Human Behavior
- 3.7.2. Analysis of variables: description and operationalization
- 3.7.3. Intervention Methods

3.8. Relations Between Physical Space and Behavior
- 3.8.1. Physical Space as a Social Environment
- 3.8.2. The Integrated Socio-Physical Environment
- 3.8.3. Relations Between Physical Space and Behavior

3.9. Assessment Techniques in Environmental Psychology
- 3.9.1. Environmental Assessments Based on Technical Indices
- 3.9.2. Environmental Assessments Based on Observational Indices
- 3.9.3. Evaluation of the Advantages and Disadvantages in the Use of Each Technique

3.10. Intervention Techniques in Environmental Psychology
- 3.10.1. Interventions Based on Environmental Variables
- 3.10.2. Interventions Based on Physical Variables
- 3.10.3. Interventions Based on Psychological Variables
- 3.10.4. Evaluation of the Advantages and Disadvantages in the Use of Each Technique

Module 4. Environmental Microbiology

4.1. History of Microbiology
- 4.1.1. History of Microbiology
- 4.1.2. Development of Axenic Culture
- 4.1.3. Relation between Microbiology and Environmental Sciences

4.2. Methods to Study Microorganisms
- 4.2.1. Microscopy and Microscopy
- 4.2.2. Grams Stain
- 4.2.3. Microorganism Cultures

4.3. Microbial Cell Structure
- 4.3.1. Bacteria
- 4.3.2. Protozoa
- 4.3.3. Fungi

4.4. Microbial Growth and Environmental Factors
- 4.4.1. Microbial Evolution
- 4.4.2. Genetic Evolutionary Basis
- 4.4.3. Biodiversity Evolution
- 4.4.4. Microbial Diversity

4.5. Microbial Metabolism
- 4.5.1. Catabolism
- 4.5.2. Anabolism
- 4.5.3. Biosynthetic Pathways

4.6. Microbial Communities and Ecosystems
- 4.6.1. Microbial Community Dynamics
- 4.6.2. Microbial Community StructuresMicrobial Community BORRAR
- 4.6.3. Ecosystems

4.7. Quantitative Ecology: Number, Biomass and Activity
- 4.7.1. Sample Collection
- 4.7.2. Processing Samples
- 4.7.3. Hydro-Ecosphere
- 4.7.4. Litho-Ecosphere

4.8. Biogeochemical Cycles and Microbiology
- 4.8.1. Carbon Cycle
- 4.8.2. Hydrogen Cycle
- 4.8.3. Oxygen Cycle
- 4.8.4. Nitrogen Cycle
- 4.8.5. Sulfur Cycle
- 4.8.6. Phosphorus Cycle
- 4.8.7. Iron Cycle
- 4.8.8. Other Cycles

4.9. Virology
- 4.9.1. General Characteristics of Viruses
- 4.9.2. Herpes Virus
- 4.9.3. Hepatitis Virus
- 4.9.4. Immunodeficiency Virus

4.10. Microorganisms and the Environment
- 4.10.1. Microorganisms in Mineral and Energy Recovery and Fuel and Biomass Production
- 4.10.2. Microbial Pest and Disease-Causing Population Control
- 4.10.3. Ecological Aspects of Biodeterioration Control and Soil, Waste and Water Management

Module 5. Wildlife Management and Conservation

5.1. Management of Protected Natural Areas
- 5.1.1. Introduction
- 5.1.2. Structure
- 5.1.3. Restrictions

5.2. Management of Endangered Species Conservation
- 5.2.1. Action Plans
- 5.2.2. Recovery Plans

5.3. Natura 2000 Management
- 5.3.1. Structure
- 5.3.2. Indicators
- 5.3.3. Stocks

5.4. Forest Management
- 5.4.1. Forest Planning
- 5.4.2. Management Projects
- 5.4.3. Main Overlap between Forestry Management and Species Conservation

5.5. OnSite Management
- 5.5.1. Actions on the Habitat
- 5.5.2. Actions on Prey and Predators
- 5.5.3. Actions on Diet

5.6. OffSite Management
- 5.6.1. Captive Breeding
- 5.6.2. Reintroductions
- 5.6.3. Translocations
- 5.6.4. Recovery Centers

5.7. Invasive Alien Species (IAS) Management
- 5.7.1. Strategies and Plans

5.8. Management Tools: Access to Information
- 5.8.1. Data Sources

5.9. Management Tools: Strategies
- 5.9.1. Main Lines
- 5.9.2. Strategies against the Main Threats

Module 6. Environmental Epidemiology and Public Health

6.1. General Concepts and Epidemiokinetics
- 6.1.1. Introduction to Epidemiology and Toxicology
- 6.1.2. Toxin Action Mechanisms
- 6.1.3. Toxin Entrance Routes

6.2. Toxicity Assessment
- 6.2.1. Types of Tests and Parameters for Toxicity Assessment
- 6.2.2. Toxicity Assessment in Medicines
- 6.2.3. Hormetins

6.3. Factors that Affect Toxicity
- 6.3.1. Physical Parameters
- 6.3.2. Chemical Parameters
- 6.3.3. Biological Parameters

6.4. Toxicity Mechanisms
- 6.4.1. Mechanisms at the Cellular and Molecular Levels
- 6.4.2. Damage at the Cellular Level
- 6.4.3. Survivability

6.5. Toxicity without Organotropism
- 6.5.1. Simultaneous Toxicity
- 6.5.2. Genotoxicity
- 6.5.3. Impact of Toxicity on Organisms and Ecosystems

6.6. Pollution and Public Health
- 6.6.1. Pollution Problems
- 6.6.2. Public Health Issues Related to Pollution
- 6.6.3. Health Effects of Pollution on Human Health

6.7. Main Types of Contaminants
- 6.7.1. Sources of Physical Pollution
- 6.7.2. Sources of Chemical Pollution
- 6.7.3. Biological Pollution Sources

6.8. Pollutant Entry Routes into Ecosystems
- 6.8.1. Pollution Entry Processes into the Environment
- 6.8.2. Sources of Pollution
- 6.8.3. The Significance of Pollution in the Environment

6.9. Pollutant Movement in Ecosystems
- 6.9.1. Pollutant Distribution Processes and Patterns
- 6.9.2. Local Pollution
- 6.9.3. Transboundary Pollution

6.10. Risk Assessment and Environmental Remediation Strategies
- 6.10.1. Remediation
- 6.10.2. Remediation of Polluted Areas
- 6.10.3. Future Environmental Problems

Module 7. Geographical Information Systems

7.1. Geographic Information Systems (GIS)
- 7.1.1. Geographic Information Systems (GIS)
- 7.1.2. Differences Between CAD and a GIC
- 7.1.3. Types of Data Visualizers (Heavy or Light Clients)
- 7.1.4. Types of Geographical Data
- 7.1.5. Geographic Information
- 7.1.6. Geographical Representations

7.2. Visualization of Elements in QGIS
- 7.2.1. QGIC Installation
- 7.2.2. Visualization of Data with QGIS
- 7.2.3. Labelled Data with QGIS
- 7.2.4. Overlaying Layers of Different Coverages with QGIS
- 7.2.5. Maps
  - 7.2.5.1. Parts of a Map
- 7.2.6. Printing a Plan with QGIS

7.3. Vector Model
- 7.3.1. Types of Vector Geometries
- 7.3.2. Attribute Tables
- 7.3.3. Topology
  - 7.3.3.1. Topological Rules
  - 7.3.3.2. Application of Topologies in QGIS
  - 7.3.3.3. Application of Database Topologies

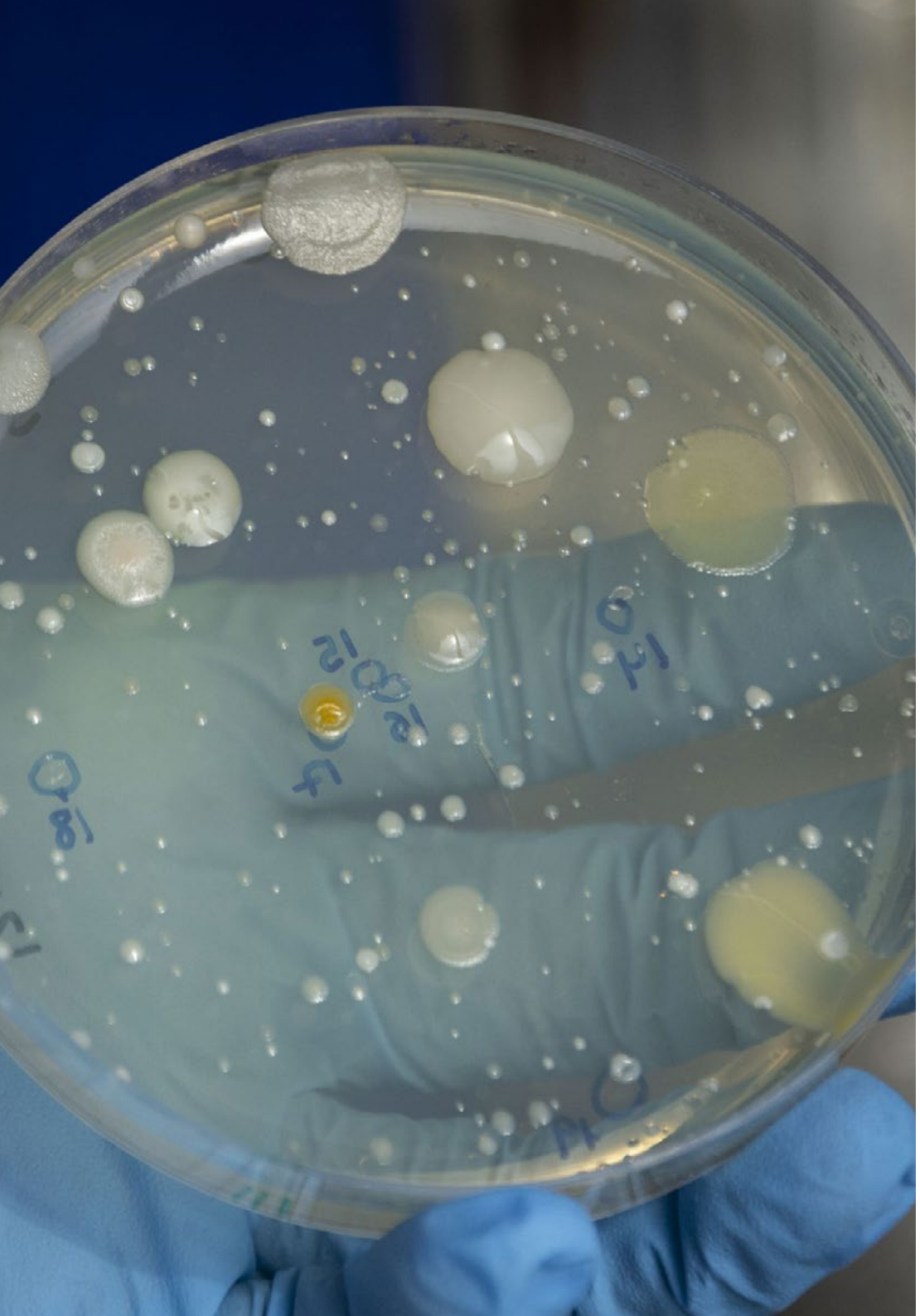
7.4. Vector Model: Operators
- 7.4.1. Functional Criteria
- 7.4.2. Spatial Analysis Operators
- 7.4.3. Examples of Geospatial Operations

7.5. Generation of a Data Model with a Database
- 7.5.1. Installation of PostgreSQL and POSTGIS
- 7.5.2. Creation of a Geospatial Database with PGAdmin
- 7.5.3. Elements Creation
- 7.5.4. Geospatial Consultations with POSTGIS
- 7.5.5. Visualization of Elements of a Database with QGIS

7.5.6. Maps Server
7.5.6.1. Types and Creation of Maps Server with Geoserver
7.5.6.2. Types of WMS/WFS Data Services
7.5.6.3. Visualization of Services in QGIS
7.6. Raster Model
7.6.1. Raster Model
7.6.2. Color Bands
7.6.3. Database Storage
7.6.4. Raster Calculator
7.6.5. Image Pyramids
7.7. Raster Model: operations
7.7.1. Image Georeferencing
7.7.1.1. Control Points
7.7.2. Raster Functionalities
7.7.2.1. Surface Functions
7.7.2.2. Distance Function
7.7.2.3. Reclassification Functions
7.7.2.4. Superposition Analysis Functions
7.7.2.5. Statistical Analysis Functions
7.7.2.6. Selection Functions
7.7.3. Loading Raster Data into a Database
7.8. Practical Applications of Raster Data
7.8.1. Application in the Agrarian Sector
7.8.2. Treatment of Digital Assessment Models
7.8.3. Elements Classification Automation on a Raster
7.8.4. Treatment of LIDAR Data
7.9. Regulations
7.9.1. Cartography Standards
7.9.1.1. OGC
7.9.1.2. ISO
7.9.1.3. CEN
7.9.1.4. AENOR
7.9.1.5. State Cartography
7.9.2. Inspire
7.9.2.1. Principles
7.9.2.2. Annexes
7.9.3. Lisige
7.10. Open Data
7.10.1. Open Street Maps (OSM)
7.10.1.1. Cartographic Editing and Community
7.10.2. Obtaining Free Vector Mapping
7.10.3. Obtaining Free Raster Mapping

Module 8. Landscape Diagnosis and Restoration

8.1. Landscape Concept and Method
8.1.1. Conceptual Background and Current Dimensions of Landscape
8.1.2. Landscape: Conservation and Land Use Planning
8.1.3. Objectives and Methods of Work in Landscape: Types of Analysis
8.2. Landscape Analysis
8.2.1. Landscape Diversity Factors
8.2.2. Landscape Units
8.2.3. Landscape Delimitation



8.3. Landscape Classification
- 8.3.1. Natural Landscape
- 8.3.2. Cultural Landscape
- 8.3.3. Rural Landscape
- 8.3.4. Urban Landscape

8.4. Landscape Structure
- 8.4.1. Landscape Elements
- 8.4.2. Landscape Coverage
- 8.4.3. Landscape Geoform

8.5. Landscape Dynamics
- 8.5.1. Changes and Evolution of the Landscape
- 8.5.2. Natural Changes and Ecological Sequences
- 8.5.3. Environmental Problems in Landscape Dynamics

8.6. Landscape Diagnosis
- 8.6.1. Environmental Assessment of the Landscape
- 8.6.2. Environmental problems
- 8.6.3. Solutions to the Environmental Impact of the Landscape

8.7. Assessment of Visual Fragility
- 8.7.1. Definition of the Concept of Fragility
- 8.7.2. Elements Influencing Visual Fragility
- 8.7.3. Use of Tools in the Assessment of Visual Fragility The Use of GIS

8.8. Landscape Capacity
- 8.8.1. Concept of Capacity
- 8.8.2. Landscape Capacity to Buffer Environmental Impact
- 8.8.3. Landscaping Development

8.9. Fragility in Management
- 8.9.1. Concept of Fragility
- 8.9.2. Environmental Fragility of the Landscape
- 8.9.3. Environmental Problems Affecting Fragility

8.10. Environmental Impact of the Landscape
- 8.10.1. Consequences of Environmental Problems
- 8.10.2. Landscape Restoration Methods
- 8.10.3. Landscape Care in the Future

Module 9. Spatial Planning and Environment

9.1. Historical Precedents of Spatial Planning
- 9.1.1. The Dawn of Civilization
- 9.1.2. Formal Organization of Civilization
- 9.1.3. Current Situation

9.2. Methodology to Develop Spatial Planning Management Plans
- 9.2.1. Introduction
- 9.2.2. Preparation Phase
- 9.2.3. Informative Phase
- 9.2.4. Planning Phase
- 9..5. Management Phase
- 9.2.6. Methodological Approaches and Reference Methodologies

9.3. Analysis and Diagnosis of Territorial Systems
- 9.3.1. Spatial Scope of the Plan
- 9.3.2. Territorial Diagnosis
- 9.3.3. Analysis and Diagnosis of the Physical Environment

9.4. Preparation for the Planning Phase
- 9.4.1. SWOT Analysis
- 9.4.2. Foresight
- 9.4.3. Definition of Objective Systems

9.5. Spatial Planning I
- 9.5.1. Proposal Document Structure
- 9.5.2. The Target Image
- 9.5.3. Territorial and Non-Territorial Proposals

9.6. Spatial Planning II
- 9.6.1. Evaluation of Alternatives
- 9.6.2. Alternative Instrumentation
- 9.6.3. Environmental Impact Assessment as a Land Use Planning Tool

9.7. Environmental Impact Assessment (EIA)
- 9.7.1. Background
- 9.7.2. EIT Content
- 9.7.3. Features of a EIT
- 9.7.4. Fields of Application

9.8. Land Management
- 9.8.1. Managing Entity
- 9.8.2. Management Systems
- 9.8.3. Interim and Final Assessments
- 9.8.4. Joint Assessment of the Plan

Module 10. Modeling Environmental Systems

10.1. Models, Computation and Environment
- 10.1.1. Introduction to Scale and Complexity Problems
- 10.1.2. Presenting Alternatives to Computer Modeling and Environmental Simulation Processes

10.2. Introduction to R
- 10.2.1. Program R
- 10.2.2. R Applications in Modeling

10.3. Systems and Systems Analysis
- 10.3.1. Main Types of Systems Analysis in Environmental Sciences

10.4. Models and Modeling
- 10.4.1. Types of Models
- 10.4.2. Components
- 10.4.3. Modeling Phases

10.5. Parameter Estimation, Model Validation and Sensitivity Analysis
- 10.5.1. Estimate
- 10.5.2. Validation
- 10.5.3. Sensitivity Analysis

10.6. Algorithm and Programming
- 10.6.1. Flowcharts and Language
- 10.6.2. Forrester Diagrams

10.7. Applications
- 10.7.1. Formulating and Implementing Simple Models: Surface Radiation
- 10.7.2. Generalized Linear Models in the Environment
- 10.7.3. DaisyWorld: working method

10.8. Mathematical Concepts in Modeling
- 10.8.1. Random Variables
- 10.8.2. Probability Models
- 10.8.3. Regression Models
- 10.8.4. Models in Differential Equations

10.9. Conditions, Iterations and Repeatability
- 10.9.1. Definition of Concepts
- 10.9.2. Applying Iterations and Repeatability to Environmental Models

10.10. Functions and Recursion
- 10.10.1. Function Construction to Obtain Reusable Modular Codes
- 10.10.2. Introducing Recursion as a Programming Technique

Enroll in a Professional Master's Degree that will allow you to learn the latest tools in digitally modeling and simulating environmental processes"

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

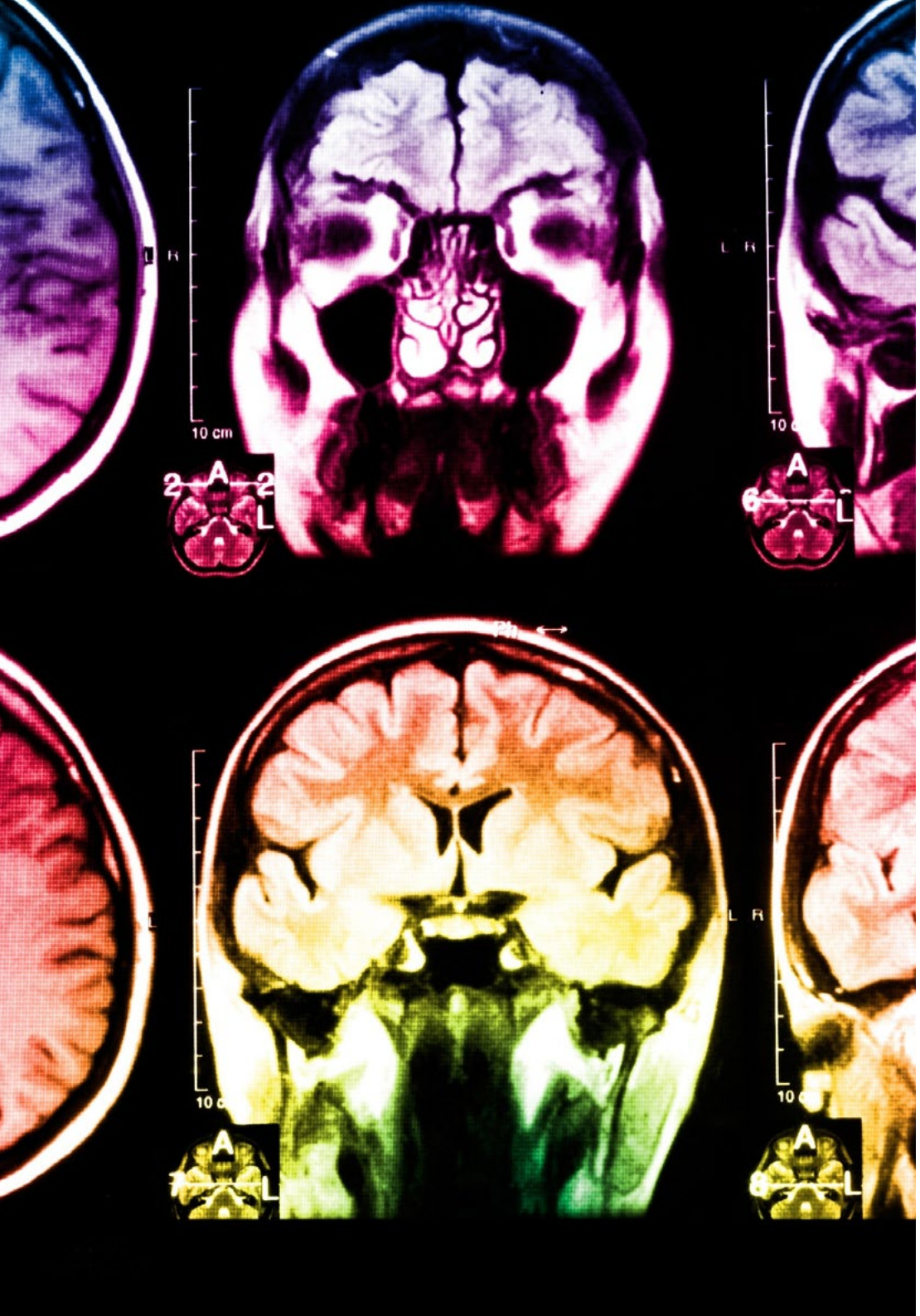
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

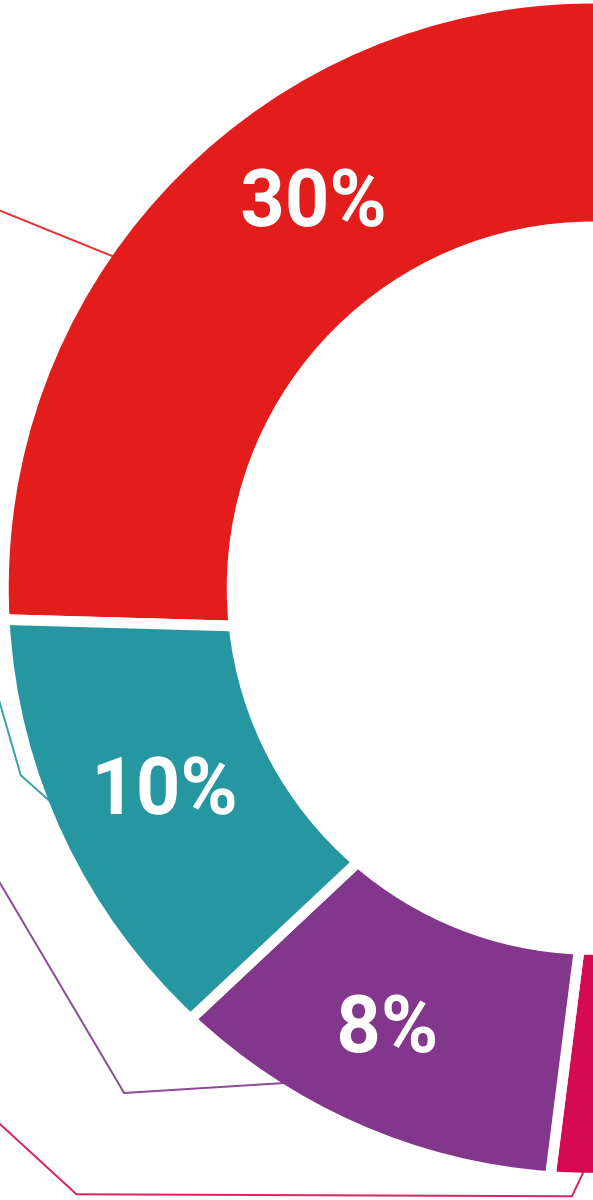
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

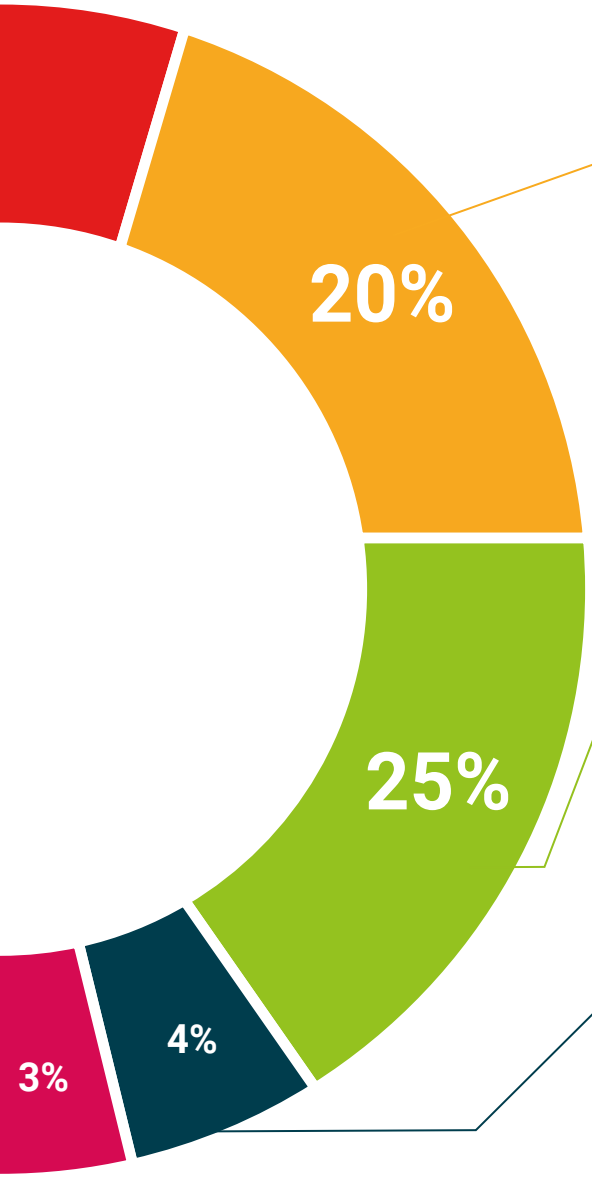
Practising Skills and Abilities

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 Conservation Ecology guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree 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 Conservation Ecology** 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** 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 Conservation Ecology**
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
Conservation Ecology

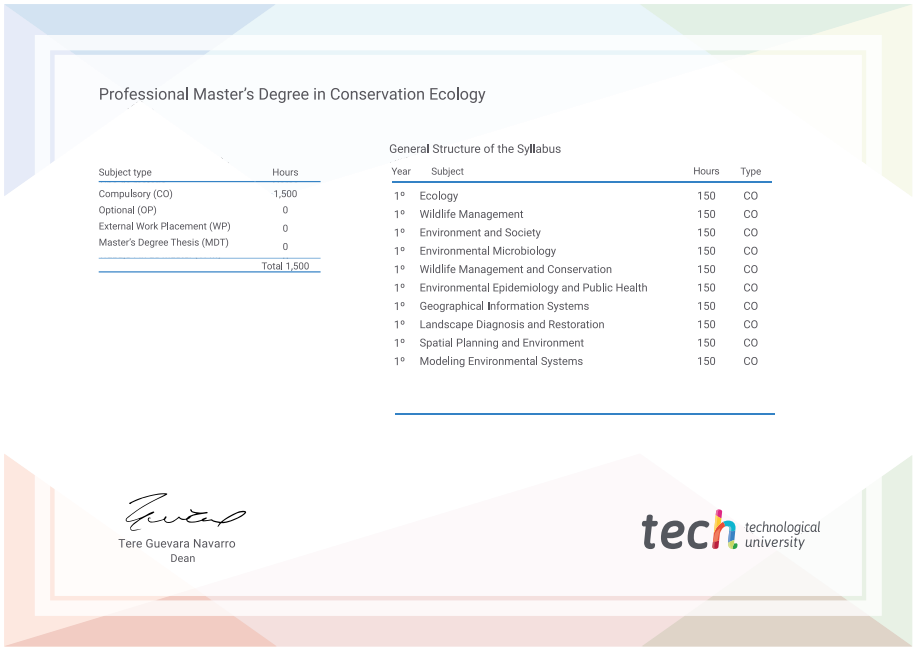
This is a qualification awarded by this University, equivalent to 1,500 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

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 Conservation Ecology

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	Ecology	150	CO
1º	Wildlife Management	150	CO
1º	Environment and Society	150	CO
1º	Environmental Microbiology	150	CO
1º	Wildlife Management and Conservation	150	CO
1º	Environmental Epidemiology and Public Health	150	CO
1º	Geographical Information Systems	150	CO
1º	Landscape Diagnosis and Restoration	150	CO
1º	Spatial Planning and Environment	150	CO
1º	Modeling Environmental Systems	150	CO

Tere Guevara Navarro
Dean

tech technological university

*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.

tech technological university

Professional Master's Degree

Conservation Ecology

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

Professional Master's Degree
Conservation Ecology

tech technological university