



# Postgraduate Diploma Urban Landscape Planning

» Modality: online

» Duration: 6 months

» Certificate: TECH Global University

» Credits: 18 ECTS

» Schedule: at your own pace

» Exams: online

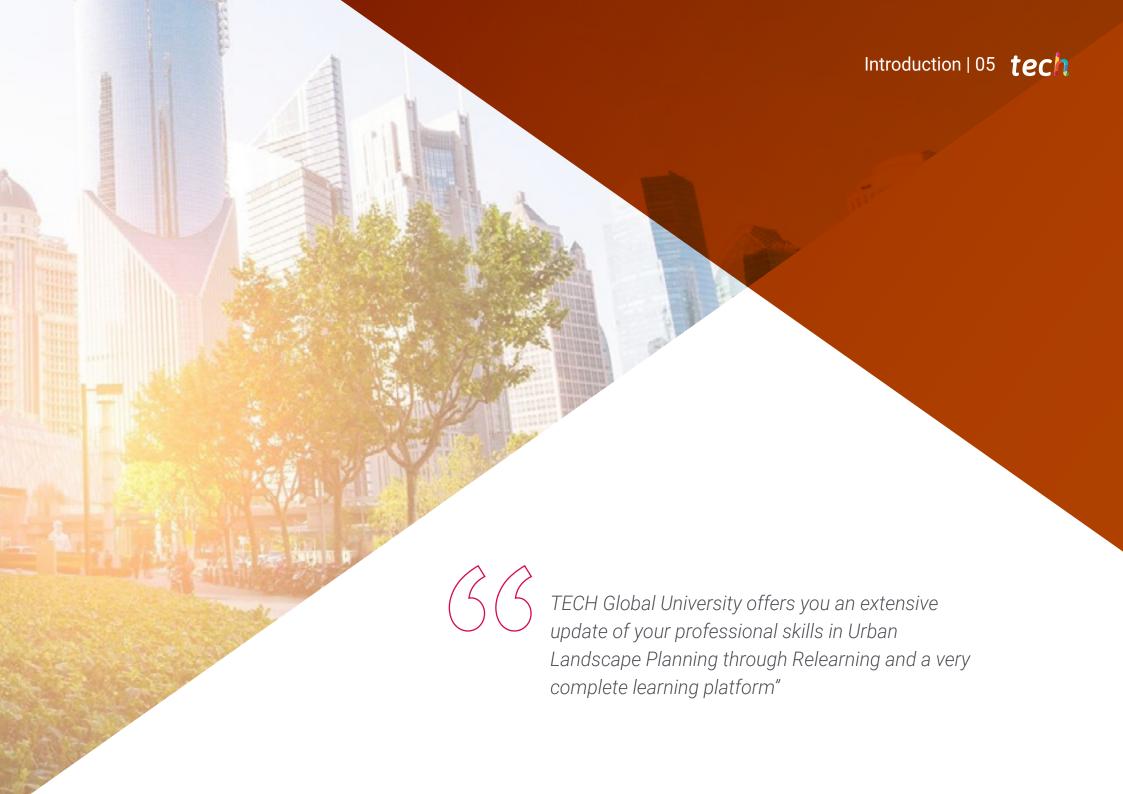
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# tech 06 | Introduction

The harmonization of cities through natural resources is crucial for present and future cities of the 21st century. The proper placement of trees is an effective tool against pollution and helps mitigate the high temperatures that can afflict large cities. At the same time, the efficient planning of green infrastructure and themed areas encourages new forms of social interaction and physical activity among people. In this way, urban environments become more balanced and adapted to social demands.

Additionally, an increasing number of public administrations are supporting this type of landscape design in cities. These organizations are aware of the need to implement the most innovative and efficient resources, materials and work techniques, and therefore the demand for specialized professionals in this area is growing exponentially.

Engineers and architects seeking to update their skills in this area have a unique opportunity for academic training in this TECH Global University Postgraduate Diploma. The program, taught 100% online, delves into visual and sensitive elements, scales and principles of avant-garde organization that facilitate the design of natural spaces. Likewise, its syllabus addresses the keys to the landscape stratification of streets, squares, parks and gardens, thus contributing to the sustainability of cities.

Additionally to its very complete study modules, the degree has an innovative methodology: Relearning. Through it, the engineers and architects enrolled will be able to expand their mastery of complex concepts and implement new skills for their daily professional practice. On the other hand, to access its contents, you will not have to make unnecessary trips to any on-site center. With the help of a mobile device connected to the Internet, you will be able to access the materials or download them for further consultation.

This **Postgraduate Diploma in Urban Landscape Planning** 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 in Landscaping, Gardening, Botany, Urbanism, among others
- The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- The practical exercises where the self-evaluation 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 master the latest methods of site analysis, the integration of natural elements and the most advanced techniques for landscape design in large cities"



A unique academic opportunity where you will delve into participatory design techniques that allow communities to intervene in the development and planning of public spaces"

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

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.

The design of this program focuses on Problem-Based Learning, in which the professional will have to try to solve the different professional practice situations that will arise throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

A Postgraduate Diploma where you will have practical exercises to apply your newly acquired skills in the design and construction of landscape elements.

With a mobile device connected to the Internet, you will be able to freely consult the materials of this program at the time and place of your choice.







# tech 10 | Objectives



# **General Objectives**

- Delve into the concepts and advanced principles of design applied to the landscape
- Develop visual representation and graphic communication skills in the field of Landscape Architecture
- Delve into the planning and execution of design projects in Landscape Architecture
- Approach different strategies for ecological conservation and restoration
- Differentiate and manage the processes of construction and execution of Landscape Architecture projects
- Integrate Landscape management strategies and practices to preserve the health and beauty of natural and built environments





### **Specific Objectives**

#### Module 1. Design in Landscape Architecture

- Incorporate the fundamental principles of design as applied to the Landscape
- Develop site analysis skills to evaluate the natural and built features of a site
- Delve into design elements, such as color, form, and texture, to create harmonious landscape compositions
- Integrate natural and built elements in landscape design
- Define graphic representation tools and techniques to communicate design ideas and concepts
- Analyze examples of Landscape Architecture design projects and understand their development process

#### Module 2. Materials, Infrastructure, construction elements and furnishings

- Define materials used in the construction of landscape elements, such as pavements, walls, urban furniture, among others
- Integrate the properties, characteristics and applications of materials commonly used in Landscape Architecture
- Delve into the principles of design and construction of landscape infrastructures, such as drainage, irrigation and lighting systems
- Develop sustainable design strategies that incorporate recycled, low maintenance and low environmental impact materials

#### Module 3. Public Space Design. Cities of the Future

- Deepen in the specific characteristics and requirements of public spaces, such as parks, squares and pedestrian walkways
- Evaluate user needs and environmental characteristics for the design of successful public spaces
- Discern between participatory and inclusive design techniques to involve the community in the public space design process
- Develop skills to create public spaces that encourage social interaction, recreation and community well-being



Through this program you will be updated on the most advanced infrastructure for the implementation of drainage, irrigation and lighting systems in your Landscape designs"





# tech 14 | Course Management

### Management



### Dr. Schiavo, Fiorella

- Landscape Architect & Digital Landscape Leader at OVE ARUP & PARTNERS
- BIM Implementation Consultant at LAND Italia
- PhD in Geography from the University of Barcelona
- Master's Degree in Landscape Architecture by the Polytechnic University of Catalonia
- Master's Degree in Territorial Planning and Environmental Management by the University of Barcelona
- Master's Degree in BIM Programming from the University Isabel II
- Diploma in Architecture

### **Professors**

#### Mr. Arroyo Parras, Juan Gabriel

- Earth Observation Expert at INNECO
- Technical Surveying Engineer specialized in Satellite Geodesy
- GNSS technical consultant at ESSP SAS
- R+D+i project engineer at the Technological Center of Components.
- Master's Degree in Satellite Geodesy and Geophysics applied to Engineering and Geology by the University of Jaén
- Degree in Technical Engineering in Topography from the University of Jaén
- University Expert in Sustainable Energy Solutions by the International University of Andalucía

### Mr. Arroyo Vega, Óscar

- ◆ Co-Founder and Collaborator at COMMONAISM COLLECTIVE
- Landscape Architect specializing in AI and Data Science
- Master's Degree in Landscape Architecture from the Polytechnic University of Catalonia
- Master's Degree in Landscape and Public Space by the University of Granada
- Expert in Design Studies ESDi by the Ramon Llull University
- Expert in Physical Sciences from the University of Barcelona







# tech 18 | Structure and Content

### Module 1. Landscape Architecture Design

- 1.1. Visual Elements
  - 1.1.1. Point
  - 1.1.2. Line
  - 1.1.3. The Shot
  - 1.1.4. The Shape. Volume
  - 1.1.5. Movement
  - 1.1.6. Color
  - 1.1.7. Texture
- 1.2. Sensitive Elements
  - 1.2.1. Sound
  - 1.2.2. Fragrance
  - 1.2.3. Touch
- 1.3. Time
  - 1.3.1. The Fourth Dimension
  - 1.3.2. The Element that Differentiates us from the Other Construction Arts
  - 1.3.3. The Growth of Vegetation
  - 1.3.4. Transformation of the Projected Space
- 1.4. Formal Design
  - 1.4.1. Starting from the Square. 90° angles
  - 1.4.2. From Acute or Obtuse Angles
  - 1.4.3. Triangles, Hexagons
  - 1.4.4. From Circles, Arches, Tangents and Spirals
- 1.5. Informal Design
  - 1.5.1. Naturalistic Shapes
  - 1.5.2. Free Ellipses
  - 1.5.3. Free Spirals
  - 1.5.4. Irregular Polygons
  - 1.5.5. Organic Shapes
  - 1.5.6. Fragmentation and Clustering

- 1.6. Principles of Element Organization
  - 1.6.1. Unit
  - 1.6.2. Harmony
  - 1.6.3. Interest
  - 1.6.4. Simplicity
  - 1.6.5. Emphasis-Dominance
  - 1.6.6. Balance
  - 1.6.7. Scale-Proportion
  - 1.6.8. Sequences
- 1.7. The Scale
  - 1.7.1. Scale Construction
  - 1.7.2. Proportion
  - 1.7.3. Appropriate Scales According to Use
  - 1.7.4. Graphic Scale
- 1.8. Mathematics in Nature
  - 1.8.1. The Proportion
  - 1.8.2. Golden Ratio
  - 1.8.3. The Fibonacci Series
- 1.9. Mathematics in Architecture and Landscape Architecture
  - 1.9.1. Alhambra with Mathematics. An Example
  - 1.9.2. Databases for Urban Vegetation Monitoring
  - 1.9.3. An Example
- 1.10. From Pythagoras to Trigonometry
  - 1.10.1. Formulas and Theorems
  - 1.10.2. Application to the Architecture Field
  - 1.10.3. The Landscape

# Structure and Content | 19 tech

### Module 2. Materials, Infrastructure, construction elements and furnishings

- 2.1. Properties of Construction Materials
  - 2.1.1. Material Properties
  - 2.1.2. Basic Principles of Force Mechanics
  - 2.1.3. Loads and Reactions
  - 2.1.4. Beams and Columns
- 2.2. Construction Materials. Uses, Types and Application Techniques of each of the Following Materials to Different Construction Solutions
  - 221 Stone
  - 2.2.2. Concrete
  - 2.2.3. Brick
  - 2.2.4. Metals
  - 2.2.5. Wood
  - 2.2.6. Glass
  - 2.2.7. Polymers (Plastics and Rubbers)
  - 2.2.8. Soil, Turf and Non-conventional Materials
  - 2.2.9. Thixotropic Mortars
- 2.3. Constructive Elements of the Landscape
  - 2.3.1. Consolidated Soils, Earthworks, Slopes and Backfills. Drainages
  - 2.3.2. Containment Structures
    - 2.3.2.1. Stairs, Ramps, Retaining Walls, Ha-Ha, Reinforced floors
    - 2.3.2.2. Typologies of Each Element, Uses, Force Diagrams
    - 2.3.2.3. Materials Used for their Construction
    - 2.3.2.4. Foundations and Structures
  - 2.3.3. Pavements
    - 2.3.3.1. Types of Pavements. Hard, Flexible, Porous
    - 2.3.3.2. Foundations
    - 2.3.3.3. Border Elements, Curbs, Steels
    - 2.3.3.4. Pavement Design. Color, Textures
  - 2.3.4. Pergolas, Balustrades, Metallic Structures, Profiles, Plastic Elements
    - 2.3.4.1. Materials, Constructive Solutions and Problems Associated with the Material

- 2.3.5. Root Protection Systems in Urban Environments by Means of
- 2.3.6. Material Connections, Mechanical, Adhesive and Metallic Fasteners. Advantages and Disadvantages
- 2.3.7. Protections and Finishes. Maintenance
- 2.4. Structures and Themed Elements
  - 2.4.1. Mortars with TXT Resin for Recreation of Themed Spaces
  - 2.4.2. Types of Material
  - 2.4.3. Structures Depending on the Location
  - 2.4.4. Friezes, Retaining Walls, Artificial Rocks, Theming of Ashlars
  - 2.4.5. Sand Pools
- 2.5. Water Elements
  - 2.5.1. Elements and Aquatic Gardens. Fountains, Canals, Ponds and Lagoons. Typologies. Rigid, Flexible, Irregular, Formal Ponds. Scale and Location
  - 2.5.2. Design. Site Conditions, Location, Drainage and Infrastructure, Water Table, Basic Depth of Force Mechanics. Types of Waterproofing
  - 2.5.3. Distribution of Aquatic Species as a Function of Depth and Design of the Same
  - 2.5.4. Benefits of Ponds and Water in the Garden
  - 2.5.5. Filling by Drainage and Water Recirculation
- 2.6. Landscape Furnishings
  - 2.6.1. Street Furniture Design
    - 2.6.1.1. Benches, Garbage Cans, Platforms, Planters, Milestones
    - 2.6.1.2. Construction Details
  - 2.6.2. Ephemeral Structures in the Landscape
  - 2.6.3. Temporary Scenographies
  - 264 Mirrors
- 2.7. Design of Modular and Mobile Structures. Planters, Ponds, Rails
  - 2.7.1. Modular Planters
  - 2.7.2. Mobile Ponds
  - 2.7.3. Modular Rails

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2.8.	Drainage	Infrastri	icture
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- 2.8.1. Conventional Drains. Types, Designs and Materials
- 2.8.2. Sustainable Urban Drainage Systems. The Permeability of Cities
- 2.8.3. Atlantis System
- 2.8.4. Stockholm System
- 2.8.5. Rain Gardens

#### 2.9. Irrigation Infrastructure

- 2.9.1. Design of Irrigation Projects
- 2.9.2. Hydrozones
- 2.9.3. Connection Point
- 2.9.4. Piping Distribution and Calculation
- 2.9.5. Types of Emitters
- 2.9.6. Low Water Consumption Emitters
- 2.9.7. Programmers. Types Depending on the Size of the Project
- 2.9.8. Pumping

#### 2.10. Electricity Infrastructure

- 2.10.1. Design of a Garden Lighting Installation
- 2.10.2. The Approved Project
- 2.10.3. Protection Elements
- 2.10.4. Conduits and Connection Elements
- 2.10.5. Comparison of Consumption of Different Types of Emitters
- 2.10.6. Selection of Lighting Fixtures, Street Lamps, Poles, Spotlights, in keeping with the Style of the Space and its Use within it
- 2.10.7. Reduction of Light Pollution

### Module 3. Public Space Design. Cities of the Future

- 3.1. The State of Our City
  - 3.1.1. Preliminary Needs Study
  - 3.1.2. Studies: Population, Resources and Services
  - 3.1.3. Spatial Study
  - 3.1.4. Climate Study
  - 3.1.5. Urban Potential Study
- 3.2. Master Plans
  - 3.2.1. Integration of Landscape Master Plans in General Urban Development Plans
  - 3.2.2. Need for Sectoral Master Plans
  - 3.2.3. Accessibility Regulations
- 3.3. Typology of Spaces
  - 3.3.1. Identification of Existing Spaces. Squares, Streets, Parks
  - 3.3.2. Identification of Residual Spaces
  - 3.3.3. Study of Deficiencies and Advantages of Current Designs
  - 3.3.4. Definition of Future Solutions. Trend Application of 3-30-300
- 3.4. Personality and Homogeneity in Cities
  - 3.4.1. Singularized Study of Neighborhoods and Districts
  - 3.4.2. Cultural Components
  - 3.4.3. Sociological
  - 3.4.4. Historical
- 3.5. Style Guide
  - 3.5.1. Definition of Minimum Quality in Spaces
  - 3.5.2. Definition of Standardized Norms in Materials
  - 3.5.3. Components
  - 3.5.4. Definition of Facilities in the Service Management in Public Spaces
- 3.6. Harmonization in the Management of Public Spaces
  - 3.6.1. Coordination of Urban Projects
  - 3.6.2. Urban Planning, Parks and Gardens, Infrastructure
  - 3.6.3. Coordination of Urban works
  - 3.6.4. Integrated Technical Office



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3.7.	Landscape	Design	of Streets

- 3.7.1. Typology of Existing Streets
- 3.7.2. Definition of Needs
- 3.7.3. Application of Accessibility Regulations
- 3.7.4. Local Mobility Study
- 3.7.5. Harmonization of Trees and Parking
- 3.7.6. Landscape Reform Projects

#### 3.8. Landscape Design of Squares

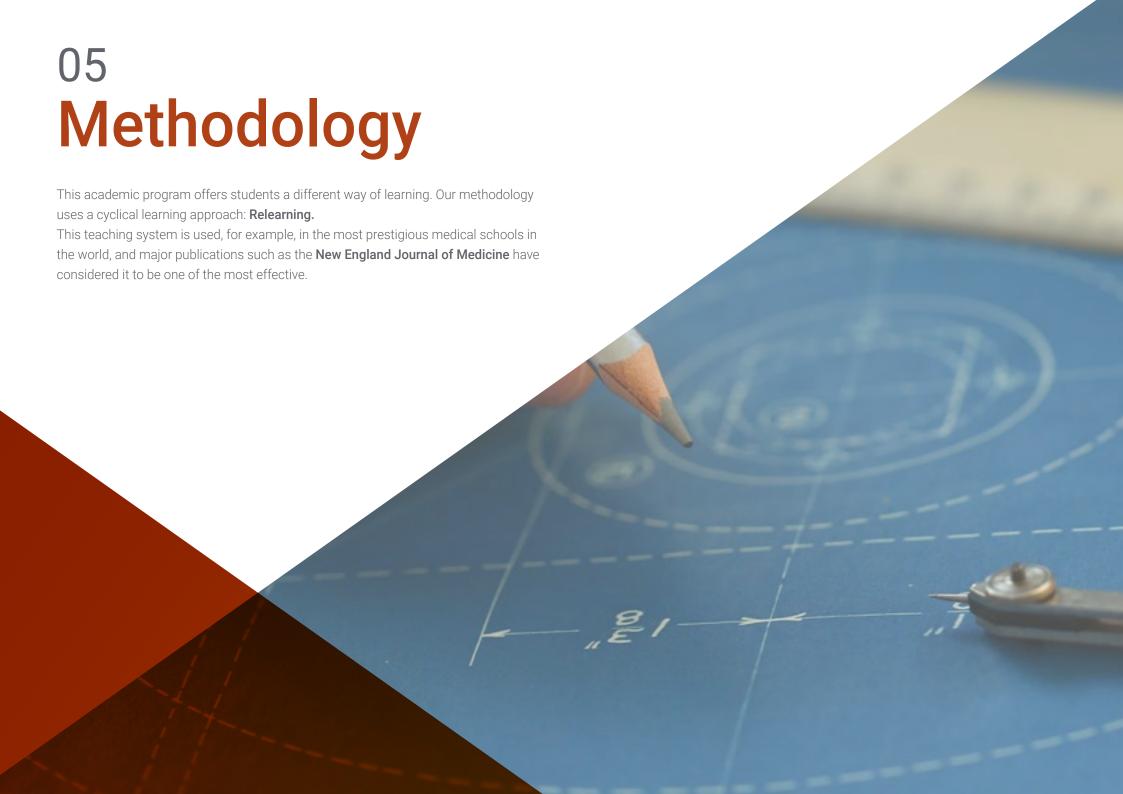
- 3.8.1. Typology of Existing Squares
- 3.8.2. Definition of Needs
- 3.8.3. Application of Accessibility Regulations
- 3.8.4. Local Mobility Study
- 3.8.5. Social Needs Study
- 3.8.6. Harmonization of Public Space and Parking
- 3.8.7. Squares over Parking Lots
- 3.8.8. Landscape Reform Projects

#### 3.9. Landscape Design of Gardens and Parks

- 3.9.1. Typology of Existing Gardens and Parks 3.9.1.1. Distribution in the City
- 3.9.2. Definition of Needs
- 3.9.3. Application of Accessibility Regulations
- 3.9.4. Local Mobility Study
- 3.9.5. Social Needs Study
- 3.9.6. Landscape Reform Projects

#### 3.10. Metropolitan Integration

- 3.10.1. Typology of Metropolitan Public Spaces
  - 3.10.1.1. Parks
  - 3.10.1.2. Landscape Wounds. Natural and Artificial
- 3.10.2. Definition of Needs
- 3.10.3. Identification of Territorial Barriers
- 3.10.4. Local Mobility Study
- 3.10.5. Social Needs Study
- 3.10.6. Study of the Image of the City from the Accesses
- 3.10.7. Green Rings. Expansion in the Territory
- 3.10.8. Landscape Reform Projects





# tech 24 | Methodology

### 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.

# Methodology | 25 tech



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.

# tech 26 | Methodology

### 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.

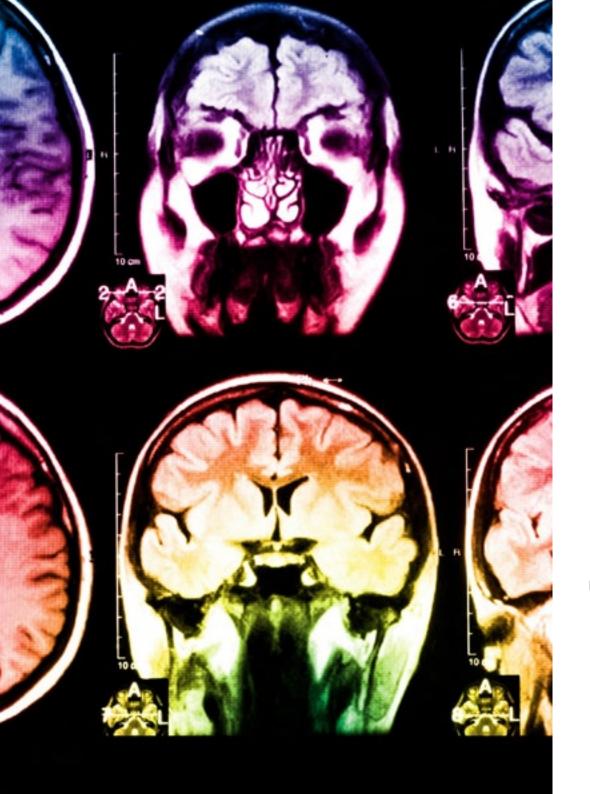
We enhance the Case Study with the best 100% online teaching method: Relearning.

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.





# Methodology | 27 tech

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.



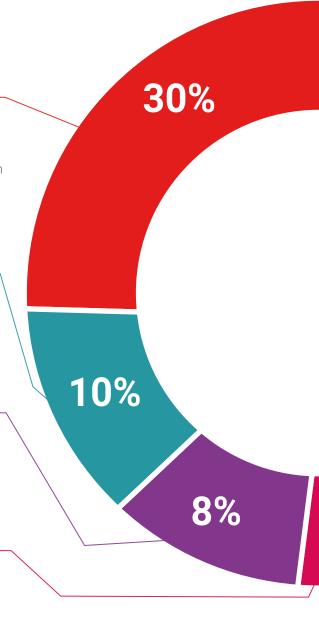
#### **Practising Skills and Abilities**

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.





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.



25%

20%





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This program will allow you to obtain your **Postgraduate Diploma in Urban Landscape Planning** endorsed by **TECH Global University**, the world's largest online university.

**TECH Global University** is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: Postgraduate Diploma in Urban Landscape Planning

Modality: online

Duration: 6 months

Accreditation: 18 ECTS



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

#### Postgraduate Diploma in Urban Landscape Planning

This is a program of 450 hours of duration equivalent to 18 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



<sup>\*</sup>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.



# Postgraduate Diploma Urban Landscape Planning

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