

Postgraduate Certificate Soil Science





Postgraduate Certificate Soil Science

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/engineering/postgraduate-certificate/soil-science

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01

Introduction

The processes triggered by human activity have caused soil deterioration, which in turn has led to the study of alternatives to address this situation. This has been driven by soil science, which has made progress in the sustainability of agricultural areas and the recovery of biodiversity. A science whose knowledge is key in Environmental Engineering, which seeks from its perspective to contribute to the elimination of pollution or the creation of projects that are properly integrated into the environment. Thus, in this program created ad hoc by this academic institution, the professionals will be able to delve into the dynamics of the soil, the main effects of pollutants or the current problems of microplastics. All this with multimedia didactic resources that can be accessed 24 hours a day, from a computer connected to the Internet



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A 100% online Postgraduate Certificate that will immerse you in Soil Science and the environmental problems derived from pollutants"

There is no doubt that the action of human beings transforms ecosystems and that agriculture itself and the use of soils has led to a deterioration that endangers the environmental balance in many areas of the planet. An unflattering scenario that requires protection against pollution, the search for alternatives to chemical products in the agricultural sector and the conservation of chernozem soils.

In this sense, soil researchers carry out a tireless work, sometimes little visible in society, but appreciable in the recovery of land through different techniques. Faced with this reality, the role of the Environmental Engineering professionals can be fundamental given their multidisciplinary vision and technical knowledge. This is the reason why this academic institution has designed this Postgraduate Certificate in Soil Science, which offers students the most advanced information on this science, as well as the existing problems related to soil contamination.

This will be possible thanks to the exhaustive content provided by the team of specialists that make up this university program. Thus, through a theoretical-practical approach, the graduates will learn about soil composition, remediation techniques for soils contaminated by different metals or the latest developments regarding the danger posed by leachates.

The graduates also has case studies that will take them to real situations, where they will have to apply different methodologies and strategies in contaminated environments or with the presence of factors that affect soil composition.

A 100% online program also designed for professionals who wish to progress in their field of work through a university education that can be taken comfortably whenever you want. Thus, you only need an electronic device with Internet connection to access at any time to the entire agenda hosted on the Virtual Campus. In addition, you have the freedom to distribute the course load according to your needs, allowing you to combine your professional and/or work responsibilities with a Postgraduate Certificate that is at the academic forefront.

This **Postgraduate Certificate in Soil Science** 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
- ◆ 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



This university program will allow you to take a step forward in your professional career and create projects that can contribute to soil restoration"

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In 300 teaching hours you will have the most accurate knowledge about Soil Science and its contribution to soil preservation"

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 provide the professionals with situated and contextual learning, i.e., a simulated environment that will provide an immersive education programmed to learn in real situations

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

Do you know the most used techniques to recover soils affected by leachates? Enroll now and discover them.

Access easily from your computer and at any time of the day to the most exhaustive knowledge about soil contamination by heavy metals.



02

Objectives

Thanks to this university program, the Environmental Engineering professional will acquire an advanced learning, in only 6 weeks, of Soil Science. For this purpose, video summaries, videos in detail or essential readings will allow them to obtain a wide knowledge of the working techniques used to obtain and analyze geographic information, to understand the environmental problems derived from soil contamination or the most used techniques for soil remediation.





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An academic option designed for specialists who wish to pursue a quality education, without neglecting other areas of their lives”



General Objectives

- ◆ Adequately use the technical vocabulary within the scientific bases of the natural environment
- ◆ Use bibliographic and electronic information critically and work correctly in and outside the classroom and in the laboratory
- ◆ Understand and use the working techniques related to the acquisition, analysis, processing and representation of geographic and cartographic information
- ◆ Identify the main contaminants in the soil



Enroll now in a university program that will allow you to advance in your professional career in Environmental Engineering, thanks to the content it provides on the degradation and remediation of contaminated soils"





Specific Objectives

- ◆ Understand the complex relationship between the human population and the environment
- ◆ Analyze the connection between geofoms 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

03

Structure and Content

TECH uses the *Relearning* system in all its programs, based on the reiteration of content, which allows students to progress through the syllabus in a much more natural way. In addition, it favors the reduction of the long hours of study so frequent in other methodologies. Thus, the graduates will advance through an academic education that will lead them to know in depth the properties and distribution of matter in the soil, soil degradation and rehabilitation, as well as the current problems caused by microplastics





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A syllabus with a theoretical-practical approach that introduces you to the main environmental problems in soils caused by human action”

Module 1. Soil Science

- 1.1. Introduction to Soil Science
 - 1.1.1. Concept of Soil Science
 - 1.1.2. Soil Formation
 - 1.1.3. Soil Profile
- 1.2. Soil Dynamics
 - 1.2.1. Solid Phase in Soil
 - 1.2.2. Sourcing Mechanisms
 - 1.2.3. Properties and Distribution of Matter in Soil
- 1.3. Soil Classification
 - 1.3.1. Importance of Environmental Factors in Soil Formation
 - 1.3.2. General Soil Classification
- 1.4. Soil Horizons and Taxonomy
 - 1.4.1. Classification of Soil Horizons
 - 1.4.2. The Climate as a Factor of Soil Formation
 - 1.4.3. The Importance of Bedrock
- 1.5. Soil Degradation and Rehabilitation
 - 1.5.1. Environmental Problems of Soil
 - 1.5.2. Contaminated Soil Rehabilitation Techniques
- 1.6. Soil as an Environmental Resource
 - 1.6.1. Soil as a Resource
 - 1.6.2. Minerals
 - 1.6.3. Materials of Interest
- 1.7. Soil Contamination from Metals
 - 1.7.1. Heavy Metals
 - 1.7.2. Effects of Metals in Soil
- 1.8. Soil Contamination from Organic Pollutants
 - 1.8.1. Main Organic Pollutants
 - 1.8.2. Effects of Organic Pollutants in Soil
- 1.9. Soil Contamination from Leachates
 - 1.9.1. Landfills: A Leachates Source
 - 1.9.2. Pollutants Derived from Leaching
 - 1.9.3. Leachate Restoration Techniques
- 1.10. Soil Contamination from Plastics
 - 1.10.1. Plastics Environmental Issues
- 1.11. Microplastics in Soil



This Postgraduate Certificate will take you into the debate about microplastics and their impact on soils around the world"



04

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.





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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.

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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.



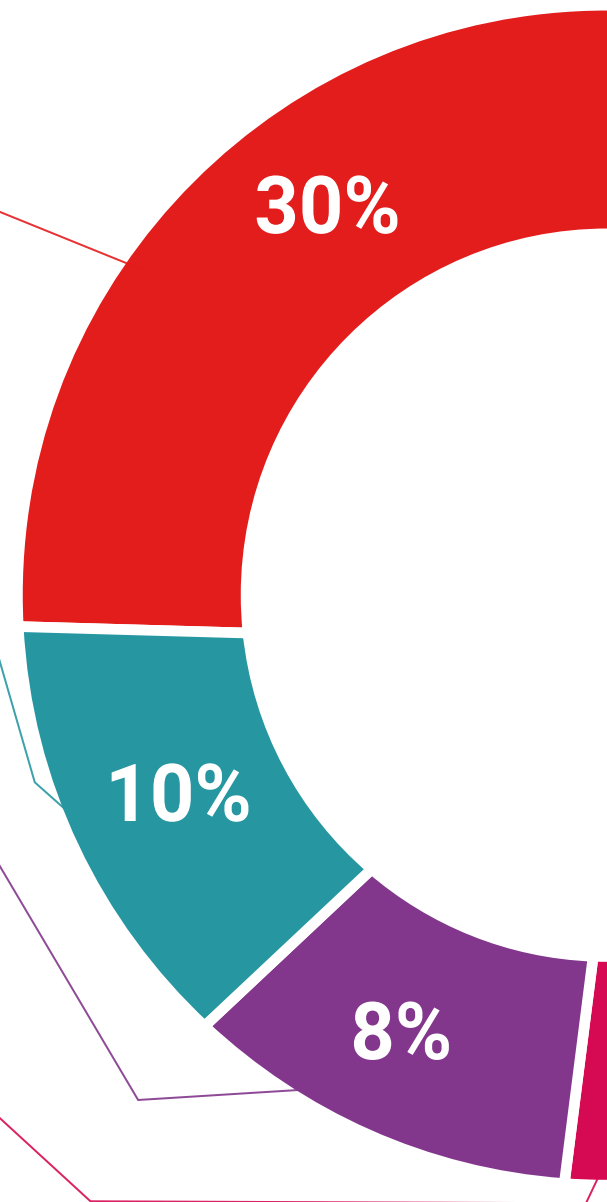
Practising Skills and Abilities

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.



05

Certificate

The Postgraduate Certificate in Soil Science guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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

This **Postgraduate Certificate in Soil Science** contains the most complete and up-to-date program on the market.

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

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Soil Science**

Official N° of Hours: **150 h.**



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

future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
development language
virtual classroom



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