Postgraduate Certificate
Geophysics

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Postgraduate Certificate
Geophysics

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Technological University**
- Dedication: **8h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/pk/engineering/postgraduate-certificate/geophysics**

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01

Introduction

Technological advances have led to improved subsurface geophysical prospecting techniques and have boosted the search for new natural resources and passive seismicity methods. As a result, we now have a better understanding of the Earth both internally and externally. However, there is still a long way to go in geophysics, so specialists and researchers in this field have a lot of hard work to do, for example, in improving geosteering or the use of 3D in tomography. Faced with this reality, this 100% online program was born, which offers students the essential knowledge about geomagnetism, seismic wave propagation or methods for locating earthquakes. All of this much easier thanks innovative multimedia content that be accessed 24 hours a day , from a computer with internet connection.

Thanks to this Diploma you will obtain the most advanced knowledge in Geophysics and apply it to Engineering"

The use of much more precise technological tools to understand spatial information has led to important achievements in the geophysical techniques used for subsurface characterization. Knowing both the Earth's interior and exterior remains a challenge for researchers and specialists who invest long hours of study in this area.

However, thanks to the progress made in recent decades, satellites have become available from Earth orbit to show the situation of the planet in real time, to better understand climate change or to extract alternative natural resources to those that already exist. In this scenario of innovation, there is an unquestionable need for qualified professionals capable of translating this knowledge into applications that improve people's quality of life.

That is why TECH Technological University has designed this Diploma, which offers students the most comprehensive and advanced knowledge about the Earth's gravity, anomalies, geomagnetism or variations in the external field that occur on our planet. For this purpose, this academic institution also makes available innovative multimedia resources, in which the latest technology applied to academic teaching has been used. A program with a theoretical approach, but at the same time practical, thanks to the case studies provided by the expert teaching team that is part of this program.

Thus, professionals have an excellent opportunity to advance in their work environment thanks to a Diploma that can be taken comfortably, whenever and wherever they wish. They only need an electronic device with an internet connection to be to access, at any time, the syllabus hosted on the virtual platform. An educational ideal option for those seeking to reconcile their most demanding responsibilities with a education in line with current times.

This **Postgraduate Certificate in Geophysics** contains the most complete and up-to-date program on the market. The most important features include:

- Practical case studies are presented by experts in Physics
- 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

Click and enroll now in a university degree that will show you the key concepts of Paleomagnetism"

Delve into the Gutenberg-Richter Law whenever you want, from your computer with an Internet connection"

Take a step further in your professional career and discover everything you need to know about Geophysics and the multiple options that seismic tomography offers.

This 100% online diploma will take you to know in depth the gravity and shape of the Earth.

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

Its 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 an immersive education programmed to learn in real situations.

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

02

Objectives

Throughout the 150 teaching hours that make up this Diploma, students who enter this degree will have obtained a thorough knowledge of the principles of physics in the study of the Earth and the different techniques used to understand its properties, structure and dynamics. Theoretical learning, but at the same time practical thanks to the case studies provided by the specialized faculty that teaches this 100% online program.

You will achieve the goals you set for yourself in the field of Geophysics thanks to the theoretical and practical content of this university degree"

General Objectives

- Apply the principles of physics to the study of the Earth
- Understand the fundamental physical processes of the Earth

With the knowledge acquired you will be able to improve or design devices to prevent natural hazards. Enroll now"

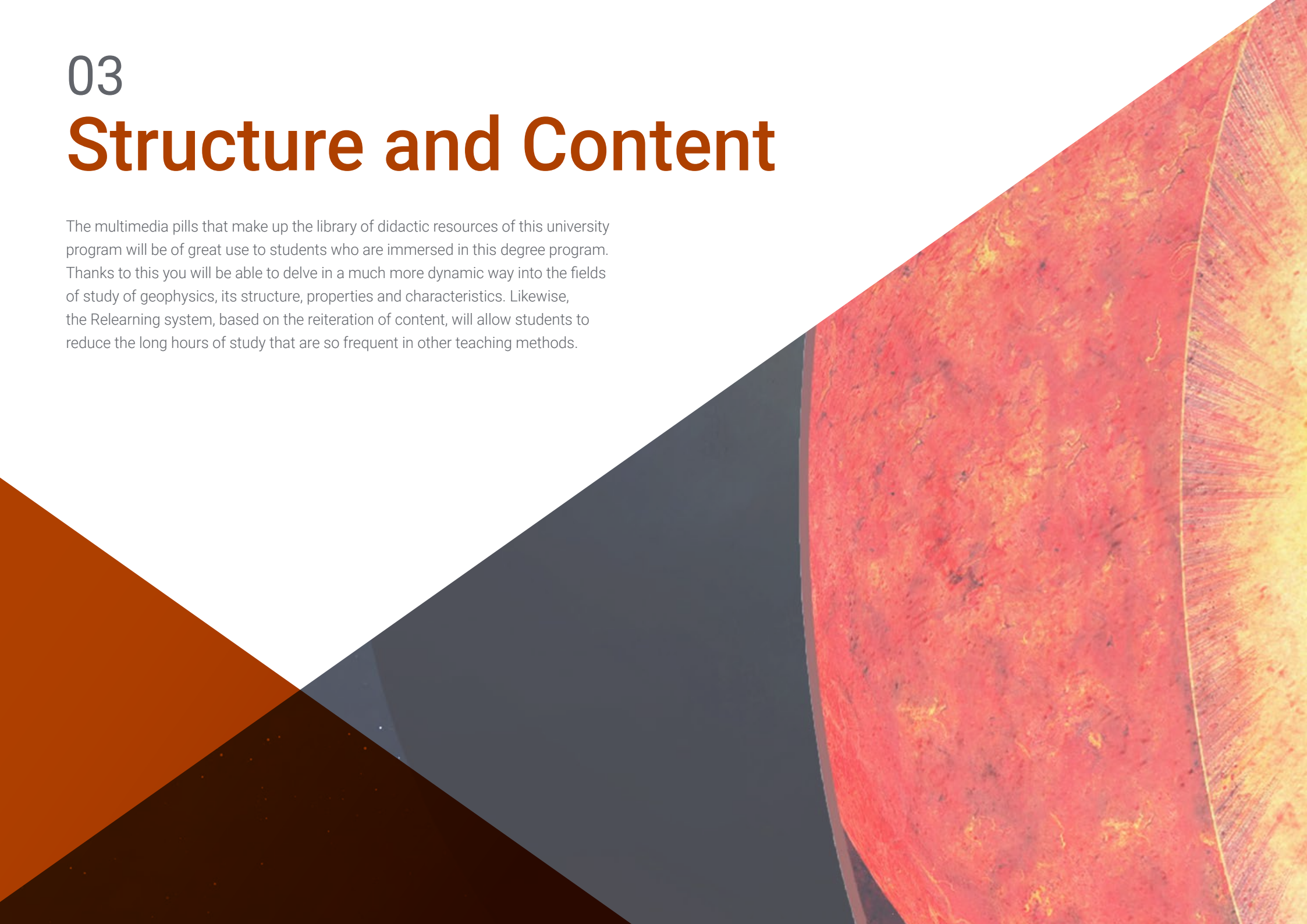
Specific Objectives

- Understand the basic techniques for studying the physical properties, structure, and dynamics of the Earth
- Identify methods of searching for resources and assessing and mitigating natural hazards

03

Structure and Content

The multimedia pills that make up the library of didactic resources of this university program will be of great use to students who are immersed in this degree program. Thanks to this you will be able to delve in a much more dynamic way into the fields of study of geophysics, its structure, properties and characteristics. Likewise, the Relearning system, based on the reiteration of content, will allow students to reduce the long hours of study that are so frequent in other teaching methods.



Access the multimedia resource library, 24 hours a day, 7 days a week, from your computer with an Internet connection"

Module 1. Geophysics

1.1. Introduction
- 1.1.1. Physics of the Earth
- 1.1.2. Concept and Development of Geophysics
- 1.1.3. Characteristics of Geophysics
- 1.1.4. Disciplines and Fields of Study
- 1.1.5. Coordinate Systems

1.2. Gravity and Shape of the Earth
- 1.2.1. Size and Shape of the Earth
- 1.2.2. Earth's Rotation
- 1.2.3. Laplace's Equation
- 1.2.4. Figure of the Earth
- 1.2.5. The Geoid and the Ellipsoid Normal Gravity

1.3. Gravity Measurements and Anomalies
- 1.3.1. Air-Free Anomaly
- 1.3.2. Bouguer Anomaly
- 1.3.3. Isostasy
- 1.3.4. Interpretation of Local and Regional Anomalies

1.4. Geomagnetism
- 1.4.1. Sources of the Earth's Magnetic Field
- 1.4.2. Fields Produced by Dipoles
- 1.4.3. Components of the Terrestrial Magnetic Field
- 1.4.4. Harmonic Analysis: Separation of Fields of Internal and External Origin

1.5. Earth's Internal Magnetic Field
- 1.5.1. Dipole Field
- 1.5.2. Geomagnetic Poles and Geomagnetic Coordinates
- 1.5.3. Non-Dipole Field
- 1.5.4. International Reference Geomagnetic Field
- 1.5.5. Temporal Variation of the Internal Field
- 1.5.6. Origin of the Internal Field

1.6. Paleomagnetism
- 1.6.1. Magnetic Properties of Rocks
- 1.6.2. Remnant Magnetization
- 1.6.3. Geomagnetic Virtual Poles
- 1.6.4. Paleomagnetic Poles
- 1.6.5. Apparent Polar Drift Curves
- 1.6.6. Paleomagnetism and Continental Drift
- 1.6.7. Geomagnetic Field Inversions
- 1.6.8. Marine Magnetic Anomalies

1.7. External Magnetic Field
- 1.7.1. Origin of the External Magnetic Field
- 1.7.2. Structure of the Magnetosphere
- 1.7.3. Ionosphere
- 1.7.4. Variations of the External Field: Diurnal Variation, Magnetic Storms
- 1.7.5. Polar Auroras

1.8. Seismic Wave Generation and Propagation
- 1.8.1. Mechanics of an Elastic Medium: Elastic Parameters of the Earth
- 1.8.2. Seismic Waves: Internal and Surface Waves
- 1.8.3. Reflection and Refraction of Internal Waves
- 1.8.4. Trajectories and Travel Times: Dromochrons

1.9. Internal Structure of the Earth
- 1.9.1. Radial Variation of the Seismic Wave Velocity
- 1.9.2. Reference Earth Models
- 1.9.3. Physical and Compositional Stratification of the Earth
- 1.9.4. Density, Gravity, and Pressure within the Earth
- 1.9.5. Seismic Tomography

1.10. Landslides
- 1.10.1. Location and Time of Origin
- 1.10.2. Global Seismicity in Relation to Plate Tectonics
- 1.10.3. Size of an Earthquake: Intensity, Magnitude, Energy
- 1.10.4. Gutenberg-Richter Law

With this 100% online postgraduate certificate you will be able to understand the most advanced concepts of thermodynamics and apply them in the field of engineering"

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.

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

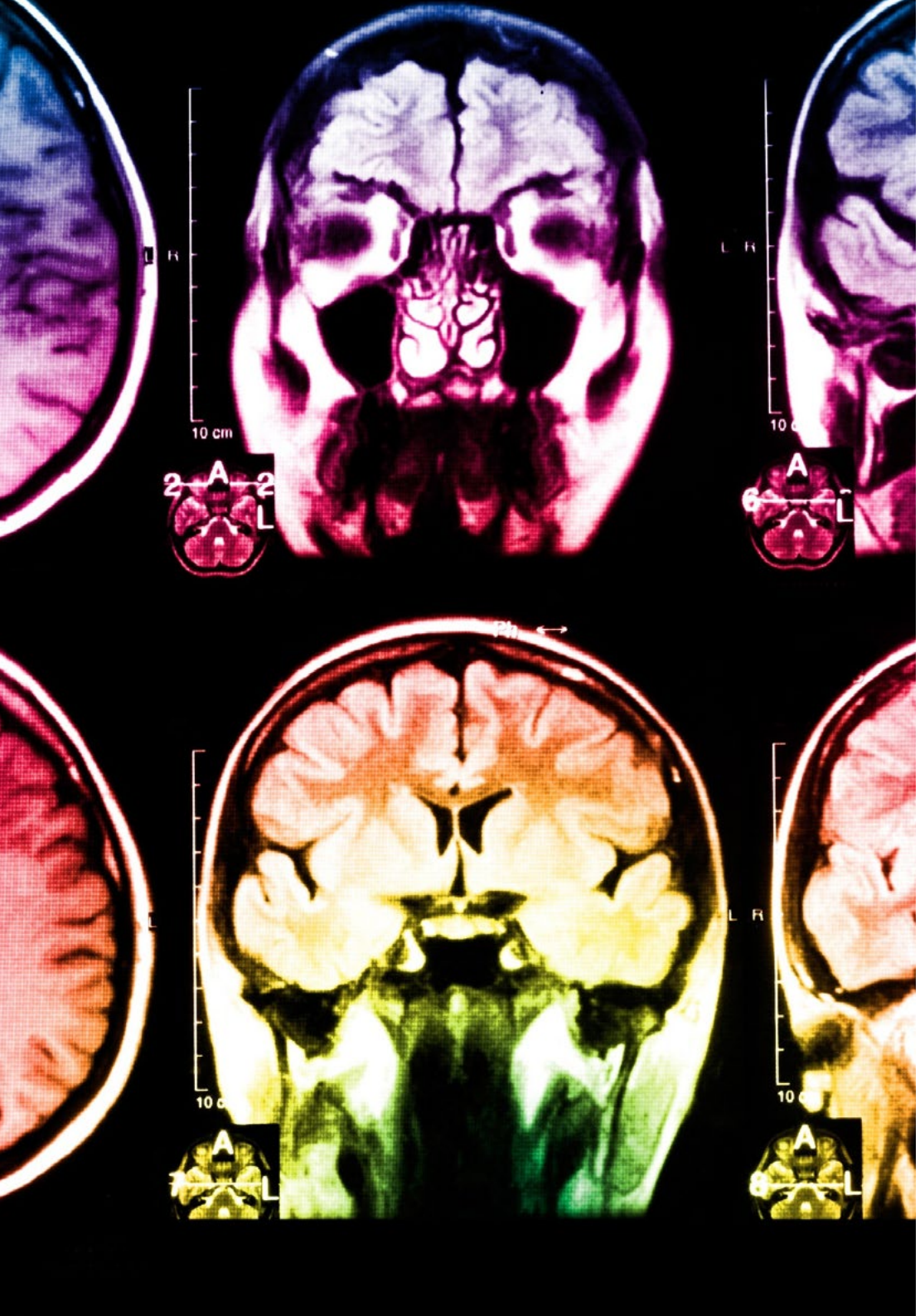
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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.

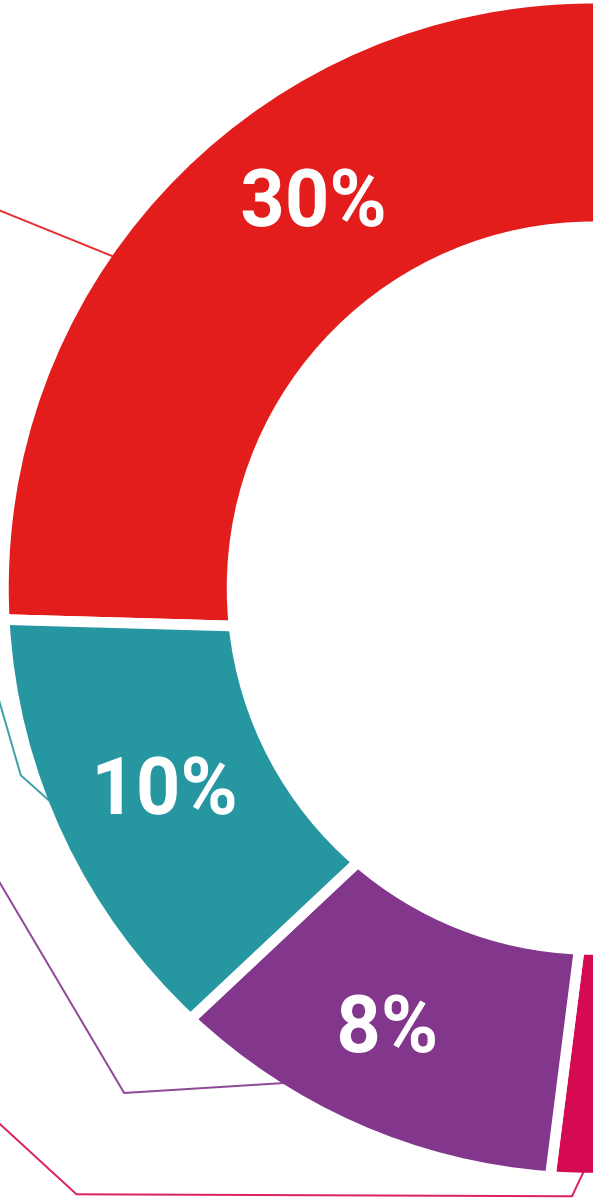
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

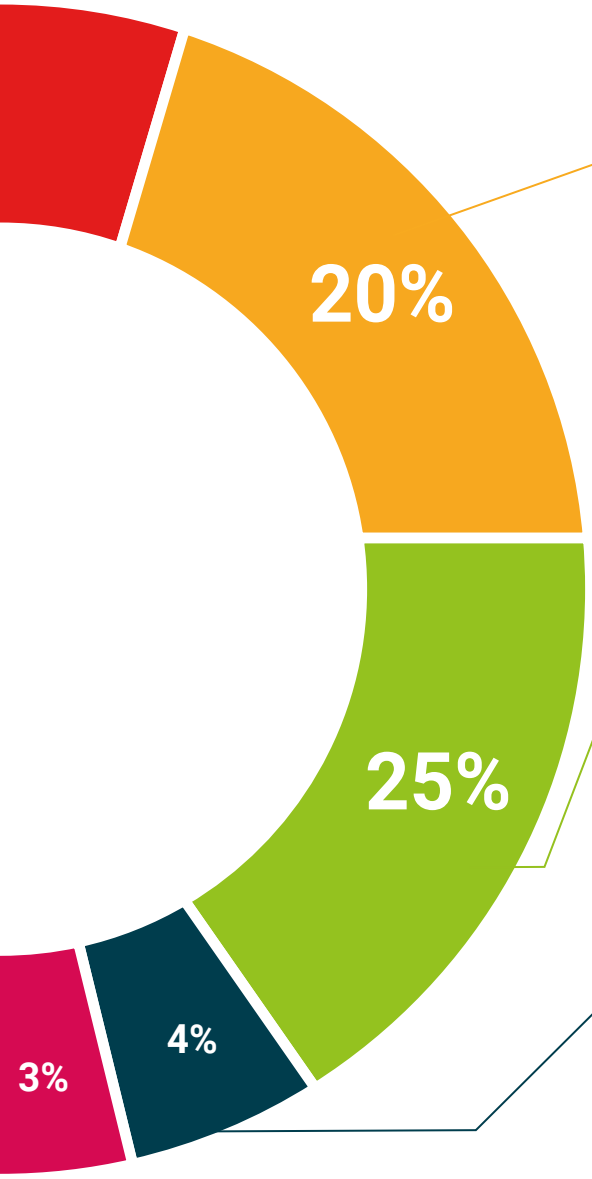
Practising Skills and Abilities

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.

05

Certificate

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

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

This **Postgraduate Certificate in Geophysics** 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 certificate 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 Geophysics**

Official Nº of Hours: **150 h.**


tech technological university

Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Geophysics

This is a qualification awarded by this University, equivalent to 150 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

*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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