Postgraduate Certificate
Computational Logic

tech technological university

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Postgraduate Certificate
Computational Logic

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

Website: www.techtitute.com/in/information-technology/postgraduate-certificate/computational-logic

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01

Introduction

Students will develop their skills and knowledge in Computational Logic, with this intensive training provided by professionals with extensive experience in the sector. You will learn the advanced knowledge in propositional logic, getting into the semantics of it and the main applications of this logic, in a practical and 100% online way, with the best didactic resources.

This program will allow students to update their knowledge in Computational Logic in a practical way, 100% online, without renouncing the maximum academic rigor"

The program is aimed at those interested in reaching a higher level of knowledge in Computational Logic. The main objective is to enable the student to apply in the real world the knowledge acquired in this study, in a work environment that reproduces the conditions that may be encountered in the future, in a rigorous and realistic manner.

This program will prepare the trainee for the professional practice of computer engineering, thanks to a transversal and versatile training adapted to new technologies and innovations in this field. Obtaining extensive knowledge in Computational Logic, from the hand of professionals in the sector.

The students will be able to take the opportunity and study this program in a 100% online format, without neglecting their obligations.

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

- Development of 100 simulated scenarios presented by experts in Computational Logic
- Its graphic, schematic and eminently practical contents provide scientific and practical information on Computational Logic
- News on the latest advances in Computational Logic
- It contains practical exercises where the self-assessment process can be carried out to improve learning
- Interactive learning system based on the case method and its application to real practice
- All of this will be complemented by 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

Learn the latests techniques and strategies withi this program and achieve the sucess as an IT Engineer"

Get trained in Computational Logic with this intensive program, from the comfort of your home"

Take advantage of the latest educational technology to get up to date in Computational Logic without leaving home.

Learn about the latest techniques in Computational Logic from experts in the field.

It includes in its teaching staff professionals belonging to the field of education, who bring to this program their work experience, in addition to recognized specialists belonging to reference societies and prestigious universities.

Thanks to its multimedia content elaborated with the latest educational technology, this program will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to work in real situations.

The design of this program is based on Problem-Based Learning, by means of which the teacher must try to solve the different professional practice situations that arise during the course. For this purpose, the professional will be assisted by an innovative interactive video system developed by renowned experts in Computational Logic with extensive teaching experience.

02

Objectives

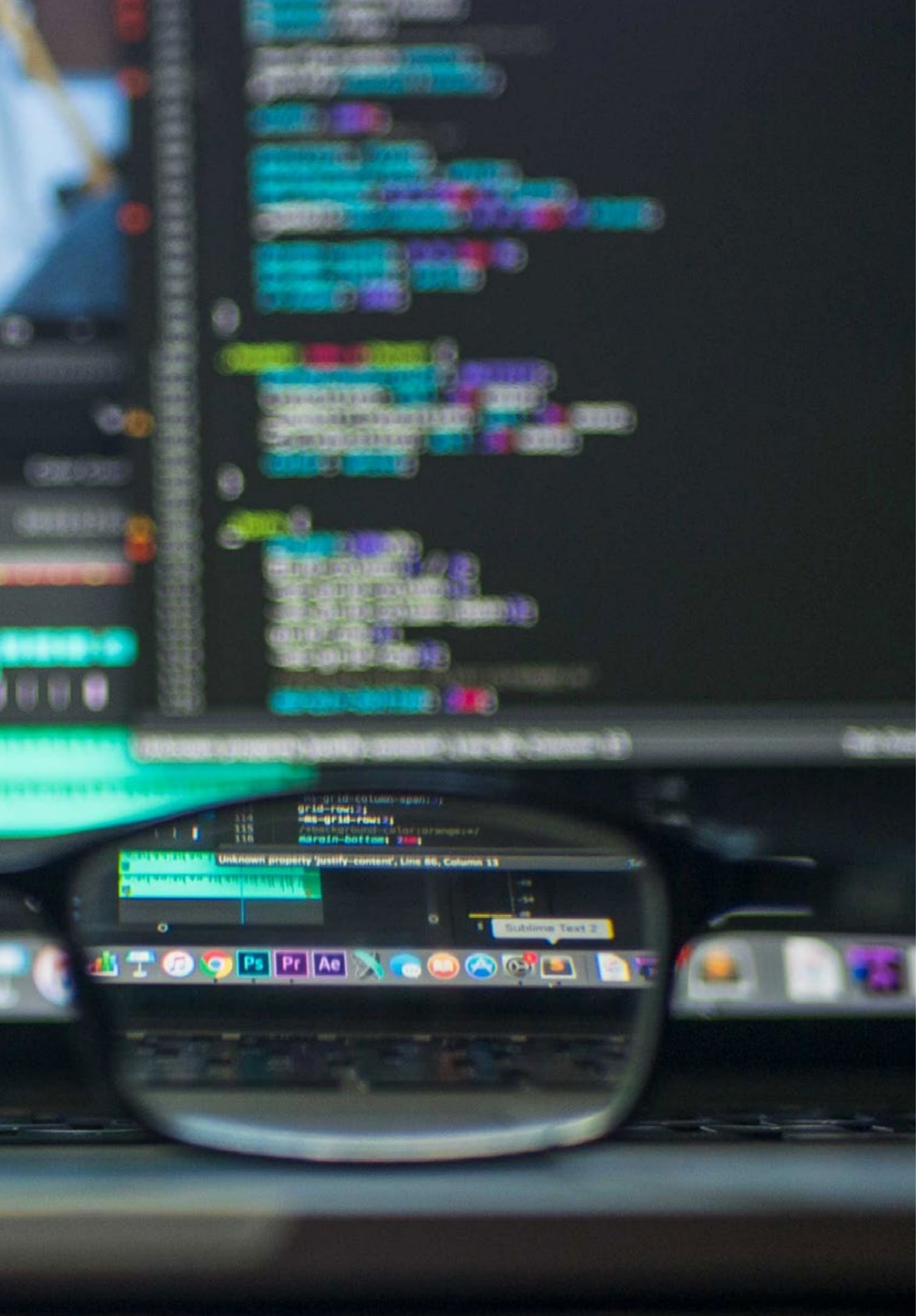
The objective of this program is to provide IT professionals with the knowledge and skills necessary to carry out their activity using the most advanced protocols and techniques of the moment. Through a work approach that is fully adaptable to the student, this program will progressively lead them to acquire the skills that will propel them to a higher professional level.

Achieve the level of knowledge you desire and master the fundamental concepts in Computational Logic with this high-level training"

General Objectives

- Prepare scientifically and technologically, as well as to develop the professional practice of software engineering, with a transversal and versatile approach adapted to the new technologies and innovations in this field
- Obtain extensive knowledge in the field of computation, computer structure and computational logic, including the mathematical, statistical and physical basis essential in engineering

Take the step to catch up on the latest developments in Computational Logic"



Specific objectives

- Learn the fundamentals of computational logic, what it is used for and its justification of use
- Know the different strategies of formalization and deduction in propositional logic, including natural reasoning, axiomatic and natural deduction, as well as the primitive rules of propositional calculus
- Acquire advanced knowledge in propositional logic, delving into its semantics and the main applications of this logic, such as logic circuits
- Understand predicate logic for both the natural deduction calculus of predicates and the formalization and deduction strategies for predicate logic
- Understand the basics of natural language and its deductive mechanism
- Introduction to logic programming using the Prolog language

03

Structure and Content

The structure of the contents has been designed by a team of computer engineering professionals, aware of the relevance of current training in order to deepen this area of knowledge in order to humanistically enrich the student and raise the level of knowledge in Computational Logic through the latest educational technologies available.

This study of Computational Logic contains the most comprehensive and up-to-date learning program on the market"

Module 1. Computational Logic

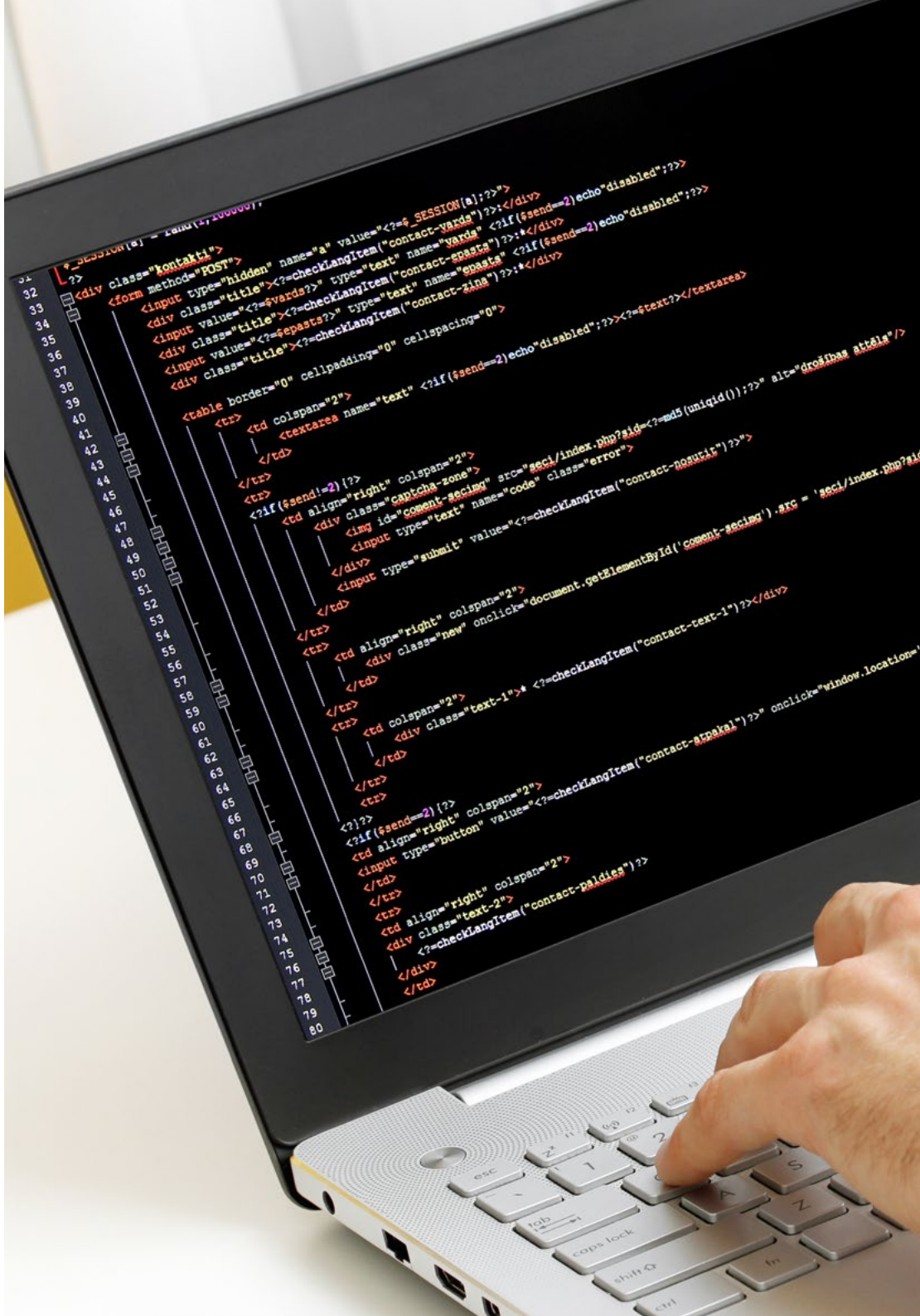
1.1. Justification of the Logic
- 1.1.1. Object of Logic Study
- 1.1.2. What Is Logic for?
- 1.1.3. Components and Types of Reasoning
- 1.1.4. Components of a Logic Calculation
- 1.1.5. Semantics
- 1.1.6. Justification of the Existence of a Logic
- 1.1.7. How to Check that a Logic is Adequate

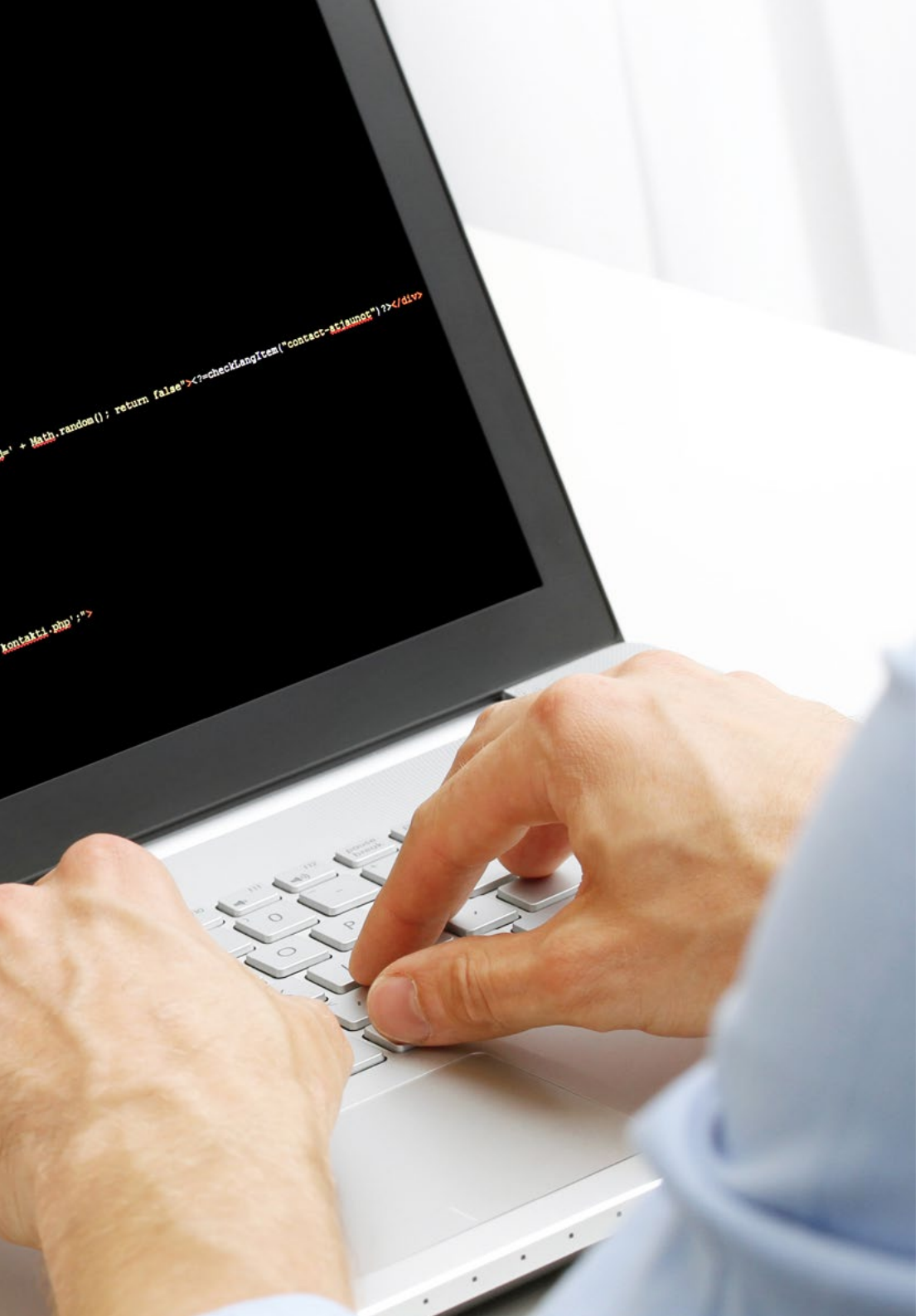
1.2. Calculation of Natural Deduction from Statements
- 1.2.1. Formal Language
- 1.2.2. Deductive Mechanism

1.3. Formalization and Deduction Strategies for Propositional Logic
- 1.3.1. Formalization Strategies
- 1.3.2. Natural Reasoning
- 1.3.3. Laws and Rules
- 1.3.4. Axiomatic Deduction and Natural Deduction
- 1.3.5. Calculating Natural Deduction
- 1.3.6. Primitive Rules of Propositional Calculus

1.4. Semantics of Propositional Logic
- 1.4.1. Truth Tables
- 1.4.2. Equivalence
- 1.4.3. Tautologies and Contradictions
- 1.4.4. Validation of Propositional Sentences
- 1.4.5. Validation by Means of Truth Tables
- 1.4.6. Validation Using Semantic Trees
- 1.4.7. Validation by Refutation

1.5. Applications of Propositional Logic: Logic Circuits
- 1.5.1. Basic Gates
- 1.5.2. Circuits
- 1.5.3. Mathematical Models of the Circuits
- 1.5.4. Minimization
- 1.5.5. The Second Canonical Form and the Minimum Form in Product of Additions
- 1.5.6. Other Gates





1.6. Natural Predicate Deduction Calculus
- 1.6.1. Formal Language
- 1.6.2. Deductive Mechanism

1.7. Formalization Strategies for Predicate Logic
- 1.7.1. Introduction to Formalization in Predicate Logic
- 1.7.2. Formalization Strategies with Quantifiers

1.8. Deduction Strategies for Predicate Logic
- 1.8.1. Reason for Omission
- 1.8.2. Presentation of the New Rules
- 1.8.3. Predicate Logic as a Natural Deduction Calculus

1.9. Applications of Predicate Logic: Introduction to Logic Programming
- 1.9.1. Informal Presentation
- 1.9.2. Prolog Elements
- 1.9.3. Re-Evaluation and Cut-Off

1.10. Set Theory, Predicate Logic and Its Semantics
- 1.10.1. Intuitive Set Theory
- 1.10.2. Introduction to Predicate Semantics

A unique, key, and decisive educational experience to boost your professional development"

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 we face 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

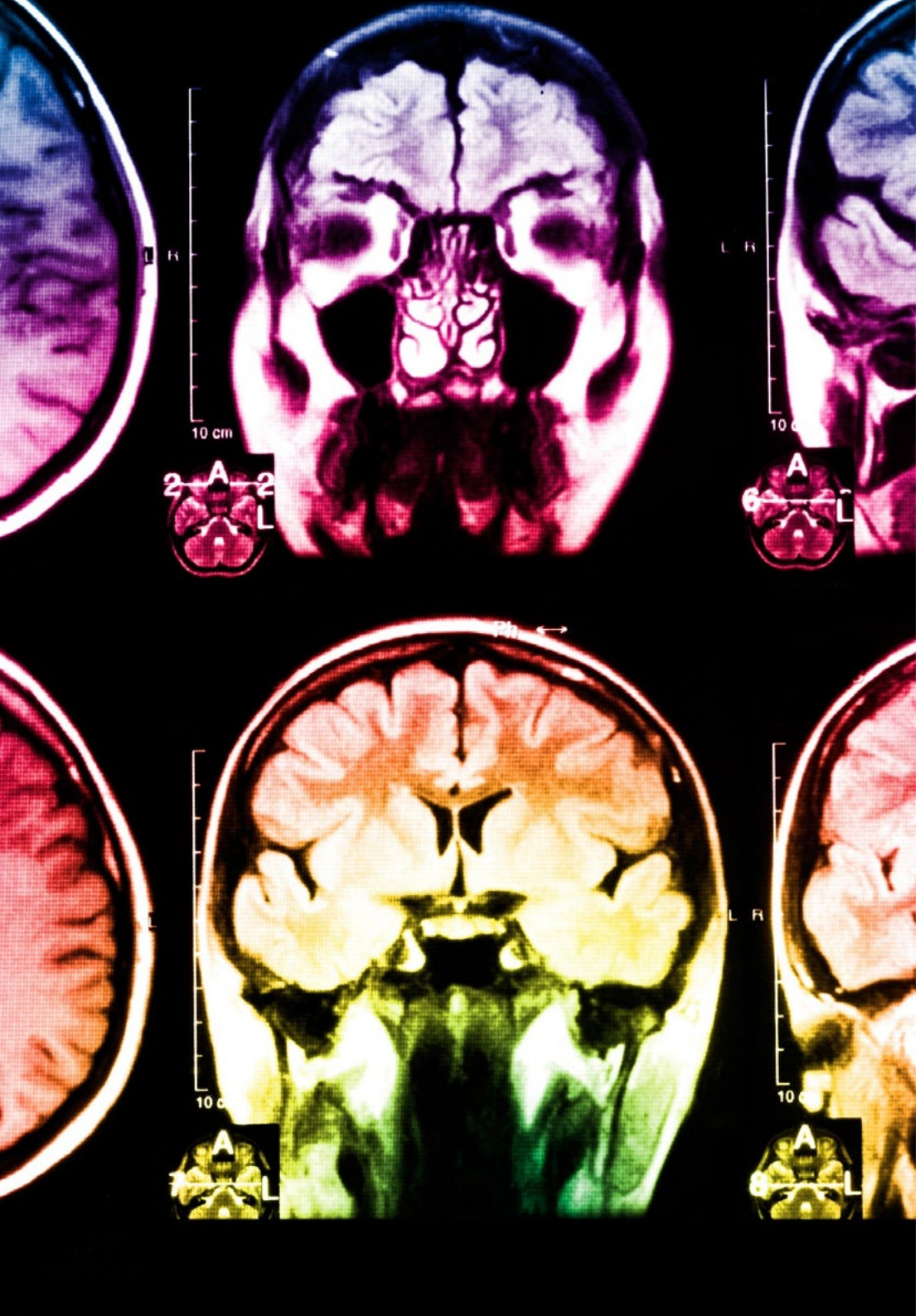
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

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. With this methodology we have 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, markets, and financial 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.

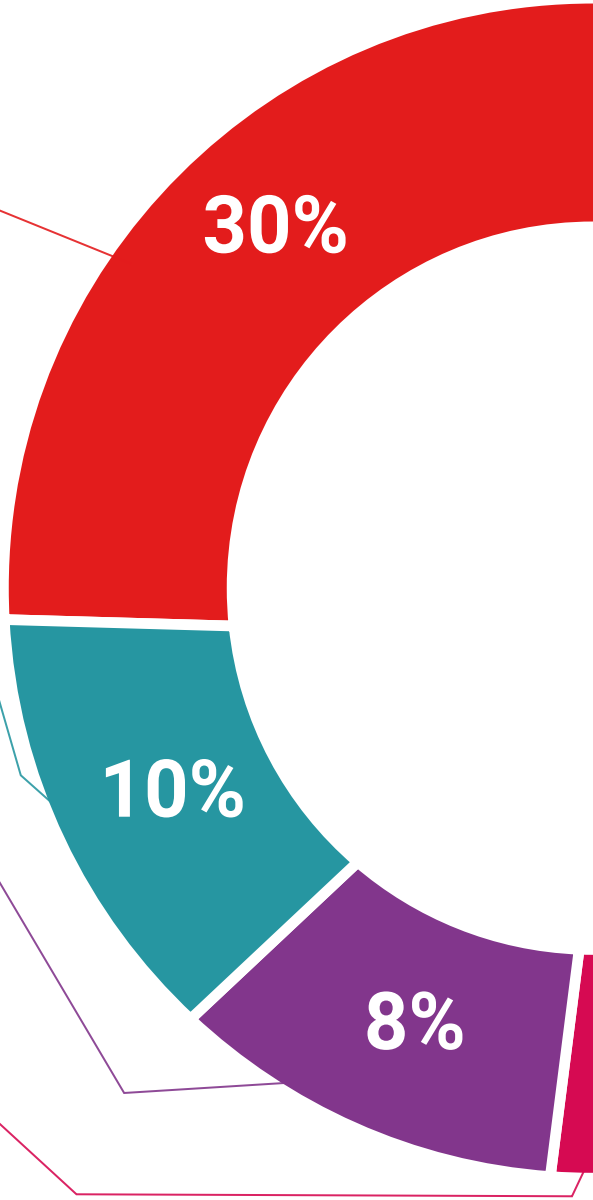
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

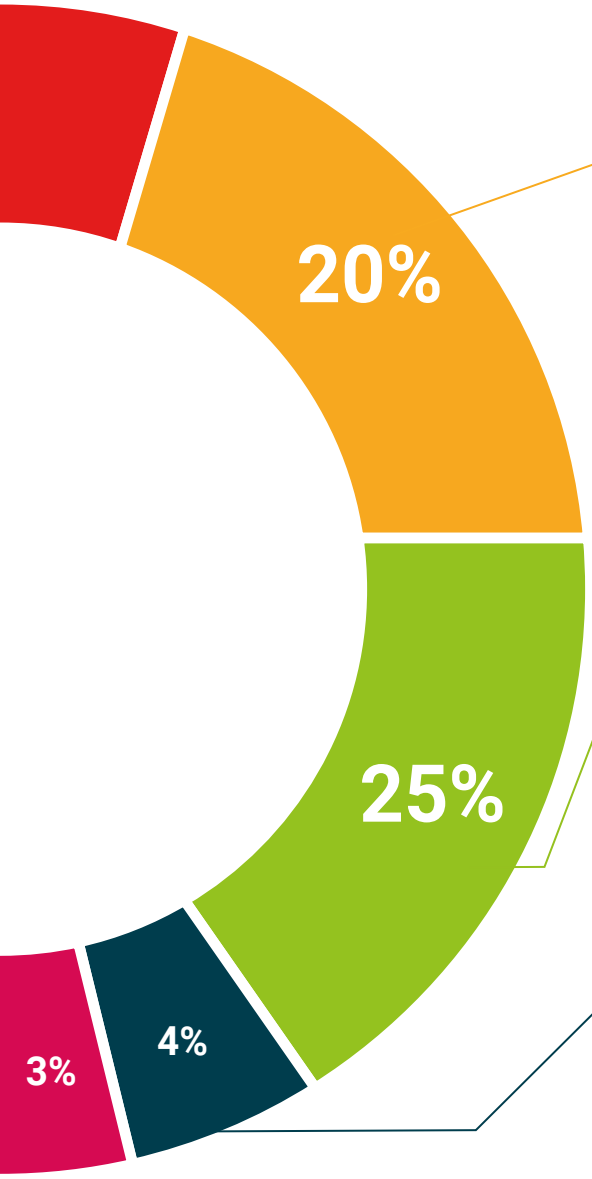
Practising Skills and Abilities

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 Computational Logics 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 Computational Logic** 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 Computational Logic**

Official Nº of hours: **150 h.**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Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Computational Logic

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

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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