Postgraduate Certificate
DevOps and Software Quality

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DevOps and Software Quality

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

Website: **www.techtitute.com/us/information-technology/postgraduate-certificate/devops-software-quality**

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01
Introduction

With today's fast-paced way of doing things, working under a philosophy that promotes better application development in less time and enables the rapid release of new or revised software features and products to customers is a must. In this 6-week program, IT professionals will gain an in-depth understanding of DevOps culture and best practices for quality-based software projects. Thanks to a modern 100% online methodology, with exclusive content selected by experts in the field.

In this Postgraduate Certificate, you will learn when to apply the DevOps culture in a business environment, analyzing the different problems that arise and how to solve them efficiently. Enroll now and qualify in 6 weeks"

Speed in the software development process is increasingly in demand. The constant changes, but also the effectiveness in the results, with the eradication of the greatest number of errors makes it necessary for IT departments to implement the use of a DevOps methodology that shortens the time that passes from the definition of a business requirement to its implementation in production.

Therefore, developing a global vision of the entire ecosystem necessary for a good application of the DevOps culture, evaluating from the hierarchy of human teams to the tools and standards applicable to them, is only possible with specific training on the subject. In this program, students will understand how to implement DevOps correctly and prepare everything necessary for a successful software delivery cycle.

A specific Postgraduate Certificate for those who wish to raise their level of professional preparation, aware of the demands of the business that requires delivery of better quality applications, without technical debt. Professionals able to detect bugs earlier, making them easier to resolve than if they are detected in the final stages of software delivery. Consequently, they will invest less time in their developments, thereby achieving a correct performance. This level of quality will constantly increase the degree of end-user satisfaction, as well as their reputation level.

All this is possible thanks to TECH Technological University's modern study system, at the forefront of university education, which implements a 100% online methodology based on *Relearning*, which allows the professional to learn faster and more efficiently, without large investments of time and effort. In this way, students can balance their daily responsibilities with professional education and graduate in a maximum of 6 weeks, accompanied by experts who will guide them through the entire process.

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

- Case studies presented by experts in software development
- The graphic, schematic, and practical contents with which they are created, provide 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 for experts and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection

Offer agile solutions in your projects with the application of methodologies such as DevOps, learn everything you need in this program and stand out in your professional development"

"With this program, you will learn how to apply the best DevOps culture implementation strategy adapted to the business needs"

Be more effective in your processes. Anticipate possible errors and avoid them from the design phase.

Only with TECH Technological University is it possible to specialize in subjects that are in-demand and useful in the business environment. Enroll now.

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.

The 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 immersive training programmed to train in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

This Postgraduate Certificate in DevOps and Software Quality aims to provide the professional with specialized knowledge about the DevOps culture, analyzing the existing problems in the business environment and understanding the potential improvements when applying this methodology. So that students can obtain efficient results and continuous quality improvement in their projects. For this reason, the support of the experiences provided by the expert teachers who direct this program will be fundamental.

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" *Get to know the study methodology that will make you obtain fast and efficient results*"

General Objectives

- Develop the criteria, tasks and advanced methodologies to understand the relevance of quality-oriented work
- Analyze the key factors in the quality of a software project
- Develop the relevant regulatory aspects
- Implement DevOps and systems processes for Quality Assurance
- Reduce the technical debt of projects with a quality approach rather than an approach based on economics and short deadlines
- Provide the student with specialized knowledge to be able to measure and quantify the quality of a software project
- Defend the economic proposals of projects on the basis of the Quality approach
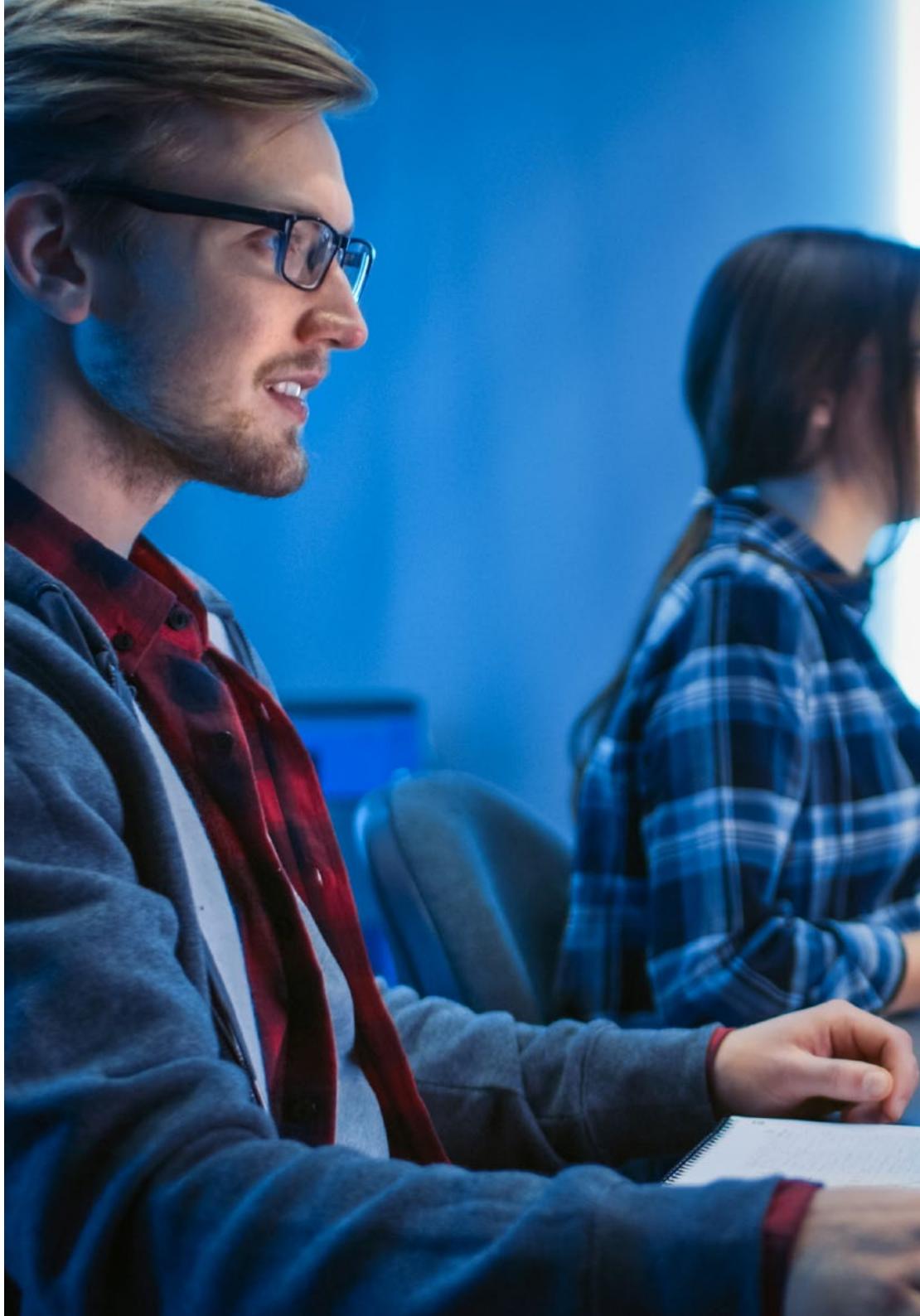
Specific Objectives

◆ Analyze the shortcomings of a traditional process

◆ Assess the possible solutions and choose the most suitable one

◆ Understanding business needs and their impact on implementation

◆ Assess the costs of the improvements to implement

◆ Develop an evolvable software lifecycle, adapted to real need

◆ Anticipate possible errors and avoid them from the design process

◆ Justify the use of different implementation models

You will understand the importance of process automation, cost and maintenance for error mitigation in your future projects"

Course Management

A team of professionals with a high level of education in IT solutions development, software development and research are at the head of this program, which provides an unquestionable level of quality to the course load. They will be in charge of providing the necessary tools and knowledge related to the implementation of the DevOps culture to obtain software quality, following the most avant-garde methodology and through various multimedia resources from TECH's virtual campus.

Being trained by experts in DevOps culture will allow you to master the subject in an easier and more efficient way. TECH makes it possible for you"

International Guest Director

With an extensive professional career of more than 30 years in the technology sector, Daniel St. John is a prestigious **Computer Engineer** highly specialized in S**oftware Quality.** In this same line, he has established himself as a true leader in this field due to his pragmatic approach based on continuous improvement and innovation.

Throughout his career, he has been part of international reference institutions such as **General Electric Healthcare** in Illinois. In this way, his work has focused on optimizing the **digital infrastructures** of organizations with the aim of significantly improving the **user experience**. Thanks to this, multiple patients have enjoyed more personalized and agile care, with faster access to both clinical results and health follow-ups. At the same time, it has implemented technological solutions that have enabled professionals to make more informed **strategic decisions** based on large volumes of data.

He has also balanced this work with the creation of cutting-edge technological projects to maximize the effectiveness of the institutions' operational processes. In this regard, he has led the **digital transformation** of numerous companies belonging to different industries. As such, he has implemented emerging tools such as **Artificial Intelligence, Big Data or Machine Learning** to automate complex daily tasks. As a result, these organizations have managed to adapt to market trends with immediacy and ensure their long-term sustainability.

It is worth noting that Daniel St. John has participated as a speaker at various scientific congresses on a global scale. In this way, he has shared his vast knowledge in areas such as the adoption of **Agile Methodologies, Application Testing** to ensure the reliability of systems or implementation of innovative **Blockchain** techniques that guarantee the protection of confidential data.

Mr. St. John, Daniel

- Director of Software Engineering at General Electric Healthcare of Wisconsin, United States
- Head of Software Engineering at Siemens Healthineers, Illinois
- Director of Software Engineering at Natus Medical Incorporated, Illinois
- Senior Software Engineer at WMS Gaming of Chicago
- Senior Software Engineer at Siemens Medical Solutions, Illinois
- M.S. in Data Strategy and Analytics from Lake Forest Graduate School of Management B.S. in Computer Science from the University of Wisconsin-Parkside
- Illinois Institute of Technology Advisory Board Member
- Certifications in: Python for Data Science, Artificial Intelligence and Development, SAFe SCRUM, and Project Management.

Thanks to TECH, you will be able to learn with the best professionals in the world"

Management

Mr. Molina Molina, Jerónimo

- AI Engineer & Software Architect. NASSAT - Internet Satellite in Motion
- Senior Consultant at Hexa Ingenieros. Introducer of Artificial Intelligence (ML and CV)
- Expert in artificial intelligence based solutions in the fields of Computer Vision, ML/DL and NLP. Currently investigating application possibilities of Transformers and Reinforcement Learning in a personal research project
- University Expert in Business Creation and Development. Bancaixa – FUNDEUN Alicante
- Computer Engineer. University of Alicante
- Master in Artificial Intelligence. Catholic University of Avila
- Executive MBA. European Business Campus Forum

Professors

Mr. Tenrero Morán, Marcos

- DevOps Engineer – Allot Communications
- Application Lifecycle Management & DevOps– Meta4 Spain. Cegid
- QA Automation Engineer – Meta4 Spain. Cegid
- Graduated in Computer Engineering from Rey Juan Carlos University
- Development of professional applications for Android - Galileo University (Guatemala)
- Cloud Services Development (nodeJs, JavaScript, HTML5) - UPM
- Continuous Integration with Jenkins – Meta4. Cegid
- Web Development with Angular-CLI (4), Ionic and nodeJS. Meta4 - Rey Juan Carlos University

04
Structure and Content

The diversity of audiovisual content and other formats, which are available through TECH Technological University's virtual campus, through a methodology based on *Relearning*, allows for a dynamic learning process, based on new models and with quality content. The professional is guaranteed a progressive and natural teaching of the most important terms and concepts about DevOps and software quality. This translates into a first-class academic program, one that is rigorous, exhaustive and adapted to the current reality of IT.

" *The large amount of multimedia resources and expertly selected content allow for dynamic learning that guarantees a quality qualification"*

Module 1. DevOps. Software Quality Management

1.1. DevOps. Software Quality Management

    1.1.1. DevOps.

    1.1.2. DevOps and Software Quality

    1.1.3. DevOps. Benefits of DevOps Culture

1.2. DevOps. Relation to Agile

    1.2.1. Accelerated Delivery

    1.2.2. Quality

    1.2.3. Cost Reduction

1.3. DevOps Implementation

    1.3.1. Problem identification

    1.3.2. Implementation in a Company

    1.3.3. Implementation Metrics

1.4. Software Delivery Cycle

    1.4.1. Design Methods

    1.4.2. Agreements

    1.4.3. Roadmap

1.5. Error-Free Code Development

    1.5.1. Maintainable Code

    1.5.2. Development Patterns

    1.5.3. Code Testing

    1.5.4. Software Development at Code Level Good Practices

1.6. Automation

    1.6.1. Automization Types of Tests

    1.6.2. Cost of Automation and Maintenance

    1.6.3. Automization Mitigating Errors

Enroll now and graduate in 6 weeks. Study online from the comfort of your favorite device, without the need to travel anywhere"

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.
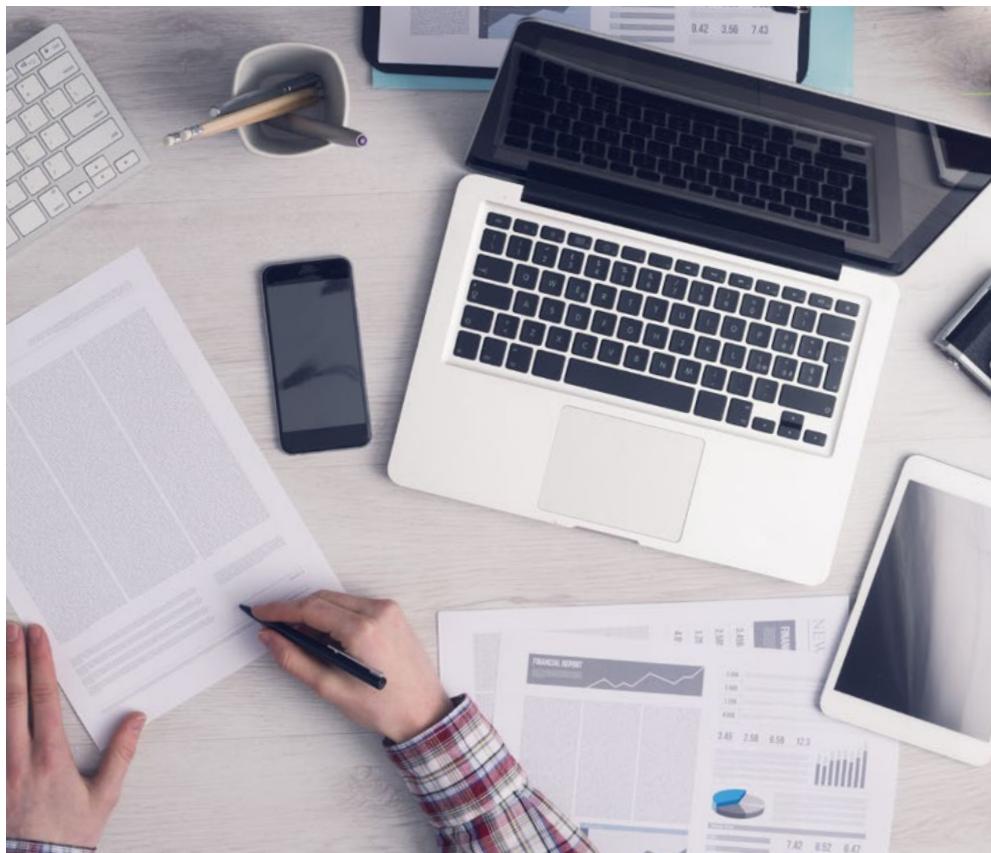
The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

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 has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. 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 course, students 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 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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)
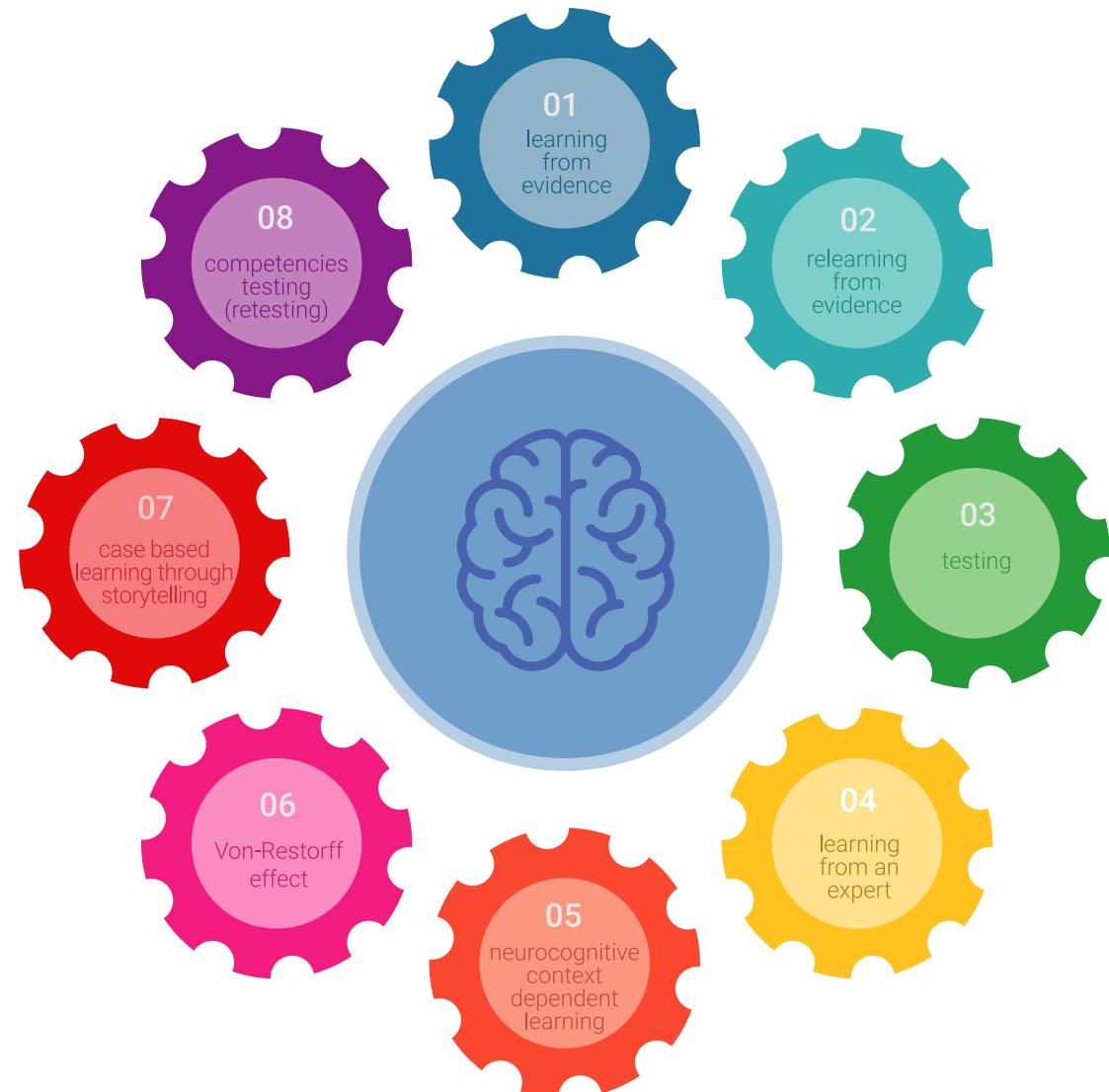
In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, 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.

20%

25%

4%

3%
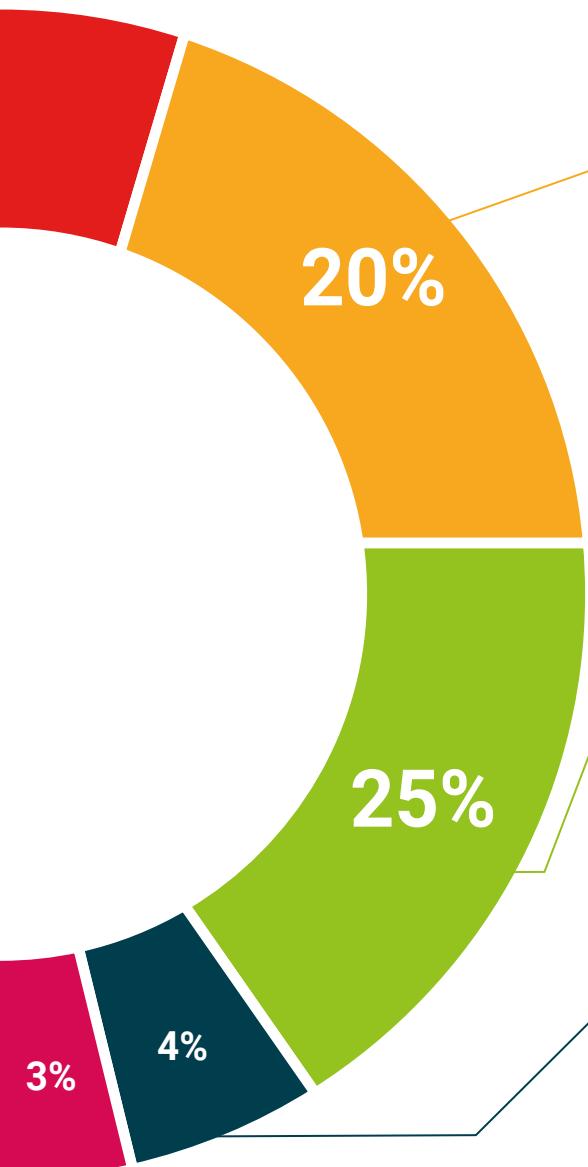
Case Studies

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 Postgraduate Certificate in DevOps and Software Quality 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 Software DevOps and Quality** 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 DevOps and Software Quality**

Official N° of Hours: **150 h.**

tech technological university

Awards the following

DIPLOMA

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

DevOps and Software Quality

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 diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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