



Postgraduate Certificate DevOps and Software Quality

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

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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.



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tech 06 | Introduction

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"

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.

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.







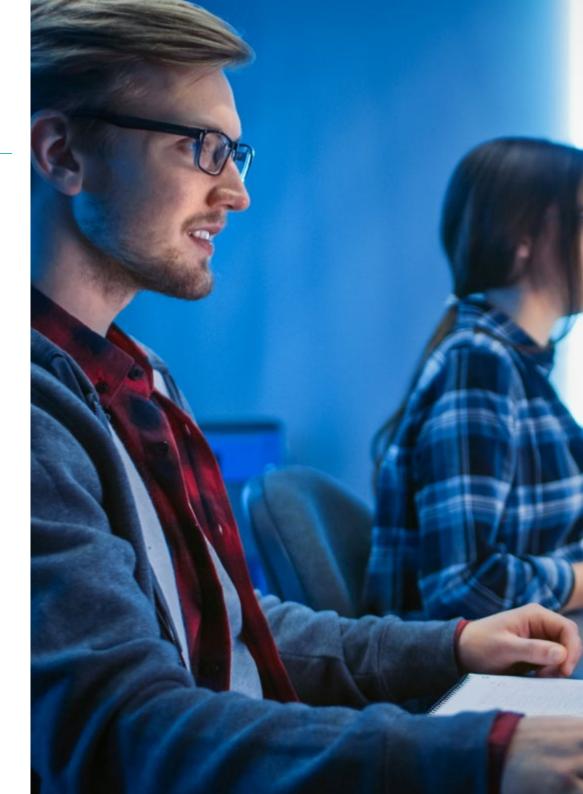


tech 10 | Objectives



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



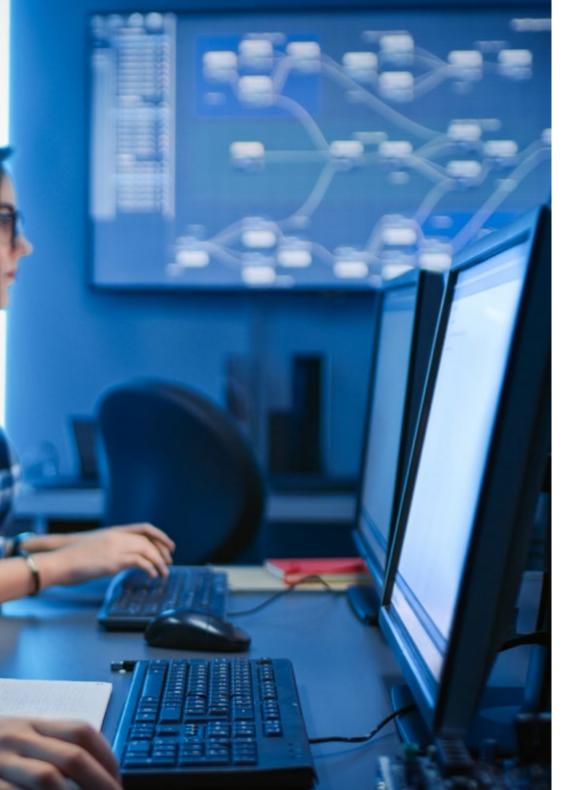


Specific Objectives

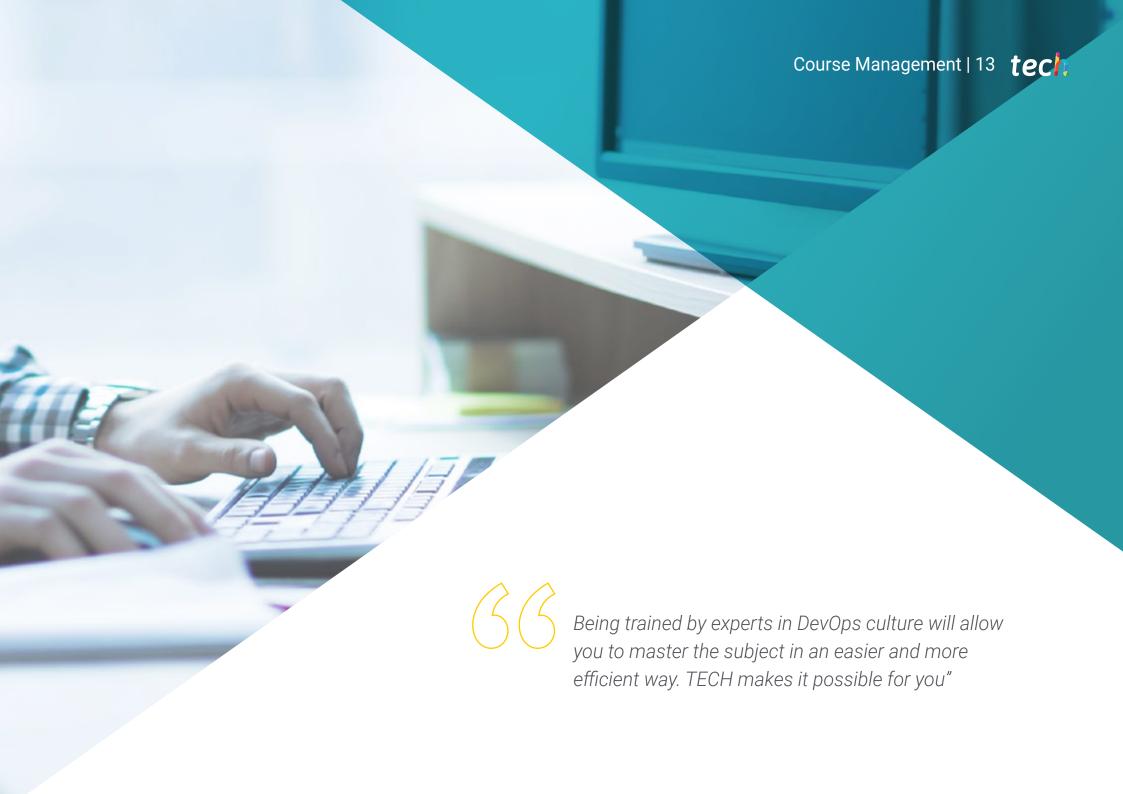
- Analyze the shortcomings of a traditional process
- Assess the possible solutions and choose the most suitable one
- Understanding business needs and their impact on implementation
- Assess the costs of the improvements to implement
- Develop an evolvable software lifecycle, adapted to real need
- 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"







tech 14 | Course Management

Management



Mr. Molina Molina, Jerónimo

- Al 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





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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





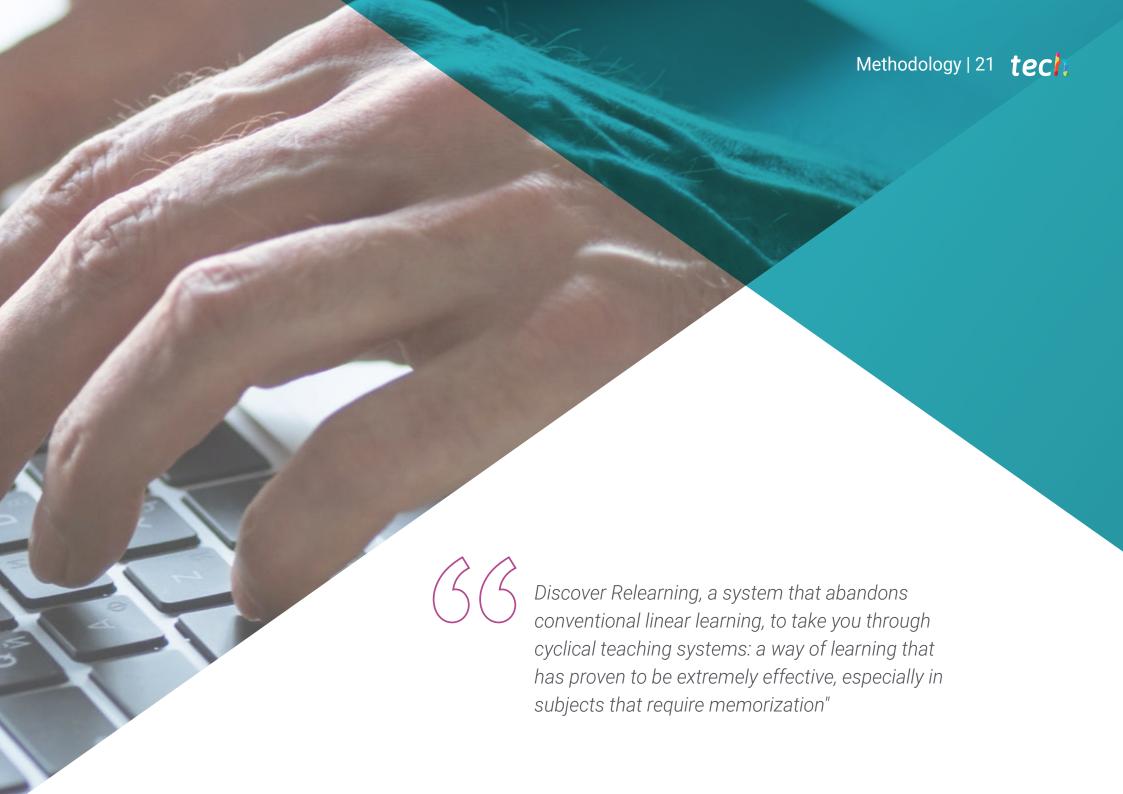
Structure and Content | 19 tech

- 1.7. Deployment
 - 1.7.1. Target Assessment
 - 1.7.2. Design of an Automatic and Adapted Process
 - 1.7.3. Feedback and Responsiveness
- 1.8. Incident Management
 - 1.8.1. Incident Management
 - 1.8.2. Incident Analysis and Resolution
 - 1.8.3. How to Avoid Future Mistakes
- 1.9. Deployment Automation
 - 1.9.1. Preparing for Automated Deployments
 - 1.9.2. Assessment of the Health of the Automated Process
 - 1.9.3. Metrics and Rollback Capability
- 1.10. Good Practices. Evolution of DevOps
 - 1.10.1. Guide to Good DevOps Practices
 - 1.10.2. DevOps. Methodology for the Team
 - 1.10.3. Avoiding Niches



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





tech 22 | 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.



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.



Methodology | 25 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.



Methodology | 27 tech



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

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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.





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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.



^{*}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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institutions teaching



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