Postgraduate Certificate
TDD as an Approach to Quality

tech global university

Postgraduate Certificate
TDD as an Approach to Quality

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Global University**
- » Credits: **6 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: www.techtitute.com/us/information-technology/postgraduate-certificate/tdd-approach-quality

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01
Introduction

The goal of the software developer is to achieve a much faster, more resolute work, with fewer errors, meeting the requirements that have been established and more focused on the end user. As well as being able to advance in small steps when needed and avoid using a debugger. For this purpose, it is essential to understand methodologies such as TDD (Test-Driven Development), which allow such advantages when it comes to generating quality-based projects. In this refresher program, the IT professional will be able to learn it in depth in about 6 weeks of study, 100% online and through an innovative system tutored by experts in the field.

Knowing all about TDD as an approach to quality will make you an outstanding professional in your work environment. Enroll now and qualify in 6 weeks"

Knowing the practical application of TDD and its possibilities for testing a software project in the future will be possible in this program. Designed especially for those professionals who wish to improve their skills in managing software projects based on quality and providing better results to the end user.

In this course, the student will approach the practice of software engineering, known as TDD or Test-Driven Development, both at a theoretical and practical level. Develop implementation strategies, analyzing their advantages and disadvantages. You will learn how to analyze requirements, post-test and verify the failures of those tests; implementing it in a simple way to eliminate errors, duplicate details and finally update the requirements. Everything, from an approach to quality, being able to perform TDD correctly.

Being able to master this procedure, widely used and common among followers of agile methodologies, will undoubtedly give the developer a professional background. It is important for any computer scientist who wishes to advance their career and stand out in their professional environment, opening up new opportunities by choosing to perfect their work techniques and polish their performance.

TECH, at the forefront of university education, has implemented a 100% online study methodology based on Relearning, which allows the professional to learn faster and more efficiently, without large investments of time and effort. You will be able to balance your daily responsibilities with professional training and be prepared for today's changing world.

In a maximum of 6 weeks you will be able to graduate with a specialty that will give you a plus to your professional profile. Thanks to the guidance of expert engineers and developers of IT solutions, who will be accompanying them throughout the process, with a wide variety of material and multimedia resources for learning.

This **Postgraduate Certificate in TDD as an Approach to Quality** contains the most complete and up-to-date 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

"

TECH, always at the forefront with the most in-demand topics in the labor market, offers you this program based on Test-Driven Development, so that you can stand out in your professional development"

" With this program you will learn the best practices and strategies for implementing test-driven software development to raise the quality standards of your projects"
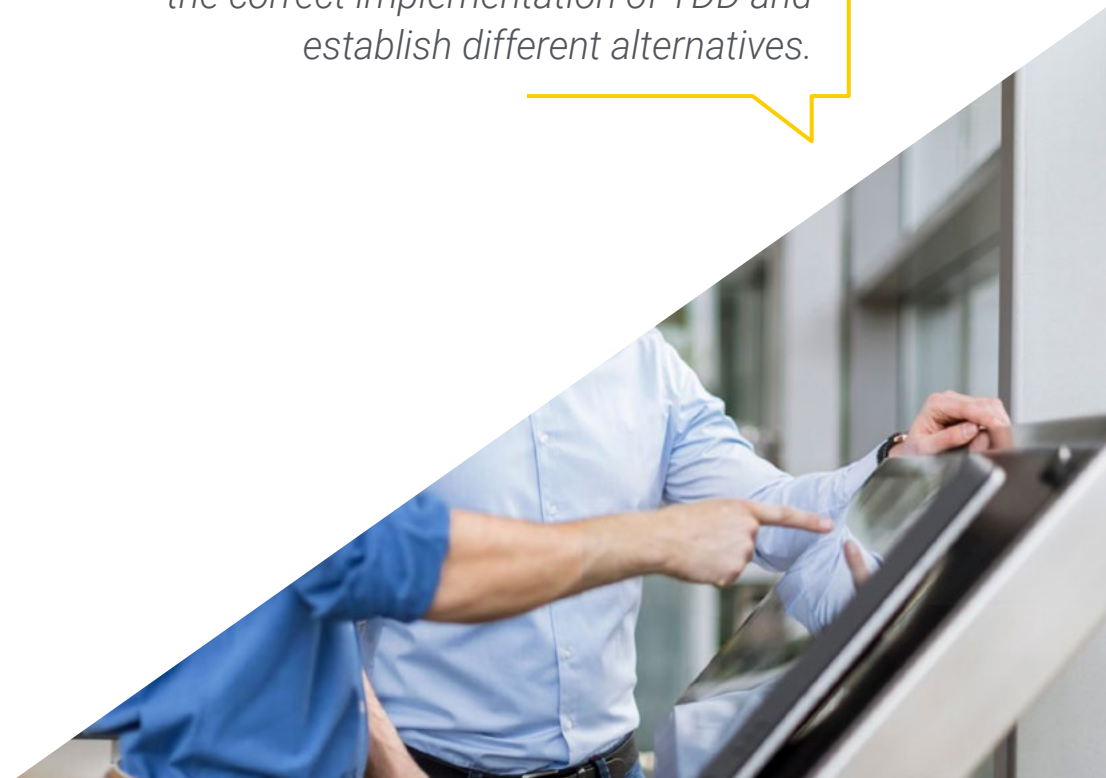
Thanks to the study system implemented by TECH, you will not have to sacrifice any of your current activities to achieve a new qualification.

You will learn to develop the criteria for the correct implementation of TDD and establish different alternatives.

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

The main objective of this Diploma is for the professional to develop, in depth, the skills to manage a project efficiently, implementing the agile TDD methodology as an approach to quality. Analyzing the advantages and limitations that lead to correctly define the tests with the implementation of this software engineering.

If this has reached you, it is because it is your time to advance in your professionalization. The future is now. Get trained to develop quality-based software and apply the best techniques"

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
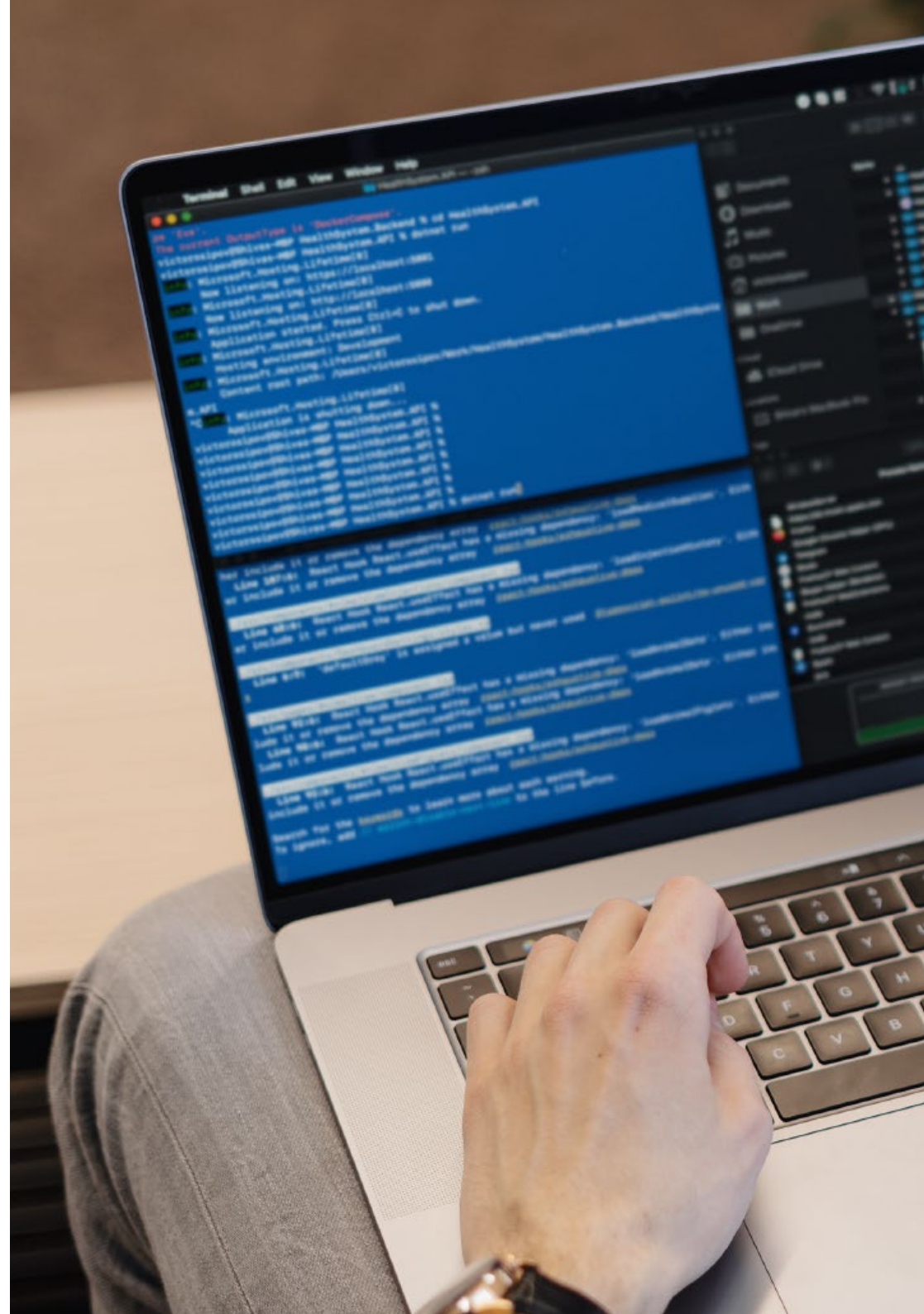
Specific Objectives

- Know the practical application of TDD and its possibilities, the future testing of a software project
- Complete proposed real simulation cases, as a continuous learning of this TDD concept
- Analyze, in the simulation cases, to what extent the tests can succeed or fail, from a constructive point of view
- Determine the alternatives to TDD, making a comparative analysis between them

At the end of this course, you will be able to perform abstraction, division into more unit tests and eliminate what does not apply to the good performance of the tests of the software project to be carried out"

03
Course Management

The team of professionals that make up the teaching staff and are in charge of this program have a high level of education in the development of IT solutions and software development and research, which provides an unquestionable level of quality to the teaching load. They will be in charge of providing the future graduate with the necessary tools and knowledge related to TDD as an Approach to Quality, following the most avant-garde methodology implemented by TECH.

"

Professionals with in-depth knowledge of the subject will take you through the learning process, so that you can perfect your procedures in practice"

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

04
Structure and Content

The methodology implemented by TECH, which is 100% online, allows the diversity of audiovisual content and other formats, which will represent a dynamic learning process for the student, 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 TDD as an approach to quality, with real examples provided by the teaching team. This translates into a first-class academic program, one that is rigorous, exhaustive and adapted to the current reality of IT.
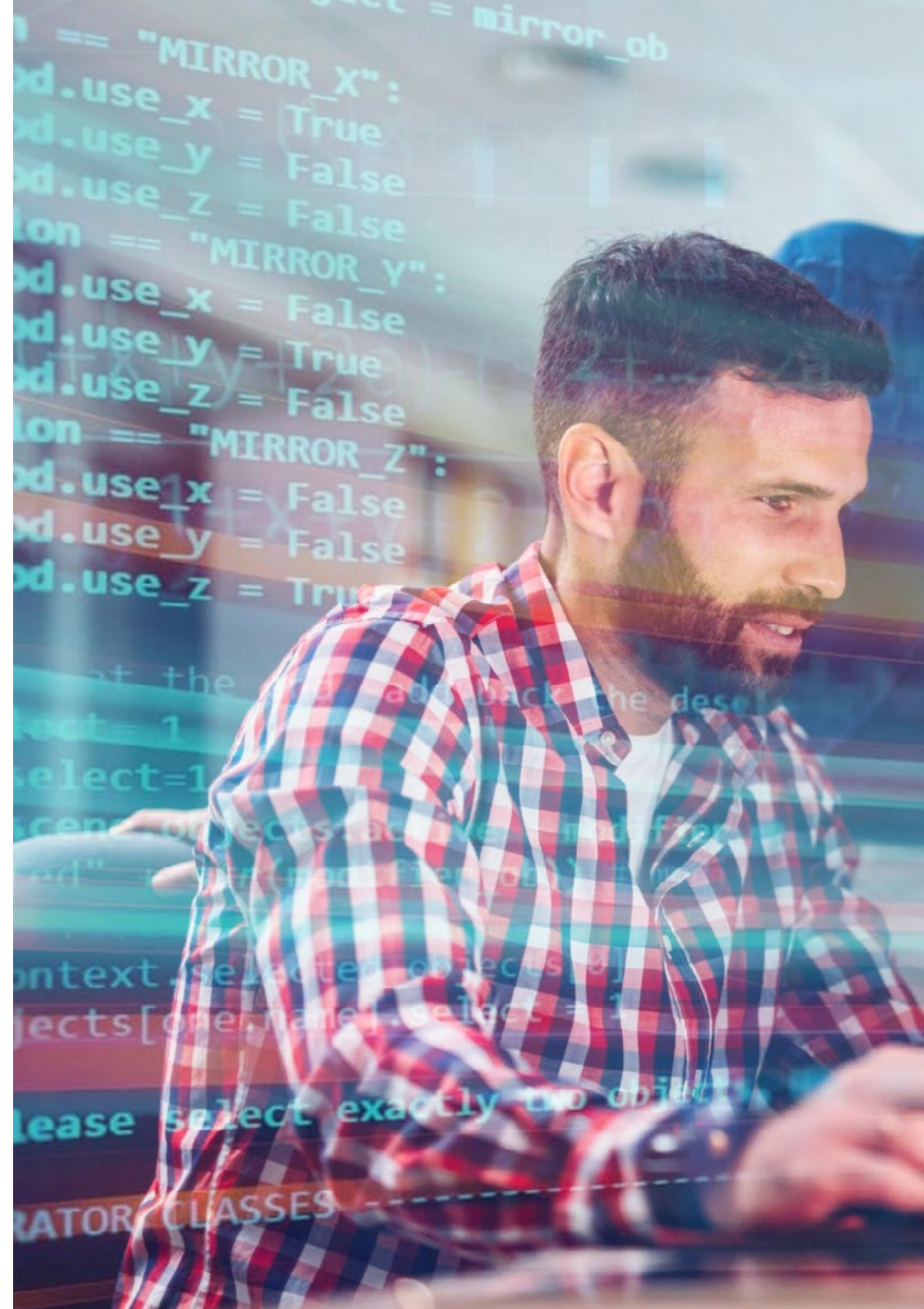
You will avoid writing unnecessary code in your developments. Applying what has been learned in this program. Obtaining more efficient results"

Module 1. TDD (Test-Driven Development). Test-Driven Software Design

Make up your mind and raise your level of professionalism with this 100% online program. Enroll now"

05

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.

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.

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

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 TDD as an Approach to Quality guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Certificate in TDD as an Approach to Quality** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in TDD as an Approach to Quality**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

tech *global university*

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in TDD as an Approach to Quality

This is a program of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

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 Global University will make the necessary arrangements to obtain it, at an additional cost.

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