Postgraduate Certificate

Software and Web Application Security
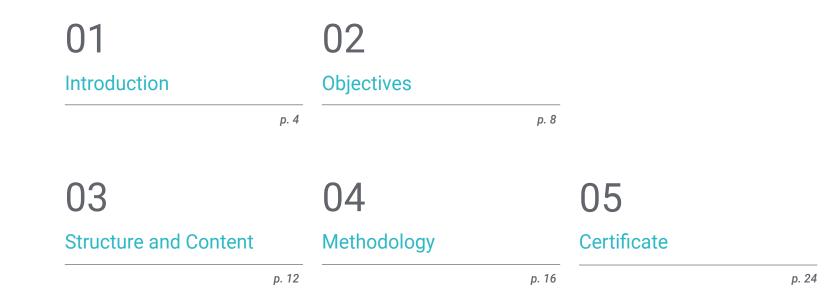
tech *technological university*

Postgraduate Certificate
Software and Web Application Security

- » Modality: **online**
- » Duration: **2 months**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/in/information-technology/postgraduate-certificate/software-web-application-security**
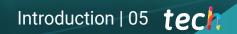
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01
Introduction

This Postgraduate Certificate specializes students in Software and Web Application Security, with the aim of providing them with the knowledge and tools required for the design and control of complex systems, which reliably provide the answer to established problems.

This high-quality program will enable the professional to understand software security issues, vulnerabilities and how they are classified.

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This Postgraduate Certificate is the best investment you can make when selecting a refresher program in the field of Software and Web Application Security. We offer you quality and free access to content"

This comprehensive program in Software and Web Application Security will allow professionals in the IT industry to deepen their understanding and learn about the processes of management and monitoring of quality and secure software that meets the predefined requirements.

With this program, the student will have access to the most advanced teaching resources and will have the opportunity to study a program that brings together the most in-depth knowledge in the field. A group of highly scientifically qualified professors with extensive international experience will provide students with the most complete and up-to-date information on the latest advances and techniques in Software and Computer Systems Engineering.

The syllabus covers the main current topics in Software and Computer Systems Engineering in such a way that whoever masters them will be prepared to work in this field. Therefore, it is not just another diploma in your backpack, but a real learning tool to approach the topics of the specialty in a modern, objective way and with the ability to make a judgment based on today's most cutting-edge information.

It should be noted that since this is a 100% online Postgraduate Certificate, the student is not conditioned by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their work or personal life with their academic life.

If they want to differentiate themselves from others and be capable of designing complex systems engineering projects, this is the program for them.

This **Postgraduate Certificate in Software and Web Application Security** contains the most complete and up-to-date academic program on the market. The most important features include:

- The development of case studies presented by experts in Software and Web Application Security
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional development
- Practical exercises where self-assessment can be used to improve learning
- Special emphasis on innovative methodologies in Software and Web Application Security
- 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 to design, evaluate and manage engineering projects thanks to this high-quality program"

"

Specialize in computer systems with the help of professionals with extensive experience in the sector"

This program comes with the best teaching material, providing you with a contextual approach that will facilitate your learning.

This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work. You choose where and when to train.

Its teaching staff includes professionals belonging to the field of Software and Web Application Security, who contribute to this program the experience of their work, as well as recognized specialists from reference societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive training programmed to train in real situations.
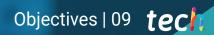
This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts in Software and Web Application Security.

02
Objectives

The Postgraduate Certificate in Software and Web Application Security is oriented to facilitate the performance of the professionals so that they acquire and know the main developments in this field, which will allow them to practice their profession with the highest quality and professionalism.

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"
Our goal is for you to become the best professional in your sector. And for this we have the best methodology and content"

General Objectives

- Acquire new knowledge in Software and Computer Systems Engineering
- Acquire new skills in terms of new technologies and the latest software developments
- Process the data generated in Software and Computer Systems Engineering activities

Join us and we will help you achieve professional excellence"

Specific Objectives

- Understand software security issues, vulnerabilities and how they are classified
- Know the design principles, methodologies and standards in software security
- Understand the application of security in the different phases of the software life cycle
- Acquire the knowledge required for the safe coding of software and the evaluation techniques
- Understand the methodologies and processes to guarantee security during the development and delivery of cloud services
- Understand the basics of cryptology and the different encryption techniques currently available
- Acquire the knowledge required to evaluate and detect the vulnerabilities of online applications
- Understand the security policies and standards to be applied to online applications
- Know the procedures to use during the development of web applications and their subsequent evaluation through analysis and security tests
- Learn the security measures for the deployment and production of web applications
- Understand the concepts, functions and technologies to be applied in the security of web services, as well as security tests and protective measures
- Assimilate the procedures for ethical hacking, malware analysis and forensics
- Know the mitigation and containment measures for incidents on web services
- Acquire the knowledge to implement best practice techniques for the development and implementation of online applications as well as the most common errors

03
Structure and Content

The structure of the contents has been designed by the best professionals in the sector, with extensive experience and recognized prestige in the profession, and aware of the benefits that the latest educational technology can bring to higher education.

We have the most complete and up-to-date program on the market. We strive for excellence and for you to achieve it too"

Module 1. Software Security

1.1.   Problems of the Software Security
    1.1.1.   Introduction to the Problem of Software Safety
    1.1.2.   Vulnerabilities and their Classification
    1.1.3.   Secure Software Properties
    1.1.4.   References

1.2.   Software Safety Design Principles
    1.2.1.   Introduction
    1.2.2.   Software Safety Design Principles
    1.2.3.   Types of S-SDLC
    1.2.4.   Software Safety in S-SDLC Phases
    1.2.5.   Methodologies and Standards
    1.2.6.   References

1.3.   Software Lifecycle Safety in the Requirements and Design Phases
    1.3.1.   Introduction
    1.3.2.   Attack Modeling
    1.3.3.   Cases of Abuse
    1.3.4.   Safety Requirements Engineering
    1.3.5.   Risk Analysis Architectural
    1.3.6.   Design Patterns
    1.3.7.   References

1.4.   Software Lifecycle Safety in the Coding, Testing and Operation Phases
    1.4.1.   Introduction
    1.4.2.   Risk-Based Safety Testing
    1.4.3.   Code Review
    1.4.4.   Penetration Test
    1.4.5.   Security Operations
    1.4.6.   External Review
    1.4.7.   References

1.5.   Secure Coding Applications I
    1.5.1.   Introduction
    1.5.2.   Secure Coding Practices
    1.5.3.   Manipulation and Validation of Inputs
    1.5.4.   Memory Overflow
    1.5.5.   References

1.6.   Secure Coding Applications II
    1.6.1.   Introduction
    1.6.2.   Integers Overflows, Truncation Errors and Problems with Type Conversions between Integers
    1.6.3.   Errors and Exceptions
    1.6.4.   Privacy and Confidentiality
    1.6.5.   Privileged Programs
    1.6.6.   References

1.7.   Development and Cloud Security
    1.7.1.   Safety in Development; Methodology and Practice
    1.7.2.   PaaS, IaaS, CaaS and SaaS Models
    1.7.3.   Security in the Cloud and for Cloud Services

1.8.   Encryption
    1.8.1.   Fundamentals of Cryptology
    1.8.2.   Symmetric and Asymmetric Encryption
    1.8.3.   Encryption at Rest and in Transit

1.9.   Security Automation and Orchestration (SOAR)
    1.9.1.   Complexity of Manual Processing; Need to Automate Tasks
    1.9.2.   Products and Services
    1.9.3.   SOAR Architecture

1.10.   Telework Safety
    1.10.1.   Need and Scenarios
    1.10.2.   Products and Services
    1.10.3.   Telework Safety

Module 2. Online Application Security

2.1.   Vulnerabilities and Security Issues in Online Applications
   2.1.1.   Introduction to Online Application Security
   2.1.2.   Security Vulnerabilities in the Design of Web Applications
   2.1.3.   Security Vulnerabilities in the Implementation of Web Applications
   2.1.4.   Security Vulnerabilities in the Deployment of Web Applications
   2.1.5.   Official Lists of Security Vulnerabilities
2.2.   Policies and Standards for Online Application Security
   2.2.1.   Pillars for the Security of Online Applications
   2.2.2.   Security Policy
   2.2.3.   Information Security Management System
   2.2.4.   Secure Software Development Life Cycle
   2.2.5.   Standards for Application Security
2.3.   Security in the Design of Web Applications
   2.3.1.   Introduction to Web Application Security
   2.3.2.   Security in the Design of Web Applications
2.4.   Testing the Online Safety and Security of Web Applications
   2.4.1.   Web Application Security Testing and Analysis
   2.4.2.   Web Application Deployment and Production Security
2.5.   Web Services Security
   2.5.1.   Introduction to Web Services Security
   2.5.2.   Web Services Security Functions and Technologies
2.6.   Testing the Online Safety and Security of Web Services
   2.6.1.   Evaluation of Web Services Security
   2.6.2.   Online Protection. Firewalls and XML Gateways
2.7.   Ethical Hacking, Malware and Forensics
   2.7.1.   Ethical Hacking
   2.7.2.   Malware Analysis
   2.7.3.   Forensic Analysis

2.8.   Incident Resolution on Web Services
   2.8.1.   Monitoring
   2.8.2.   Performance Measurement Tools
   2.8.3.   Containment Measures
   2.8.4.   Root Cause Analysis
   2.8.5.   Proactive Problem Management
2.9.   Best Practices to ensure Application Security
   2.9.1.   Handbook of Best Practices in the Development of Online Applications
   2.9.2.   Handbook of Good Practices in the Implementation of Online Applications
2.10.   Common Errors that Undermine Application Security
   2.10.1.   Common Errors in Development
   2.10.2.   Common Errors in Hosting
   2.10.3.   Common Production Errors

A comprehensive and multidisciplinary educational program that will allow you to excel in your career, following the latest advances in the field of Software and Web Application Security"

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.

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.

66

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.
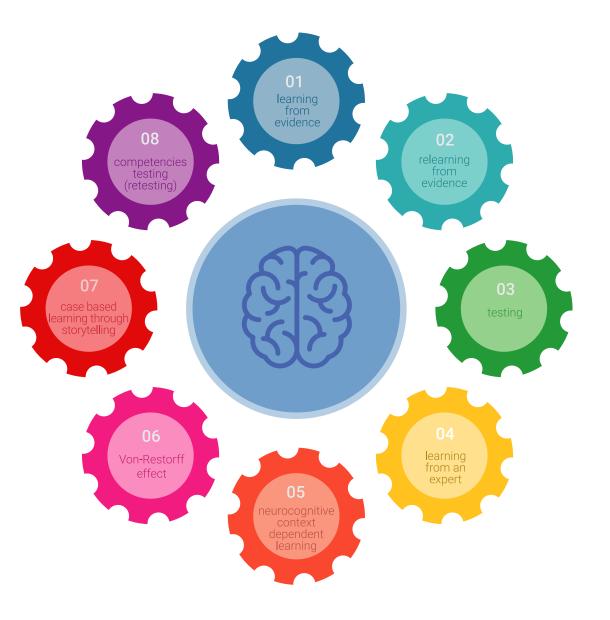
Relearning Methodology

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.
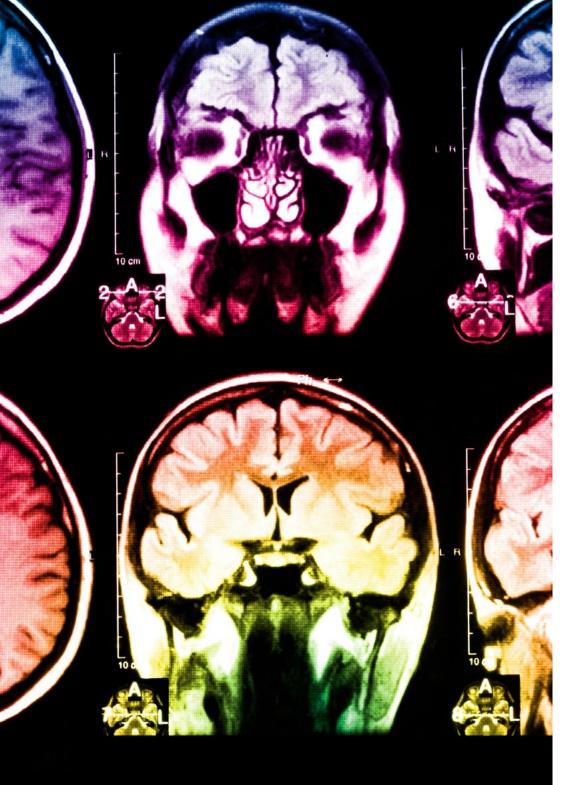
01 learning from evidence

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.

30%

10%

8%

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.

Certificate

The Postgraduate Certificate in Software and Web Application Security 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 and Web Application Security** contains the most complete and up-to-date educational 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 Software and Web Application Security**

Official Nº of Hours: **300 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

Software and Web Application Security

This is a qualification awarded by this University, equivalent to 300 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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