

# Postgraduate Certificate Advanced Web Hacking



## Postgraduate Certificate Advanced Web Hacking

- » 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/advanced-web-hacking](http://www.techtitute.com/us/information-technology/postgraduate-certificate/advanced-web-hacking)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

Organizations face a number of stringent cybersecurity rules and regulations, such as the General Data Protection Regulation (GDPR), the California Consumer Privacy Act (CCPA) in the United States, and industry standards such as ISO/IEC 27001. These regulations require the implementation of effective measures to protect privacy and information security. In this context, this study plan arises with which professionals acquire the necessary skills to comply with these regulations, contributing to the security of organizations and strengthening their position in the field of cybersecurity. With a 100% online methodology, a wide variety of multimedia contents and the application of Relearning, it provides an effective learning experience.



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*Thanks to this innovative university program you will become the architect of cyber resilience, designing advanced strategies to face any challenge in the field of web hacking”*

In today's digital landscape, the growing cyber threat has generated an unprecedented demand for professionals specialized in ethical hacking. This need arises in a context where the security of web applications has become a critical component to protect sensitive data and safeguard the integrity of organizations. In this sense, this academic itinerary responds to the urgency of preparing professionals to identify and mitigate vulnerabilities in web applications.

The syllabus of the Postgraduate Certificate in Advanced Web Hacking comprehensively addresses the essential skills for the identification and assessment of vulnerabilities in web applications. Students will dive into the detailed study of advanced techniques, including SQL injections, cross-site scripting (XSS) and other common attack vectors used by malicious actors. In addition, graduates will master practical skills for implementing effective mitigation measures. Students will also learn how to apply specific solutions to reduce exposure to attacks, strengthening the security of web applications and, therefore, the entire digital infrastructure.

Professionals will be trained in the formulation of effective defense strategies against cyber threats. This involves a thorough understanding of the fundamental principles of web security, as well as the ability to design and implement proactive tactics that protect applications against attacks and safeguard data integrity. This holistic approach to the syllabus ensures that students not only acquire theoretical knowledge, but also the practical skills necessary to face the real challenges of ethical hacking in today's web environment.

This syllabus, designed with a 100% online methodology, offers flexibility for participants to access the content from anywhere. In addition, the application of the Relearning method ensures a deep understanding, through repetition of key concepts, fixing essential knowledge to meet the dynamic challenges of cybersecurity.

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

- ♦ The development of practical cases presented by experts in Advanced Web Hacking
- ♦ The graphic, schematic and practical contents with which it is conceived provide cutting- Therapeutics and practical information on those disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ 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



*You will learn how to defend against cross-site scripting (XSS), crucial to guarantee the integrity of web applications”*

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*You will master the most advanced techniques to identify and assess vulnerabilities in web applications with a 100% online program”*

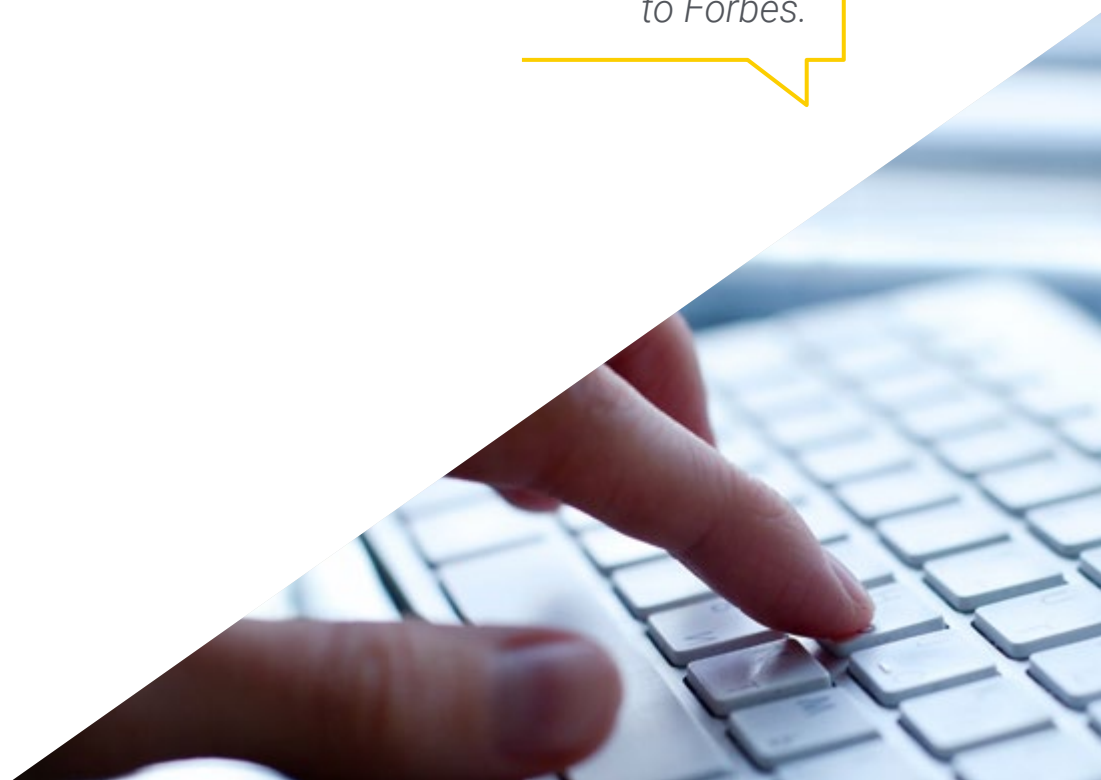
*You will achieve your objectives thanks to TECH's didactic tools, including explanatory videos and interactive summaries.*

*Get updated with the latest trends and techniques in web cybersecurity in the best digital university in the world according to Forbes.*

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 education programmed to learn 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 students will be assisted by an innovative interactive video system created by renowned and experienced experts.



# 02

# Objectives

This academic pathway's main objective is to train participants in the mastery of key skills for the identification and assessment of vulnerabilities in web applications. This syllabus, designed by TECH, dives into advanced techniques to address specific threats such as SQL injections, cross-site scripting (XSS) and other common attack vectors. In this sense, following a direct approach, graduates will master the necessary skills to secure web applications, strengthening their knowledge and ability to face challenges in the field of cybersecurity.





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*You will strengthen security in programming interfaces to protect web environments. What are you waiting for to reach your goals with TECH?”*



## General Objectives

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- Acquire advanced skills in penetration testing and Red Team simulations, addressing the identification and exploitation of vulnerabilities in systems and networks
- Develop leadership skills to coordinate teams specialized in offensive cybersecurity, optimizing the execution of Pentesting and Red Team projects
- Develop skills in the analysis and development of malware, understanding its functionality and applying defensive and educational strategies
- Refine communication skills by preparing detailed technical and executive reports, presenting findings effectively to technical and executive audiences
- Promote an ethical and responsible practice in the field of cybersecurity, considering ethical and legal principles in all activities



*You will become the guardian of innovation, applying advanced web hacking techniques to protect the cutting edge of technology”*





## Specific Objectives

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- ◆ Develop skills to identify and assess vulnerabilities in web applications, including SQL injections, Cross-Site Scripting (XSS) and other common attack vectors
- ◆ Learn how to perform security testing on modern web applications
- ◆ Acquire skills in advanced web hacking techniques, exploring strategies for evading security measures and exploiting sophisticated vulnerabilities
- ◆ Familiarize the graduate with the evaluation of security in APIs and web services, identifying possible points of vulnerability and strengthening security in programming interfaces
- ◆ Develop skills to implement effective mitigation measures in web applications, reducing exposure to attacks and strengthening security
- ◆ Participate in hands-on simulations to assess security in complex web environments, applying knowledge to real-world scenarios
- ◆ Develop competencies in the formulation of effective defense strategies to protect web applications against cyber threats
- ◆ Learn how to align advanced web hacking practices with relevant security regulations and standards, ensuring adherence to legal and ethical frameworks
- ◆ Foster effective collaboration between development and security teams

# 03

# Course Management

The faculty of the Postgraduate Certificate in Advanced Web Hacking is made up of the best specialists, carefully selected by TECH for their extensive and recognized professional background in leading companies in the cybersecurity sector. In this sense, each member of this select faculty brings a wealth of practical experience and expertise in web hacking. In addition, graduates will benefit directly from the guidance and insight of professionals who have faced and overcome significant challenges in assessing and fortifying security in advanced web environments. This choice ensures quality training aligned with the changing and exacting demands of the cybersecurity field.





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*You will delve into pioneering Hacking strategies with the support of a faculty of distinguished industry professionals”*

## Management



### Mr. Gómez Pintado, Carlos

- ♦ Manager of Cybersecurity and Network Team CIPHERBIT in Oesía Group
- ♦ Manager Advisor & Investor at Wesson App
- ♦ Graduate in Software Engineering and Information Society Technologies, Polytechnic University of Madrid
- ♦ Collaboration with educational institutions for the development of Higher Level Training Cycles in cybersecurity

## Professors

### Mr. Redondo Castro, Pablo

- ♦ Pentester in Oesía Group
- ♦ Cybersecurity Engineer from Rey Juan Carlos University
- ♦ Extensive experience as a Cybersecurity Evaluator Trainee
- ♦ He has accumulated teaching experience, giving programs related to Capture The Flag tournaments



# 04

## Structure and Content

This university program offers a comprehensive approach to the analysis and strengthening of security in web environments. Throughout the syllabus, students will delve into the evaluation of security in APIs and web services, focusing on the identification of possible points of vulnerability. In this sense, in this syllabus students will master advanced techniques to strengthen security in programming interfaces. Likewise, the use of the Relearning methodology facilitates learning through the repetition of key concepts.





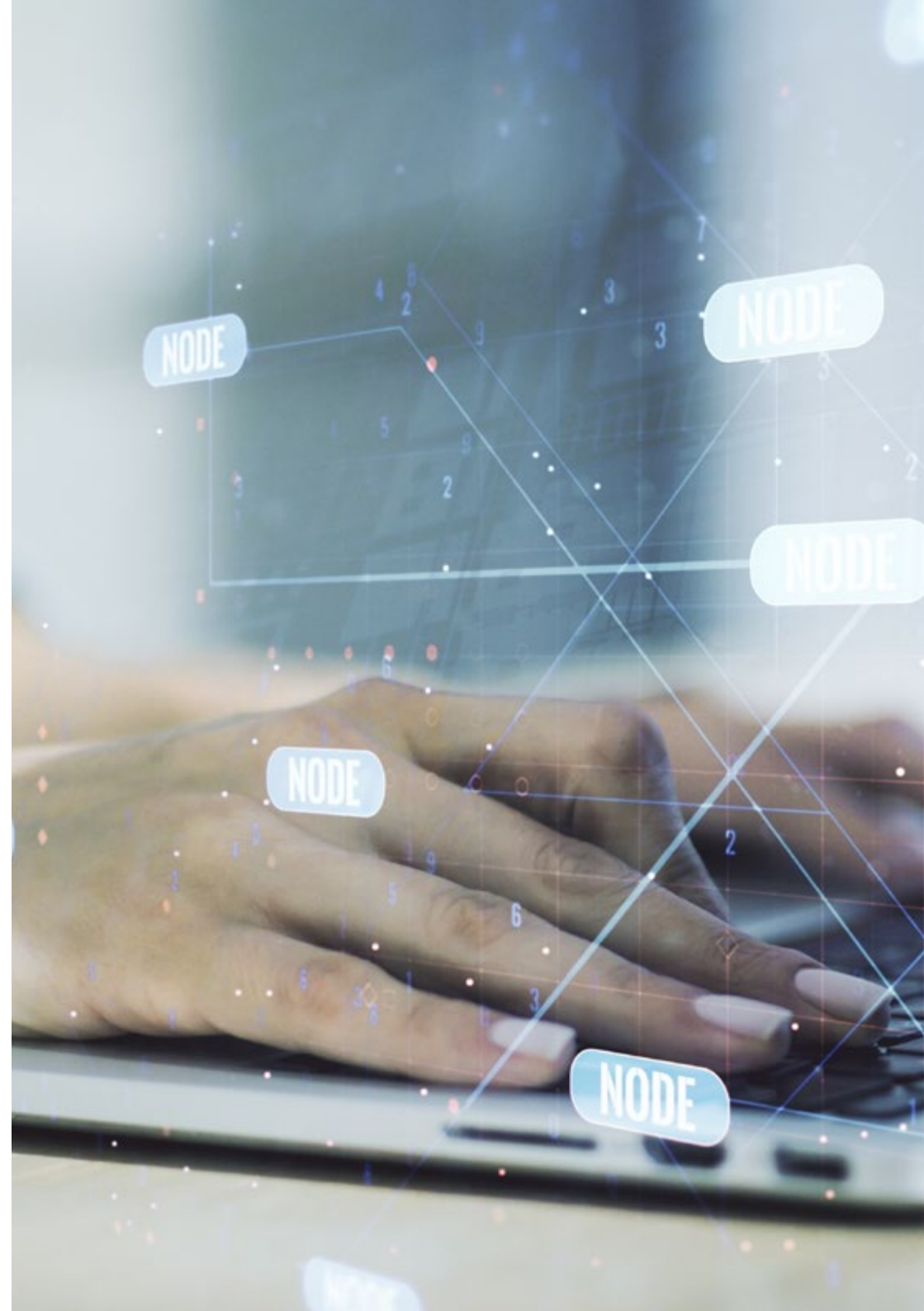


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*You will delve into the detection of Broken Access Control. Give your career the boost it needs with TECH!”*

## Module 1. Advanced Web Hacking

- 1.1. Operation of a Website
  - 1.1.1. The URL and Its Parts
  - 1.1.2. HTTP Methods
  - 1.1.3. The Headers
  - 1.1.4. How to View Web Requests with Burp Suite
- 1.2. Session
  - 1.2.1. The Cookies
  - 1.2.2. JWT Tokens
  - 1.2.3. Session Hijacking Attacks
  - 1.2.4. Attacks on JWT
- 1.3. Cross Site Scripting (XSS)
  - 1.3.1. What is a XSS
  - 1.3.2. Types of XSS
  - 1.3.3. Exploiting an XSS
  - 1.3.4. Introduction to XSLeaks
- 1.4. Database Injections
  - 1.4.1. What Is a SQL Injection
  - 1.4.2. Exfiltrating Information with SQLi
  - 1.4.3. SQLi Blind, Time-Based and Error-Based
  - 1.4.4. NoSQLi Injections
- 1.5. Path Traversal and Local File Inclusion
  - 1.5.1. What They Are and Their Differences
  - 1.5.2. Common Filters and How to Bypass Them
  - 1.5.3. Log Poisoning
  - 1.5.4. LFI in PHP
- 1.6. Broken Authentication
  - 1.6.1. User Enumeration
  - 1.6.2. Password Bruteforce
  - 1.6.3. 2FA Bypass
  - 1.6.4. Cookies with Sensitive and Modifiable Information



- 1.7. Remote Command Execution
  - 1.7.1. Command Injection
  - 1.7.2. Blind Command Injection
  - 1.7.3. Insecure Deserialization PHP
  - 1.7.4. Insecure Deserialization Java
- 1.8. File Uploads
  - 1.8.1. RCE through Webshells
  - 1.8.2. XSS in File Uploads
  - 1.8.3. XML External Entity (XXE) Injection
  - 1.8.4. Path traversal in File Uploads
- 1.9. Broken Access Control
  - 1.9.1. Unrestricted Access to Panels
  - 1.9.2. Insecure Direct Object References (IDOR)
  - 1.9.3. Filter Bypass
  - 1.9.4. Insufficient Authorization Methods
- 1.10. DOM Vulnerabilities and More Advanced Attacks
  - 1.10.1. Regex Denial of Service
  - 1.10.2. DOM Clobbering
  - 1.10.3. Prototype Pollution
  - 1.10.4. HTTP Request Smuggling

“ You will learn in depth about cybersecurity evasion strategies through 180 hours of the best online teaching”

# 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.





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*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.

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*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.





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.





#### 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 Advanced Web Hacking guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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*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 Advanced Web Hacking** 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 Advanced Web Hacking**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
online training  
development language  
classroom



## Postgraduate Certificate Advanced Web Hacking

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- » Credits: 6 ECTS
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