Postgraduate Certificate

Offensive Security

tech technological university

tech technological university

Postgraduate Certificate
Offensive Security

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

Website: www.techtitute.com/in/information-technology/postgraduate-certificate/offensive-security

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

In the fast-paced world of cybersecurity, the constant evolution of cyber threats demands continuous preparation to stay one step ahead of malicious actors. In this context, updating becomes an invaluable asset to ensure the security of organizations and protection against increasingly elaborate cyber-attacks. In this regard, this program offers a deep dive into offensive security tactics, enabling participants to anticipate and effectively respond to complex threats. With a 100% online format, the curriculum offers flexibility to adapt to the schedules of busy professionals, presenting a wide variety of multimedia content and applying the Relearning methodology to optimize knowledge retention.

You'll tackle real-world challenges through advanced cyber threat simulations thanks to this unique 100% online university program"

In today's cybersecurity landscape, where threats are constantly evolving, effective teamwork management has become essential. Thus, effective collaboration between security teams is not only a necessity, but an imperative to anticipate and mitigate complex cyber threats. This is where the critical need arises for this program that not only recognizes, but also addresses the importance of good computer management in identifying and protecting against malware threats. This curriculum provides the tools and strategies needed to integrate security teams, effectively assign roles, and optimize coordination in response to digital threats.

Throughout the academic itinerary of this Postgraduate Certificate in Offensive Security, the graduate will deepen in penetration testing methodologies, offering a comprehensive understanding of key phases such as information gathering, vulnerability analysis, exploitation and documentation. In addition, students will not only acquire theoretical knowledge, but also develop practical skills through the use of specialized Pentesting tools. This hands-on immersion enables effective identification and assessment of vulnerabilities in systems and networks. In addition, special emphasis is placed on the practice of effective collaboration in offensive security teams, optimizing the assignment of roles, coordination and execution of Pentesting activities. This practical orientation ensures that participants not only understand the theoretical concepts, but are also prepared to apply them effectively in real-world situations.

This program is distinguished by its innovative methodology. Being 100% online, it offers flexibility to adapt to the agendas of working professionals, eliminating geographical and time barriers. In addition, the application of Relearning, based on the repetition of key concepts, is implemented to reinforce knowledge retention and facilitate effective learning.

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

- The development of case studies presented by Postgraduate Diploma experts on Offensive Security
- 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 delve into the most innovative operating systems for Hacking without rigid schedules or evaluation timetables: that's what this TECH program is all about"

Get updated with the latest Offensive Security methodologies at the best digital university in the world according to Forbes"

Forget about memorizing! With the Relearning system you will integrate the concepts in a natural and progressive way.

You will master the basics of offensive safety and boost your career with this innovative curriculum.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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

The main objective of this university program is to study and understand the tactics, techniques and procedures used by malicious actors in the field of cybersecurity. Throughout the curriculum, graduates will be immersed in the detailed analysis of these practices, enabling them to not only identify, but also simulate threats effectively. In this sense, this specialized approach ensures that students acquire advanced knowledge and applicable skills to face real challenges in the field of offensive security, preparing them for a leading role in protecting against cyber threats.

You will deepen the offensive auditor's arsenal. Get the most out of your guns and reach your goals with TECH!"

General Objectives

- 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

In just 6 weeks, you will give your career the boost it needs thanks to this university program with TECH's seal of quality"

Specific Objectives

- Familiarize the graduate with penetration testing methodologies, including key phases such as information gathering, vulnerability analysis, exploitation and documentation
- Develop practical skills in the use of specialized Pentesting tools to identify and assess vulnerabilities in systems and networks
- Study and understand the tactics, techniques and procedures used by malicious actors, enabling the identification and simulation of threats
- Apply theoretical knowledge in practical scenarios and simulations, facing real challenges to strengthen Pentesting skills
- Develop effective documentation skills, creating detailed reports reflecting findings, methodologies used, and recommendations for safety improvement
- Practice effective collaboration in offensive security teams, optimizing the coordination and execution of Pentesting activities

03

Course Management

In putting together the faculty for this academic program, TECH has made a careful selection of the best specialists in the field. In this sense, each member of this faculty brings an extensive professional background, forged in leading companies in the cybersecurity sector. In addition, this careful selection ensures that graduates benefit from the direct and up-to-date experience of professionals who have faced and solved challenges in offensive security. In addition, the application of the Relearning method facilitates learning and fixes the knowledge through the repetition of key concepts throughout the syllabus.

You will be supported by a faculty of distinguished Offensive Security gurus. What are you waiting for to advance your career?"

Management

Mr. Carlos Gómez Pintado

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

Professors

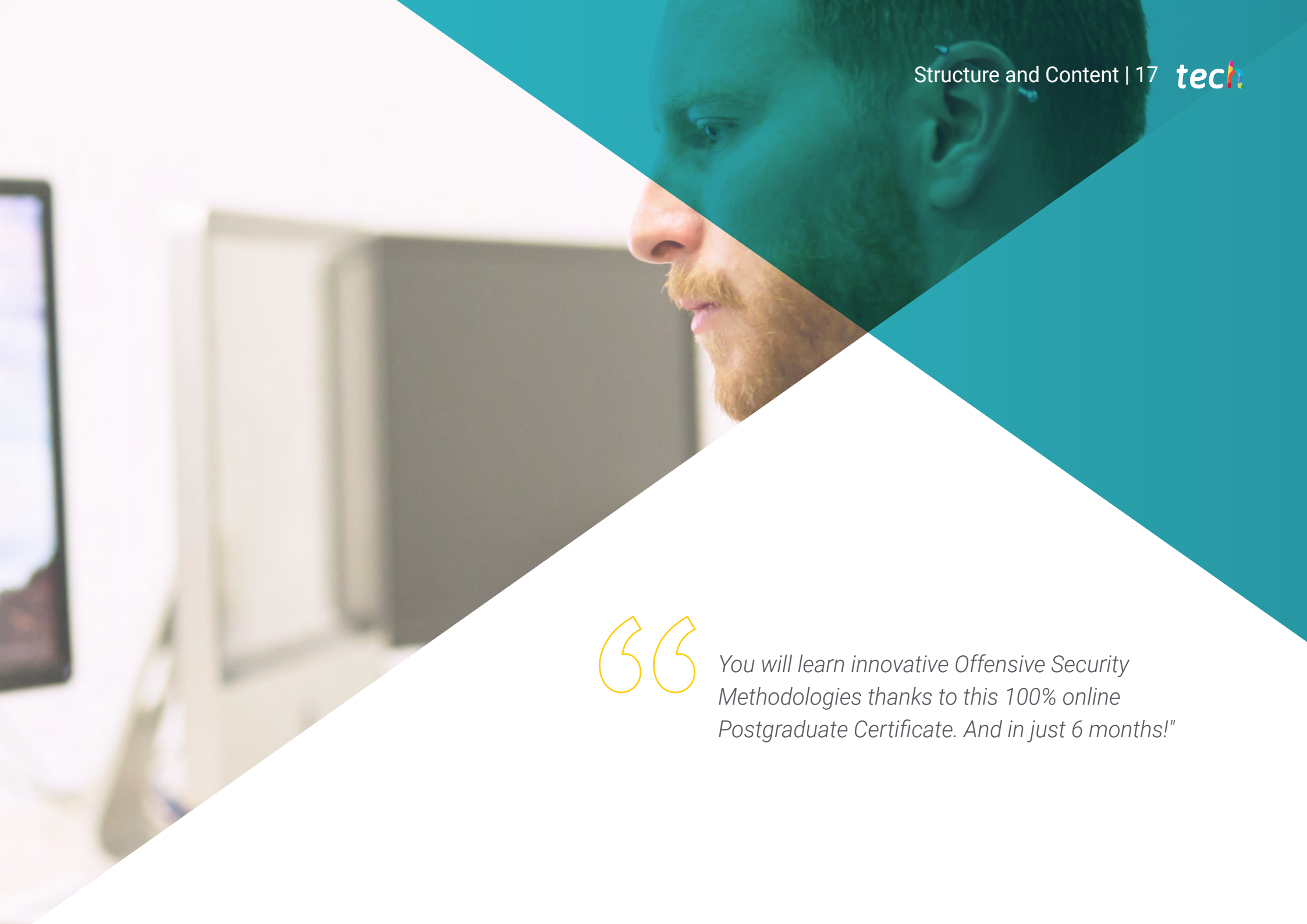
Mr. Yuba González Parrilla

- Offensive Security Line and Network Team Coordinator
- Predictive Project Management Specialist at the Project Management Institute
- SmartDefense Specialist
- Web Application Penetration Tester Expert at eLearnSecurity
- Junior Penetration Tester in eLearnSecurity
- Graduated in Computer Engineering at the Polytechnic University of Madrid

04

Structure and Content

This curriculum immerses graduates in the development of practical skills through the use of specialized Pentesting tools. Throughout the curriculum, the focus is on cultivating advanced technical skills, enabling students to identify and assess vulnerabilities in systems and networks. In addition, this practical approach, supported by a structured curriculum, ensures that professionals acquire fundamental skills in offensive security. With a particular focus on the direct application of knowledge, this program stands as an essential platform for those seeking to excel in the dynamic field of cybersecurity.



You will learn innovative Offensive Security Methodologies thanks to this 100% online Postgraduate Certificate. And in just 6 months!"

Module 1. Offensive Security

1.1. Definition and Context
- 1.1.1. Fundamental Concepts of Offensive Security
- 1.1.2. Importance of Cybersecurity Today
- 1.1.3. Offensive Security Challenges and Opportunities

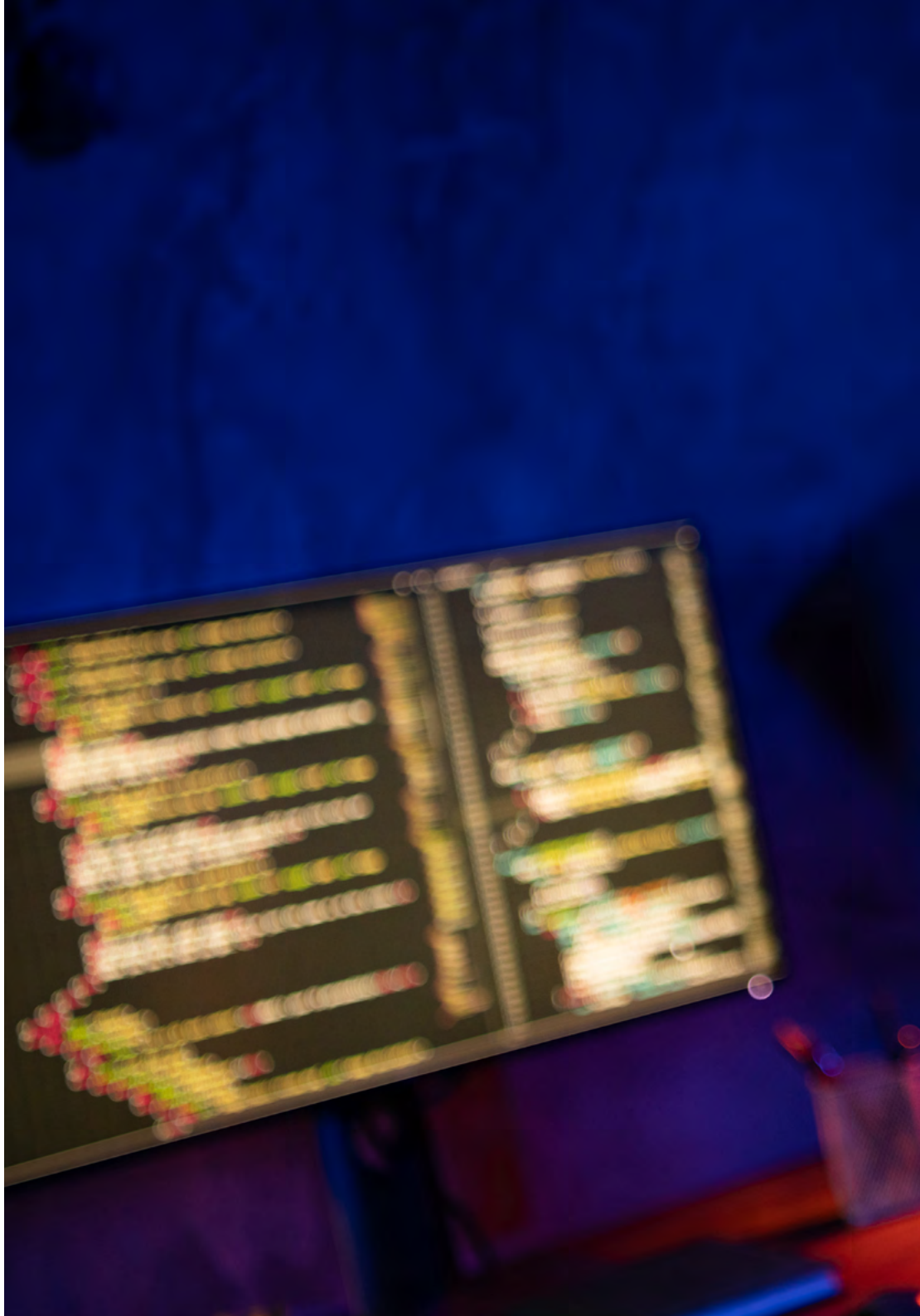
1.2. Basis of Cybersecurity
- 1.2.1. Early Challenges and Evolving Threats
- 1.2.2. Technological Milestones and Their Impact on Cybersecurity
- 1.2.3. Cybersecurity in the Modern Era

1.3. Basis of Offensive Security
- 1.3.1. Key Concepts and Terminology
- 1.3.2. Think Outside the Box
- 1.3.3. Differences between Offensive and Defensive Hacking

1.4. Offensive Security Methodologies
- 1.4.1. PTES (Penetration Testing Execution Standard)
- 1.4.2. OWASP (Open Web Application Security Project)
- 1.4.3. Cyber Security Kill Chain

1.5. Offensive Security Roles and Responsibilities
- 1.5.1. Main Profiles
- 1.5.2. Bug Bounty Hunters
- 1.5.3. Researching the art of researching

1.6. rsenal of the Offensive Auditor
- 1.6.1. Operating Systems for Hacking
- 1.6.2. Introduction to C2
- 1.6.3. Metasploit: Fundamentals and Use
- 1.6.4. Useful Resources



1.7. OSINT Open Source Intelligence
- 1.7.1. OSINT Fundamentals
- 1.7.2. OSINT Tools and Techniques
- 1.7.3. OSINT Applications in Offensive Security

1.8. Scripting Introduction to Automation
- 1.8.1. Scripting Fundamentals
- 1.8.2. Scripting in Bash
- 1.8.3. Scripting in Python

1.9. Vulnerability Categorization
- 1.9.1. CVE (Common Vulnerabilities and Exposure)
- 1.9.2. CWE (Common Weakness Enumeration)
- 1.9.3. CAPEC (Common Attack Pattern Enumeration and Classification)
- 1.9.4. CVSS (Common Vulnerability Scoring System)
- 1.9.5. MITRE ATT & CK

1.10. Ethics and Hacking
- 1.10.1. Principles of Hacker Ethics
- 1.10.2. The Line between Ethical Hacking and Malicious Hacking
- 1.10.3. Legal Implications and Consequences
- 1.10.4. Case Studies: Ethical Situations in Cybersecurity

Don't miss the opportunity to boost your career in the cybersecurity field through this innovative program"

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.

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

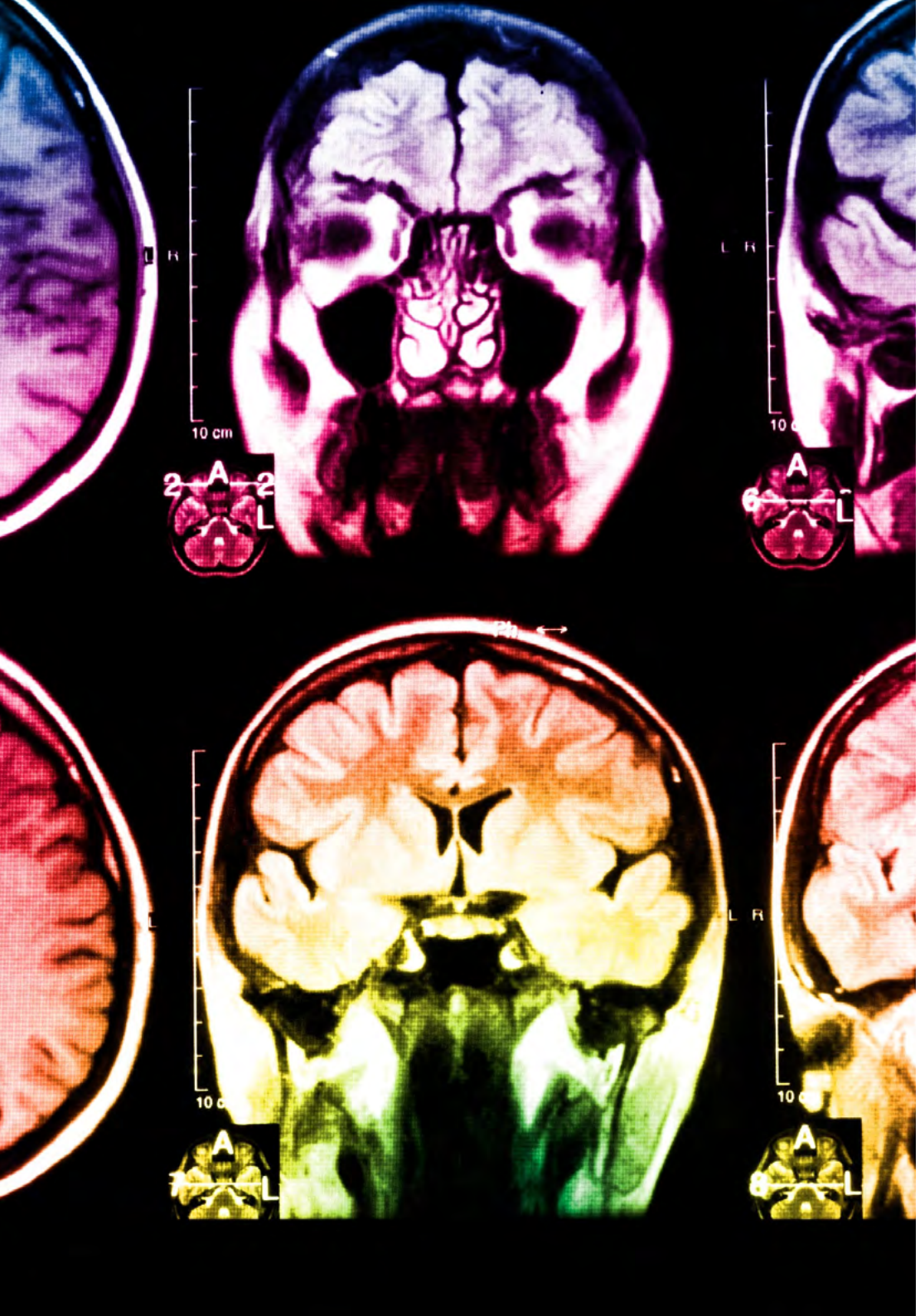
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

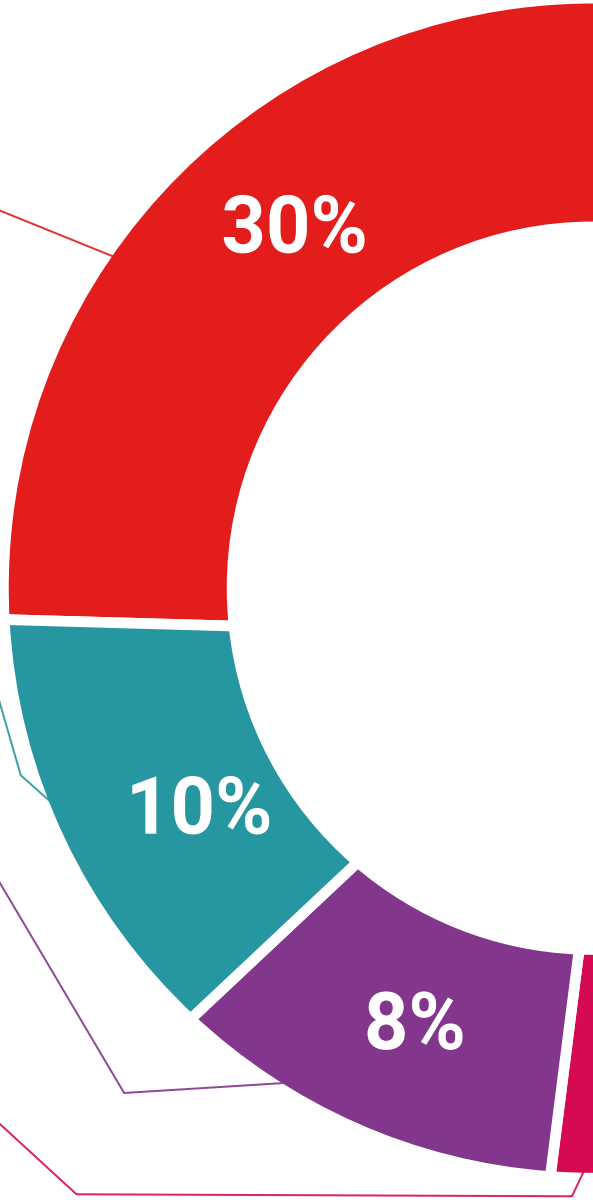
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

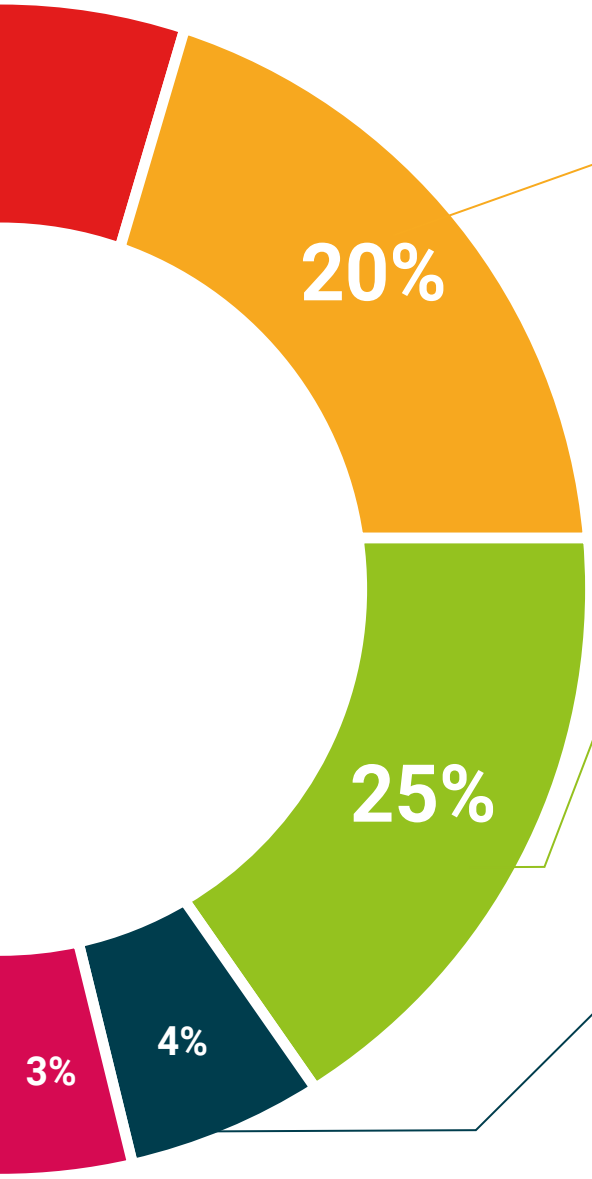
Practising Skills and Abilities

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 Offensive 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 Offensive Security** 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 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 Offensive Security**

Official Nº of Hours: **150 h.**

tech technological university

Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Offensive Security

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

tech technological university

Postgraduate Certificate
Offensive Security

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

Postgraduate Certificate
Offensive Security

tech technological university