



Offensive Cybersecurity

» Modality: online » Duration: 6 months

» Certificate: TECH Global University

» Credits: 18 ECTS

» Schedule: at your own pace

» Exams: online

» Aimed at: University Graduates, Graduates and Undergraduates who have previously completed any of the degrees in the fields of Social and Legal Sciences, Administrative and Business Sciences

Website: www.techtitute.com/us/school-of-business/postgraduate-diploma/postgraduate-diploma-offensive-cybersecurity

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01 **Welcome**

Nowadays, companies prioritize the protection of their digital assets with the purpose of avoiding leaks from their competitors, managing to keep the most sensitive information of the company shielded while keeping its social reputation intact. Accordingly, this academic program will provide the professionals with a broad content of the highest level to develop specialized skills related to ethical and legal practices in the execution of attacks and tests on Windows systems, considering the ethical principles of cybersecurity. All this, by means of a 100% online pedagogical modality and with a didactic material that will grant the best academic experience, being this, more effective and dynamic at educational level.









tech 08 | Why Study at TECH?

At TECH Global University



Innovation

The university offers an online learning model that balances the latest educational technology with the most rigorous teaching methods. A unique method with the highest international recognition that will provide students with the keys to develop in a rapidly-evolving world, where innovation must be every entrepreneur's focus.

"Microsoft Europe Success Story", for integrating the innovative, interactive multi-video system.



The Highest Standards

Admissions criteria at TECH are not economic. Students don't need to make a large investment to study at this university. However, in order to obtain a qualification from TECH, the student's intelligence and ability will be tested to their limits. The institution's academic standards are exceptionally high...

95%

of TECH students successfully complete their studies



Networking

Professionals from countries all over the world attend TECH, allowing students to establish a large network of contacts that may prove useful to them in the future.

+100000

+200

executives prepared each year

different nationalities



Empowerment

Students will grow hand in hand with the best companies and highly regarded and influential professionals. TECH has developed strategic partnerships and a valuable network of contacts with major economic players in 7 continents.

+500

collaborative agreements with leading companies



Talent

This program is a unique initiative to allow students to showcase their talent in the business world. An opportunity that will allow them to voice their concerns and share their business vision.

After completing this program, TECH helps students show the world their talent.



Multicultural Context

While studying at TECH, students will enjoy a unique experience. Study in a multicultural context. In a program with a global vision, through which students can learn about the operating methods in different parts of the world, and gather the latest information that best adapts to their business idea.

TECH students represent more than 200 different nationalities.



Learn with the best

In the classroom, TECH's teaching staff discuss how they have achieved success in their companies, working in a real, lively, and dynamic context. Teachers who are fully committed to offering a quality specialization that will allow students to advance in their career and stand out in the business world.

Teachers representing 20 different nationalities.



At TECH, you will have access to the most rigorous and up-to-date case analyses in academia"

Why Study at TECH? | 09 tech

TECH strives for excellence and, to this end, boasts a series of characteristics that make this university unique:



Analysis

TECH explores the student's critical side, their ability to question things, their problem-solving skills, as well as their interpersonal skills.



Academic Excellence

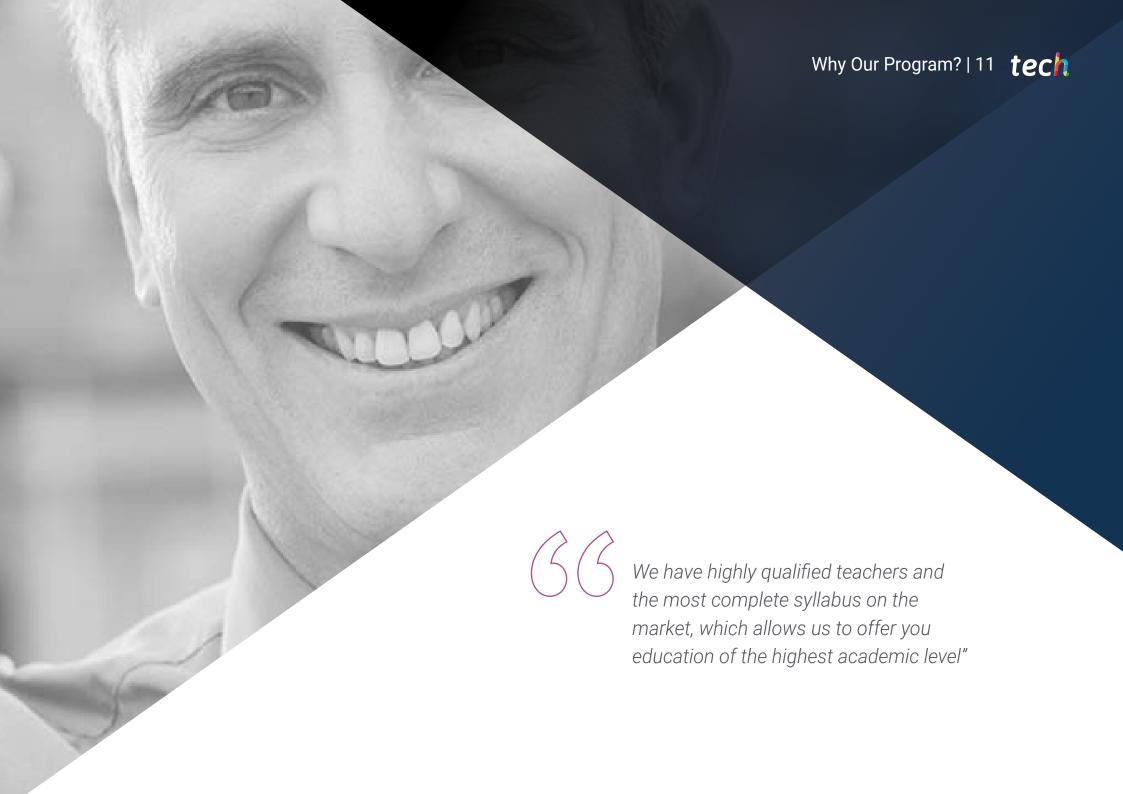
TECH offers students the best online learning methodology. The university combines the Relearning method (postgraduate learning methodology with the best international valuation) with the Case Study. Tradition and vanguard in a difficult balance, and in the context of the most demanding educational itinerary.



Economy of Scale

TECH is the world's largest online university. It currently boasts a portfolio of more than 10,000 university postgraduate programs. And in today's new economy, **volume + technology = a ground-breaking price**. This way, TECH ensures that studying is not as expensive for students as it would be at another university.





tech 12 | Why Our Program?

This program will provide you with a multitude of professional and personal advantages, among which we highlight the following:



A Strong Boost to Your Career

By studying at TECH, students will be able to take control of their future and develop their full potential. By completing this program, students will acquire the skills required to make a positive change in their career in a short period of time.

70% of students achieve positive career development in less than 2 years.



Develop a strategic and global vision of the company

TECH offers an in-depth overview of general management to understand how each decision affects each of the company's different functional fields.

Our global vision of companies will improve your strategic vision.



Consolidate the student's senior management skills

Studying at TECH means opening the doors to a wide range of professional opportunities for students to position themselves as senior executives, with a broad vision of the international environment.

You will work on more than 100 real senior management cases.



You will take on new responsibilities

The program will cover the latest trends, advances and strategies, so that students can carry out their professional work in a changing environment.

45% of graduates are promoted internally.



Access to a powerful network of contacts

TECH connects its students to maximize opportunities. Students with the same concerns and desire to grow. Therefore, partnerships, customers or suppliers can be shared.

You will find a network of contacts that will be instrumental for professional development.



Thoroughly develop business projects.

Students will acquire a deep strategic vision that will help them develop their own project, taking into account the different fields in companies.

20% of our students develop their own business idea.



Improve soft skills and management skills

TECH helps students apply and develop the knowledge they have acquired, while improving their interpersonal skills in order to become leaders who make a difference.

Improve your communication and leadership skills and enhance your career.

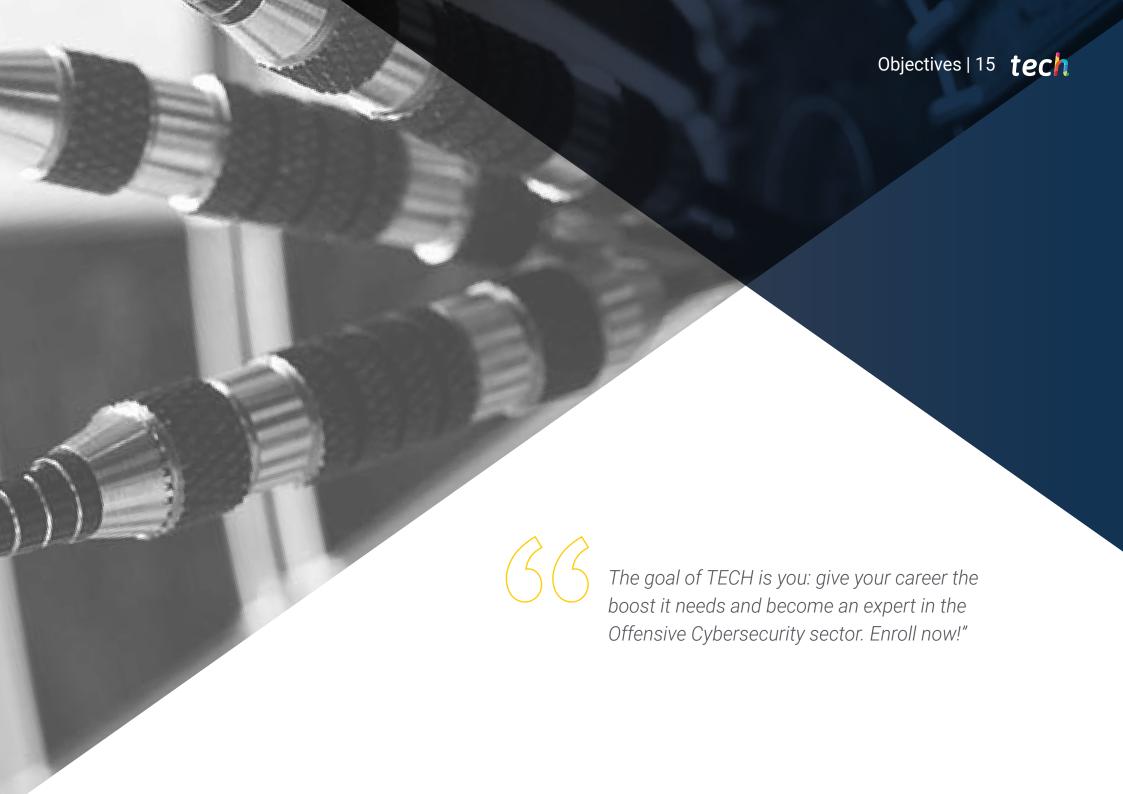


You will be part of an exclusive community

Students will be part of a community of elite executives, large companies, renowned institutions, and qualified teachers from the most prestigious universities in the world: the TECH Global University community.

We give you the opportunity to study with a team of world-renowned teachers.





tech 16 | Objectives

TECH makes the goals of their students their own goals too Working together to achieve them

This **Postgraduate Diploma in Offensive Cybersecurity** qualifies students to:



Study and understand the tactics, techniques and procedures used by malicious actors, enabling the identification and simulation of threats

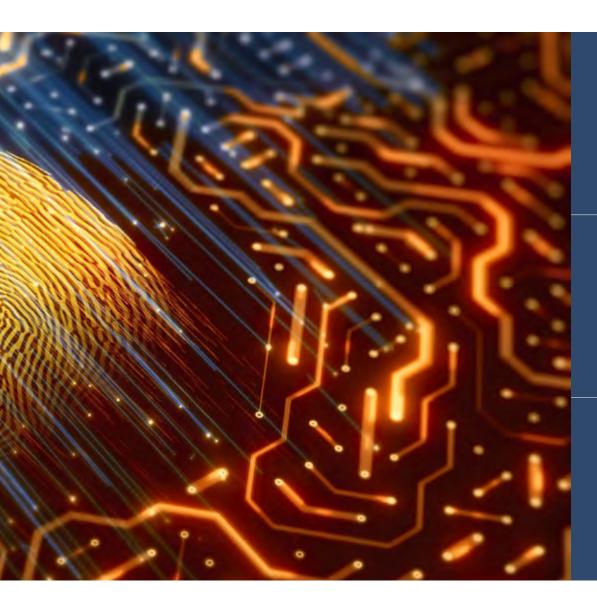


Apply theoretical knowledge in practical scenarios and simulations, facing real challenges to strengthen Pentesting skills



Learn how to efficiently allocate resources within a cybersecurity team, considering individual skills and maximizing productivity on projects







Improve communication skills specific to technical environments, facilitating understanding and coordination among team members

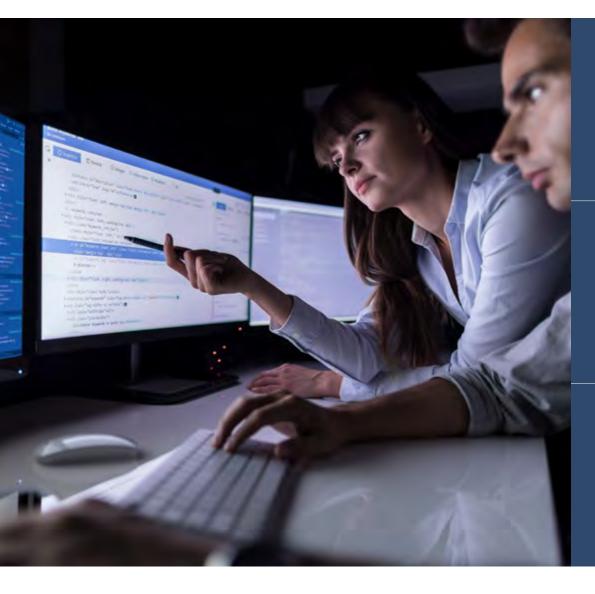


Learn project monitoring and control techniques, identifying deviations and taking corrective actions as necessary



Develop competencies to evaluate and improve security configurations in Windows systems, ensuring the implementation of effective measures







Learn to prepare detailed reports documenting findings, methodologies used and recommendations derived from advanced Red Team exercises



Develop skills to formulate actionable and practical recommendations aimed at mitigating vulnerabilities and improving security posture



Familiarize the learner with best practices for executive reporting, adapting technical information for non-technical audiences





tech 22 | Structure and Content

Syllabus

This academic program consists of 450 classroom hours, in which TECH will put the professionals on the path to the top of their careers through an education that emphasizes excellence and efficiency. In this way, the graduates will be able to apply to the most important vacancies in the IT and business sector, addressing multiple challenges in the workplace. Therefore, this program provides a wide range of skills related to OSINT applications in offensive security.

In this way, the faculty has designed a prestigious syllabus that incorporates 3 modules, with the purpose that the graduates acquire relevant knowledge about the importance of cybersecurity today, its opportunities and challenges in the sector.

On the other hand, students of this
Postgraduate Diploma will delve into
specific concepts related to common
vulnerabilities in ADCS, attacks and
exploitation techniques, defenses and
mitigations, monitoring and auditing of
ADCS. Graduates will also gain important
skills related to cybersecurity in the
modern era.

TECH prioritizes convenience and excellence, and that is why this program offers a complete and high quality education, while providing flexibility to pursue it. Graduates only need a device with an Internet connection to easily access the virtual platform, 24 hours a day and from anywhere in the world.

This Postgraduate Diploma takes place over 6 months and is divided into 3 modules:

Module 1 Offensive Security

Module 2 Network and Windows System Attacks

Module 3 Malware Analysis and Development



Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Diploma in Offensive Cybersecurity completely online. Throughout the 6 months of the educational program, you will be able to access all the contents of this program at any time, allowing you to self-manage your study time.

A unique, key, and decisive educational experience to boost your professional development and make the definitive leap.

tech 24 | Structure and Content

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. The art of researching 	 1.6. Offensive Auditor's Arsenal 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 Intelligence1.7.1. OSINT Fundamentals1.7.2. OSINT Tools and Techniques1.7.3. 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		

Mod	lule 2. Network and Windows System A	ttacks					
2.1. 2.1.1. 2.1.2. 2.1.3. 2.1.4.	Active Directory Functions and Services	2.2.1. 2.2.2. 2.2.3. 2.2.4.	Networking in Active Directory Environments Network Protocols in Windows DNS and its Operation in the Active Directory Network Diagnostic Tools Implementation of Networks in Active Directory	2.3.1. 2.3.2. 2.3.3. 2.3.4.	Credentials Storage and Management.	2.4.1. 2.4.2. 2.4.3. 2.4.4.	Active Directory Permissions Management
2.5. 2.5.1. 2.5.2. 2.5.3. 2.5.4.		2.6.1. 2.6.2. 2.6.3. 2.6.4.	Advanced Kerberos Techniques Common Kerberos Attacks Mitigations and Protections Kerberos Traffic Monitoring Advanced Kerberos Attacks	2.7.2. 2.7.3.	(ADCS) PKI Basics ADCS Roles and Components	2.8.1. 2.8.2. 2.8.3. 2.8.4.	Attacks and Defenses in Active Directory Certificate Services (ADCS) Common ADCS Vulnerabilities Attacks and Exploitation Techniques Defenses and Mitigations ADCS Monitoring and Auditing
2.9. 2.9.1. 2.9.2. 2.9.3. 2.9.4.	Active Directory Audit Importance of Auditing in the Active Directory Audit Tools Detection of Anomalies and Suspicious Behaviors Incident Response and Recovery	2.10.1 2.10.2 2.10.3	Azure AD Azure AD Basics Synchronization with Local Active Directory Identity Management in Azure AD Integration with Applications and Services				

tech 26 | Structure and Content

Module 3. Malware Analysis and Development							
3.1. 3.1.1 3.1.2 3.1.3 3.1.4	. History and Evolution of Malware 2. Classification and Types of Malware 3. Malware Analysis	3.2. 3.2.1. 3.2.2. 3.2.3.	Preparing the Environment Configuration of Virtual Machines and Snapshots Malware Analysis Tools Malware Development Tools	3.3.3.	Windows Basics PE file format (Portable Executable) Processes and Threads Files System and Registry Windows Defender	3.4.3.	Basic Malware Techniques Shellcode Generation Shellcode Execution on Disk Disk vs Memory Execution of Shellcode in Memory
3.5. 3.5.1 3.5.2 3.5.3 3.5.4	. Persistence in Windows 2. Home Folder	3.6.2.	Advanced Malware Techniques Shellcode Encryption (XOR) Shellcode Encryption (RSA) String Obfuscation Process Injection	3.7. 3.7.1. 3.7.2. 3.7.3.	, 9	3.8.2. 3.8.3.	Dynamic Malware Analysis Observing Behavior with Process Hacker Analyzing Calls with API Monitor Analyzing Registry Changes with Regshot Observing Network Requests with TCPView
3.9. 3.9.1 3.9.2 3.9.3	. Introduction to .NET Decompiling with dnSpy	3.10.1 3.10.2 3.10.3	Analyzing Real Malware Preparing the Environment Static Malware Analysis Dynamic Malware Analysis YARA Rule Creation				





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.

88



tech 30 | Methodology

TECH Business School uses the 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.





This program prepares you to face business challenges in uncertain environments and achieve business success.



Our program prepares you to face new challenges in uncertain environments and achieve success in your career.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch to present executives with challenges and business decisions at the highest level, whether at the national or international level. 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 business reality is taken into account.



You will learn, through collaborative activities and real cases, how to solve complex situations in real business environments"

The case method has been the most widely used learning system among the world's leading business 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 we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They must integrate all their knowledge, research, argue and defend their ideas and decisions.

tech 32 | Methodology

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.

Our online system will allow you to organize your time and learning pace, adapting it to your schedule. You will be able to access the contents from any device with an internet connection.

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 online business school is the only one in the world licensed to incorporate 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 | 33 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. With this methodology we have 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, markets, and financial 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to 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.



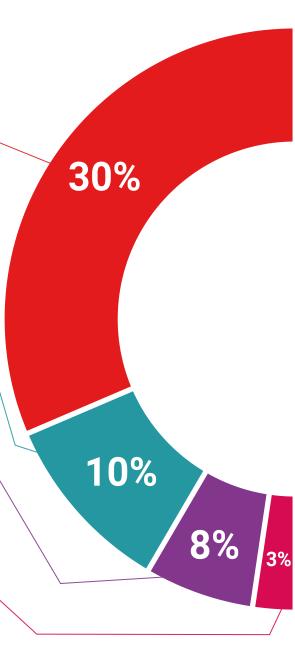
Management Skills Exercises

They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager needs to develop in the context of the globalization we live in.



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.





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 senior management 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.

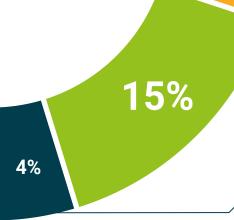


This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

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.

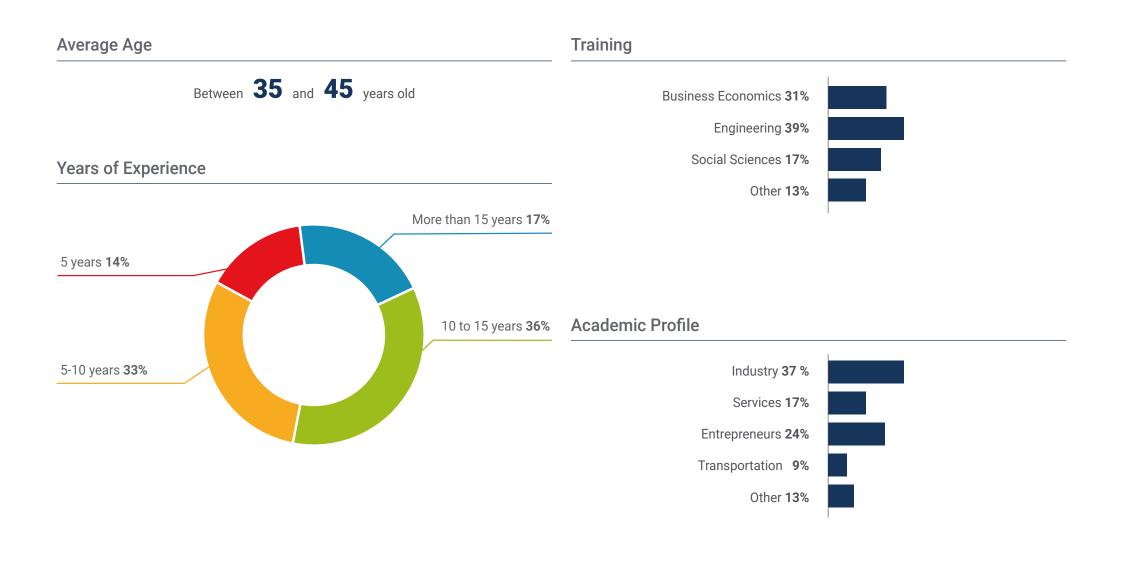




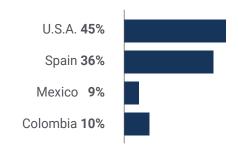
30%







Geographical Distribution





Adriana Hernández

Security engineer

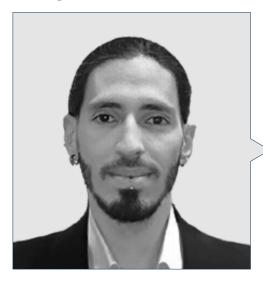
"In this academic program I managed to get into very punctual knowledge such as understanding cyber vulnerability where entities will have as a first option the allocation of security tools that mitigate attacks effectively. And I admire the deep knowledge of the team of experts leading this program"





tech 42 | Course Management

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. González Parrilla, Yuba

- 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

Mr. Gallego Sánchez, Alejandro

- Pentester in Oesia Group
- Cybersecurity Consultant in Integrated Technology Business, S.L.
- Audiovisual Technician in Audiovisual Engineering S.A.
- Graduate in Cybersecurity Engineering from the Rey Juan Carlos University







With this highly flexible degree, you only need an electronic device with an Internet connection to access the virtual platform 24

hours a day.

Are you ready to take the leap? Excellent professional development awaits you

TECH's Postgraduate Diploma in Offensive Cybersecurity is an intensive program that prepares you to face challenges and business decisions in the field of IT. The main objective is to promote your personal and professional growth. Helping you achieve success.

If you want to improve yourself, make a positive change at a professional level, and network with the best, then this is the place for you.

This university program will provide you with innovative teaching material on Advanced Malware techniques.

When the change occurs

During the program 13%

During the first year **64%**

After 2 years 23%

Type of change



Salary increase

This program represents a salary increase of more than 25,55% for our students

Salary before **55,465**

A salary increase of **25,55%**

Salary after **74,500**





tech 50 | Benefits for Your Company

Developing and retaining talent in companies is the best long-term investment.



Growth of talent and intellectual capital

The professional will introduce the company to new concepts, strategies, and perspectives that can bring about significant changes in the organization.



Retaining high-potential executives to avoid talent drain

This program strengthens the link between the company and the professional and opens new avenues for professional growth within the company.



Building agents of change

You will be able to make decisions in times of uncertainty and crisis, helping the organization overcome obstacles.



Increased international expansion possibilities

Thanks to this program, the company will come into contact with the main markets in the world economy.







Project Development

The professional can work on a real project or develop new projects in the field of R & D or business development of your company.



Increased competitiveness

This program will equip students with the skills to take on new challenges and drive the organization forward.





tech 54 | Certificate

This program will allow you to obtain your **Postgraduate Diploma in Offensive Cybersecurity** 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 Diploma in Offensive Cybersecurity

Modality: online

Duration: 6 months

Accreditation: 18 ECTS



Postgraduate Diploma in Offensive Cybersecurity

This is a program of 450 hours of duration equivalent to 18 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



^{*}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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» Schedule: at your own pace

» Exams: online

