Postgraduate Certificate
Network and Windows System Attacks

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Postgraduate Certificate
Network and Windows System Attacks

- » 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/network-windows-system-attacks**

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01
Introduction

With the growing dependence of institutions on online technologies and environments, attacks on Windows systems are a concern for them. In this sense, such software is relevant in ensuring the continuity of business operations and protecting confidential data. For this reason, more and more companies are investing in the incorporation of IT experts capable of adopting optimal security measures. In this context, these specialists have to update their content on a regular basis and keep abreast of the latest cyber-attack techniques. In response to this need, TECH offers an innovative program with the most effective defense strategies in Windows. In addition, it is based on a 100% online modality, guaranteeing the students' convenience.

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You will explore defenses in Active Directory Certificate Services and perform the most comprehensive audits"

Cybersecurity specialists generate numerous intangible assets for organizations. These include the implementation of security procedures such as firewalls or strong password management practices to minimize risks. In this way, companies improve productivity in their production chain while adapting to emerging technologies. It should be noted that successful hacker attacks damage the reputation of companies and affect stakeholder confidence. Hence the need for true cyber experts to assess risks and develop security standards.

Faced with this reality, TECH implements a comprehensive program that will exploit the internal weaknesses of Windows operating systems and explore various mitigation processes. The training will deepen in the execution of networks in Active Directory, after knowing how DNS servers and their components work. In addition, the curriculum will discuss the fundamentals of Kerberos for secure identity proofing. We will also delve into the tools offered by the Active Directory, thus detecting suspicious behavior. In this regard, keys to respond to incidents will be provided. Finally, you will dig into Azure AD to operate in the cloud and also authorize various Microsoft services.

It should be noted that, in order to consolidate the mastery of the contents, this study plan applies the state-of-the-art Relearning system. TECH is a pioneer in the use of this teaching model, which promotes the assimilation of complex concepts through their natural and progressive reiteration. Along these lines, the program also includes materials in various formats such as infographics, interactive summaries, photographs and explanatory videos. All this in a convenient 100% online modality, which allows students to adjust their schedules according to their personal responsibilities.

This **Postgraduate Certificate in Network and Windows System Attacks** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in network and Windows systems attacks

- 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

Do you want better protection against network threats? Become an Azure AD Postgraduate Diploma expert in just 6 weeks!"

Detect the most common ADCS vulnerabilities at the world's best digital university according to Forbes.

" *Ensure the integrity of communications through Kerberos traffic with this advanced program"*

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

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.

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Objectives

The design of this program explores in detail the internal threats and weaknesses, as well as the advanced intrusion techniques employed by offensive security professionals. The module also includes mitigation strategies for students to develop skills in both attacking and protecting Windows environments. With the support of the best faculty, students will gain experience to strengthen security in these systems and then be able to apply it to real-world scenarios.

"

You will access a learning system based on repetition, with a natural and progressive teaching throughout the entire syllabus"

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
- Promote an ethical and responsible practice in the field of cybersecurity, considering ethical and legal principles in all activities
- Keep students up-to-date with emerging trends and technologies in cybersecurity

You acquire knowledge without geographic limitations or pre-established timing"

Specific Objectives

- Develop skills to identify and assess specific vulnerabilities in Windows operating systems

- Learn advanced tactics used by attackers to infiltrate and persist in networks based on Windows environments

- Acquire skills in strategies and tools to mitigate specific threats targeting Windows operating systems

- Familiarize the graduate with forensic analysis techniques applied to Windows systems, facilitating the identification and response to incidents

- Apply theoretical knowledge in simulated environments, participating in practical exercises to understand and counteract specific attacks on Windows systems

- Learn specific strategies for securing enterprise environments using Windows operating systems, considering the complexities of enterprise infrastructures

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

- Promote ethical and legal practices in the execution of attacks and tests on Windows systems, considering the ethical principles of cybersecurity

- Keep the student up-to-date with the latest trends and threats in Windows system attacks, ensuring the continued relevance and effectiveness of the skills acquired
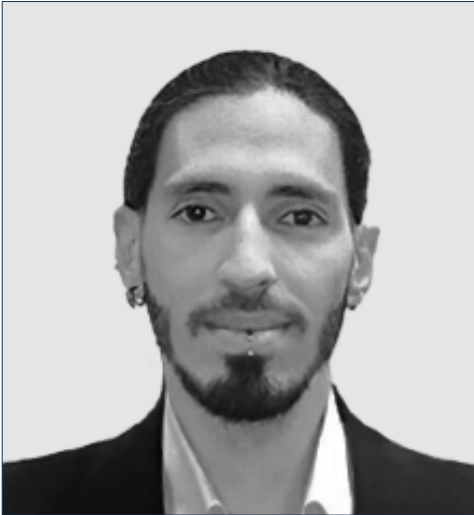
03
Course Management

In its commitment to offer the highest quality education, TECH has a teaching team with extensive experience in the cybersecurity sector. As a result, they have in-depth knowledge of specific tactics targeting Windows operating systems. In addition, they offer the most advanced technologies for students to develop their skills while exploring their creativity to offer innovative proposals. In this way, they will be highly qualified and will stand out in a digital field that offers multiple job opportunities.

You will access a learning system based on repetition, with a natural and progressive teaching throughout the entire syllabus"

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. Alejandro Gallego Sánchez

- 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

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Structure and Content

The training dives into specific strategies for Windows operating systems. In this sense, it delves into advanced intrusion techniques to appreciate the internal vulnerabilities of companies. Attacks from a network and operating system perspective will also be addressed during the program. After a historical contextualization, the general architecture of Active Directory and its most secure protocols will be analyzed. In addition, the authentication and credential management process will be discussed in depth. At the same time, emphasis will be placed on the importance of the operation of the Kerberos protocol to distinguish user identities.
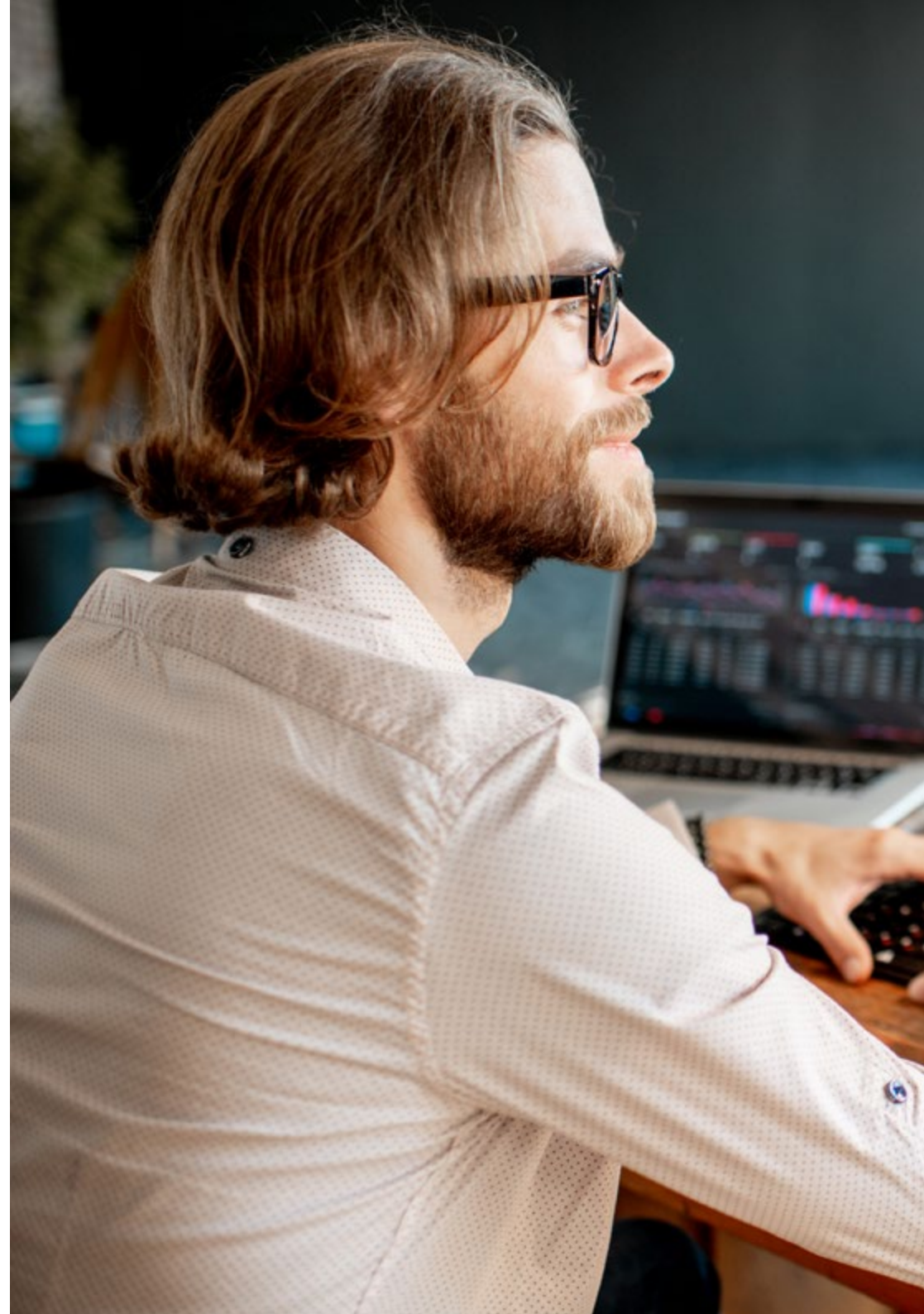
*No pre-established schedules
or evaluation chronograms:
this is the TECH program"*

Module 1. Network and Windows System Attacks

1.1. Windows and Active Directory

    1.1.1. History and Evolution of Windows

    1.1.2. Active Directory Basics

    1.1.3. Active Directory Functions and Services

    1.1.4. General Architecture of the Active Directory

1.2. Networking in Active Directory Environments

    1.2.1. Network Protocols in Windows

    1.2.2. DNS and its Operation in the Active Directory

    1.2.3. Network Diagnostic Tools

    1.2.4. Implementation of Networks in Active Directory

1.3. Authentication and Authorization in Active Directory

    1.3.1. Authentication Process and Flow

    1.3.2. Credential Types

    1.3.3. Credentials Storage and Management

    1.3.4. Authentication Security

1.4. Permissions and Policies in Active Directory

    1.4.1. GPOs

    1.4.2. Application and Management of GPOs

    1.4.3. Active Directory Permissions Management

    1.4.4. Vulnerabilities and Mitigations in Permits

1.5. Kerberos Basics

    1.5.1. What Is Kerberos?

    1.5.2. Components and Operation

    1.5.3. Kerberos Tickets

    1.5.4. Kerberos in the Context of Active Directory

1.6. Advanced Kerberos Techniques

    1.6.1. Common Kerberos Attacks

    1.6.2. Mitigations and Protections

    1.6.3. Kerberos Traffic Monitoring

    1.6.4. Advanced Kerberos Attacks

Library full of multimedia resources in different audiovisual formats"

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.

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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.

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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.

30%

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.

10%

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.

8%

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.

20%

25%

4%

3%

Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

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Certificate

The Postgraduate Certificate in Network and Windows System Attacks guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Certificate in Network and Windows System Attacks** 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 Network and Windows System Attacks**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

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

Postgraduate Certificate in Network and Windows System Attacks

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

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

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

Dr. Pedro Navarro Illana
Rector

Unique TECH Code: AFWORD23S   techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH Global University will make the necessary arrangements to obtain it, at an additional cost.

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