

# Postgraduate Certificate Implementation of Security Measures in Communications



## Postgraduate Certificate Implementation of Security Measures in Communications

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online
- » Target Group: University Graduates who have previously completed any of the degrees in the fields of Social and Legal Sciences, Administrative and Business Sciences

Website: [www.techtute.com/us/school-of-business/postgraduate-certificate/implementation-security-measures-communications](http://www.techtute.com/us/school-of-business/postgraduate-certificate/implementation-security-measures-communications)

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# 01 Welcome

Work connected to the internet is a reality that defines the vast majority of companies around the world. This is why the vulnerability of your structures and communication can be affected by errors in security protocols, as well as by flaws in your network policies implemented at the physical and software levels. In order to prevent malicious attacks or the leaking of vulnerable information, the figure of a project manager specialized in cryptology, PKI, digital certificates, VPN and Blockchain, has become a benchmark in the sector. That is why TECH has decided to develop this comprehensive 100% online program, so that the graduate can acquire a thorough knowledge of this area and respond conscientiously to the requirements and job specifications that thousands of companies are currently requesting.



Postgraduate Certificate in Implementation of Security Measures in Communications.  
TECH Technological University



“

*A 100% online program that prepares you to overcome the requirements of the current labor market related to the demand for professionals specialized in Secure Communication Policies"*

02

# Why Study at TECH?

TECH is the world's largest 100% online business school. It is an elite business school, with a model based on the highest academic standards. A world-class center for intensive managerial skills education.



“

*TECH is a university at the forefront of technology, and puts all its resources at the student's disposal to help them achieve entrepreneurial success"*

## At TECH Technological 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**

executives prepared each year

**+200**

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.





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.



### 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"*

03

# Why Our Program?

Studying this TECH program means increasing the chances of achieving professional success in senior business management.

It is a challenge that demands effort and dedication, but it opens the door to a promising future. Students will learn from the best teaching staff and with the most flexible and innovative educational methodology.



“

*We have highly qualified teachers and the most complete syllabus on the market, which allows us to offer you education of the highest academic level”*

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

**01**

### 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.*

**02**

### 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.*

**03**

### 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.*

**04**

### 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.*

05

### 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.*

06

### 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.*

07

### 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.*

08

### 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 Technological University community.

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

# 04 Objectives

The importance of having a good secure IT communication strategy has become a necessity for the vast majority of companies, given the amount of vulnerable information they handle every day. For this reason, this Postgraduate Certificate has been designed with the objective of serving as a guide for the graduates on their way to becoming a prepared and specialized leader in Security Policies. To this end, we will provide you with the latest and most effective educational tools that will facilitate this task and allow you to complete it in less than 6 weeks.



“

*The more demanding your expectations are, the more you will be able to get out of this Postgraduate Certificate program thanks to the quantity and quality of the material that TECH will make available to you"*

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

The Postgraduate Certificate in Implementation of Security Measures in Communications will enable students to:

01

Secure a communications network by partitioning the network

04

Implement a secure network

02

Analyze the different encryption algorithms used in communication networks

03

Implement various encryption techniques on the network such as TLS, VPN or SSH

05

Determine what Cryptography is and Cryptography types



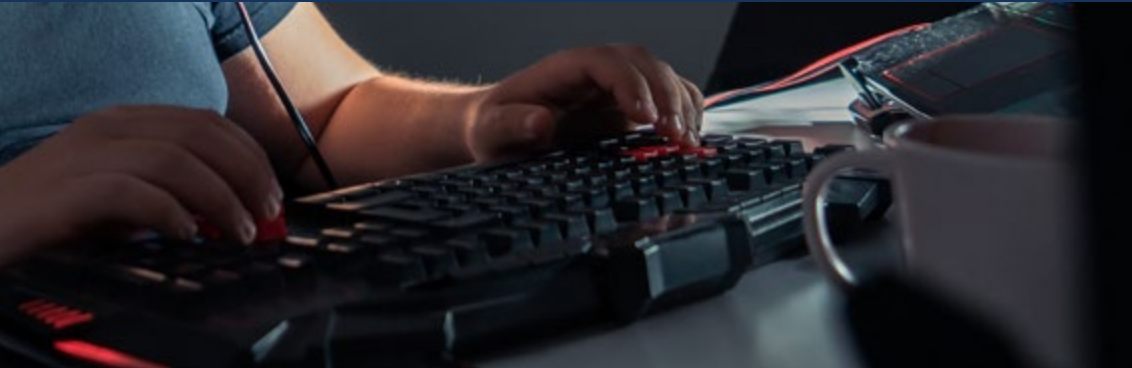


06

Examine which cryptographic algorithms are used in communication networks

08

Analyze the operation of TLS 1.3



09

Establishing the operation and implementation of a PKI

07

Develop the different secure communications protocols

10

Acquire specialized knowledge about how *Blockchain works*: what it is, how it works and the various tools for its use that currently exist in the market

05

# Structure and Content

For the development of this and all its programs, TECH uses the successful relearning methodology. It is a pedagogical strategy based on the reiteration of concepts and the resolution of complex situations through simulation. In this way, a gradual and natural learning process takes place, which favors the durability of knowledge for a longer period of time. In addition, it offers complete and comprehensive programs in which the teaching load has been considerably reduced, saving the graduate hours of study.



“

*A practical analysis of VPN, its implementation and use will provide you with the most specific knowledge to implement the latest techniques related to this tool in your strategies"*

## Syllabus

For the elaboration of the syllabus of this Postgraduate Certificate in Implementation of Security Measures in Communications, TECH has taken into consideration the criteria of the teacher's team, who have been in charge of selecting the most avant-garde and important information related to the area.

In this way, the graduate who accesses this program will be betting on a program based on the current demand of the sector, so that their overcoming will mean that they are perfectly qualified to opt for any prestigious position related to the management of cybersecurity projects.

Through the resolution of real case studies, the specialists will be able to perfect their professional skills and competencies in the use of cryptology and the implementation of cryptography in communication networks, as well as in the establishment of the most widely used current protocols, both symmetric and asymmetric.

An educational experience that will undoubtedly elevate your knowledge to the top of the industry and make you a professional versed in the practical implementation of secure communications policies in any type of company.

This Postgraduate Certificate is developed over 6 week and is divided into a single module:

### Module 1

### Secure Communications Policies in the Company



### Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in Implementation of Security Measures in Communications completely online. During the 6 weeks of the specialization, the student will be able to access all the contents of this program at any time, which will allow the students to self-manage their study time.

*Enroll today to learn the secrets of secure communication policies, compiled by leading experts in the field.*

**Module 1. Secure Communications Policies in the Company**

**1.1. Network Security Management**

- 1.1.1. Network Control and Monitoring
- 1.1.2. Segregation of Networks
- 1.1.3. Network Security Systems

**1.2. Secure Communication Protocols**

- 1.2.1. TCP/IP Model
- 1.2.2. IPSEC Protocol
- 1.2.3. TLS Protocol

**1.3. Protocol TLS 1.3**

- 1.3.1. Phases of a TLS1.3 Process
- 1.3.2. Handshake Protocol
- 1.3.3. Registration Protocol
- 1.3.4. Differences with TLS 1.2

**1.4. Cryptographic Algorithms**

- 1.4.1. Cryptographic Algorithms Used in Communications.
- 1.4.2. Cipher-Suites
- 1.4.3. Cryptographic Algorithms allowed for TLS 1.3

**1.5. Digest Functions**

- 1.5.1. Digest Functions
- 1.5.2. MD6
- 1.5.3. SHA

**1.6. PKI. Public Key Infrastructure**

- 1.6.1. PKI and its Entities
- 1.6.2. Digital Certificate
- 1.6.3. Types of Digital Certificates

**1.7. Tunnel and Transport Communications**

- 1.7.1. Tunnel Communications
- 1.7.2. Transport Communications
- 1.7.3. Encrypted Tunnel Implementation

**1.8. SSH. Secure Shell**

- 1.8.1. SSH. Safe Capsule
- 1.8.2. SSH Functions
- 1.8.3. SSH Tools

**1.9. Audit of Cryptographic Systems**

- 1.9.1. Integration Test
- 1.9.2. Cryptographic System Testing

**1.10. Cryptographic Systems**

- 1.10.1. Cryptographic Systems Vulnerabilities
- 1.10.2. Cryptographic Safeguards





# 06

# 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"*

## 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.

“

*At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world”*



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



## 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.

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



## 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.



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.





### 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 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.



07

# Our Students' Profiles

The Postgraduate Certificate is aimed at University Graduates who have previously completed any of the following degrees in the field of Social and Legal Sciences, Administration and Economics.

This program uses a multidisciplinary approach as the students have a diverse set of academic profiles and represent multiple nationalities.

Professionals with a university certificate in any area and two years of work experience in the field of implementing secure communications policies may also take the Postgraduate Certificate.







“

*If you are looking to give your professional career a 180° turn, this program is the perfect way to achieve it"*

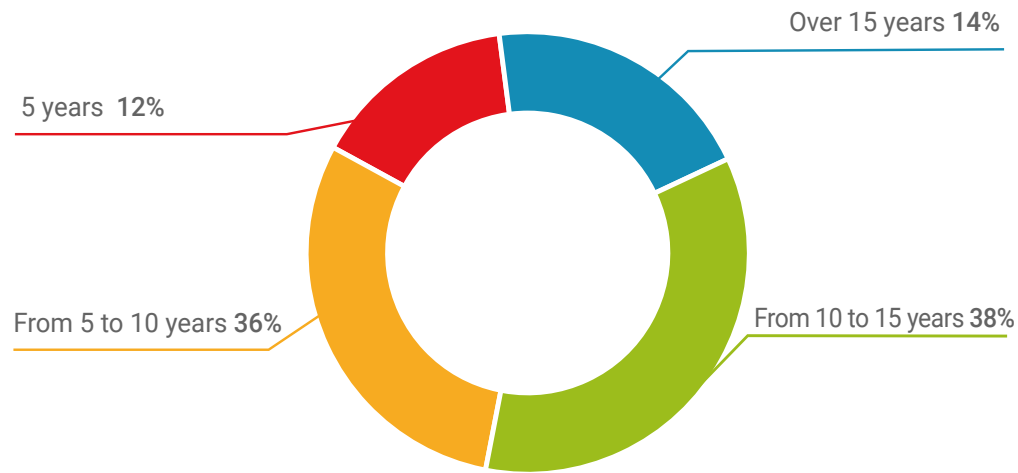
### Average Age

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Between **35** and **45** years old

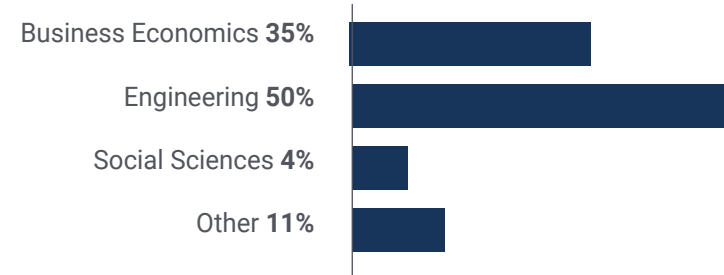
### Years of Experience

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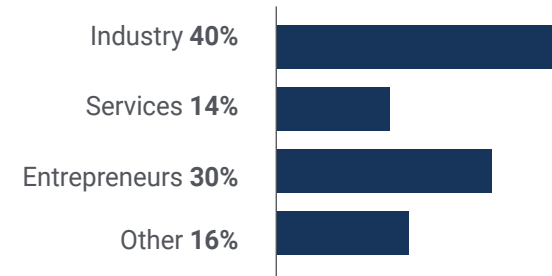
### Training

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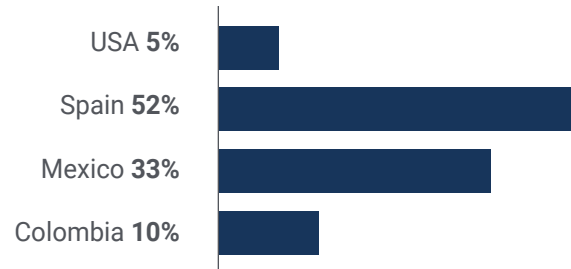
### Educational Profile

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## Geographical Distribution

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## Rocío Ferrer

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Chief Security Officer

*"I recommend this Postgraduate Certificate to all those people who are looking for a change in their career paths. It is a program that adapts to you, to your time availability, and also includes a lot of additional material if you want to delve into certain aspects of the syllabus"*

08

# Course Management

A program with a distinguished teacher staff versed in the area, in this case, information security, is a further sign of quality and of the university's commitment to a more complete and specialized program. For this reason, TECH has selected for this Postgraduate Certificate a group of computer engineers with extensive experience in the management and direction of projects for large companies in different sectors.





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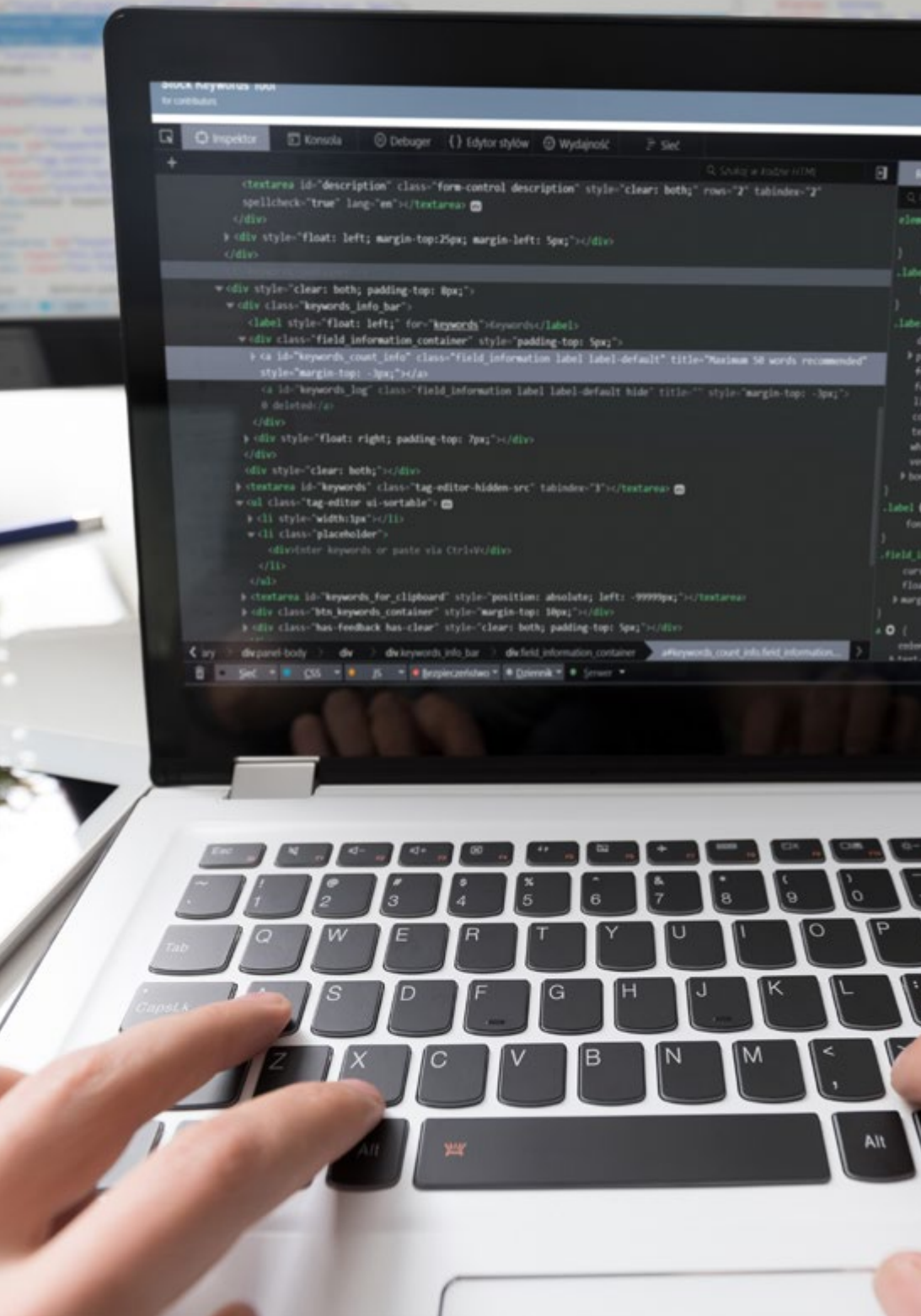
*You will have the possibility of requesting individualized tutoring to resolve any doubts that may arise during the course of the program"*

## Course Management



### Ms. Fernández Sapena, Sonia

- ◆ Trainer in Computer Security and Ethical Hacking at the National Reference Center of Getafe in Computer Science and Telecommunications in Madrid
- ◆ Certified E-Council instructor
- ◆ Trainer in the following certifications: EXIN Ethical Hacking Foundation and EXIN Cyber & IT Security Foundation. Madrid
- ◆ Accredited expert trainer by the CAM of the following certificates of professionalism: Computer Security (IFCT0190), Voice and Data Network Management (IFCM0310), Departmental Network Administration (IFCT0410), Alarm Management in Telecommunications Networks (IFCM0410), Voice and Data Network Operator (IFCM0110), and Internet Services Administration (IFCT0509)
- ◆ External collaborator CSO/SSA (Chief Security Officer/Senior Security Architect) at the University of the Balearic Islands
- ◆ Degree in Computer Engineering from the University of Alcalá de Henares, Madrid
- ◆ Master's Degree in DevOps: Docker and Kubernetes. Cas-Training
- ◆ Microsoft Azure Security Technologies. E-Council



## Professors

### Mr. Oropesiano Carrizosa, Francisco

- ♦ Web Services Manager/Email/DNS/Content Managers
- ♦ Network and Server Systems Security Technician
- ♦ Web Site Design and Production
- ♦ Graduated in Computer Engineering at the University of Alcalá de Henares.
- ♦ Master's Degree in DevOps: Docker and Kubernetes at Cyber Business Center
- ♦ Master's Degree in Networks and Telecommunications



09

# Impact on Your Career

Completion of this program will allow the graduates to include in their resumes a badge with which they will be able to demonstrate their professional quality and their skills and aptitudes in the use of successful strategies related to the most secure communications policies for the company. In addition, you will be able to improve your leadership and problem-solving skills, a highly valued aspect in any personnel selection process.





“

*Project your future towards more relevant companies and aspire to positions of greater responsibility with this Postgraduate Certificate"*

*You will have access to the Virtual Classroom 24 hours a day and from any device with Internet connection, so you can take this program whenever you want and whenever you can.*

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

TECH's Postgraduate Certificate in Implementation of Security Measures in Communications is an intensive program that prepares you to face challenges and business decisions in the field of information security. The main objective is to promote your personal and professional growth. Helping you achieve success.

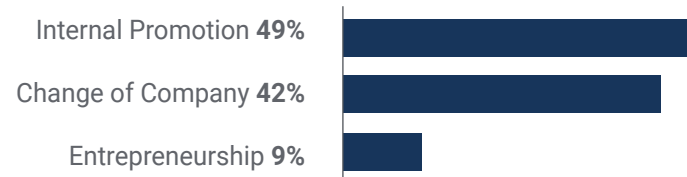
If you want to improve, make a positive change at a professional level and network with the best, then this is the place for you.

*You will have additional high quality material to delve into the aspects of the syllabus that are of greatest interest to you, so that you can obtain even more specialized knowledge.*

### Time of Change



### Type of change



## Salary increase

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This program represents a salary increase of more than **25.22%** for our students.



10

# Benefits for Your Company

The course of this program will turn the graduate into a highly qualified manager versed in the implementation of secure communications policies, an aspect that will not only positively influence the growth of the company, but will also provide a significant plus in security. In addition, the company will benefit from the presence of a professional with unique expertise, elevating its talent and allowing it to take on larger projects with less margin for error.



“

*Become the professional you want to be with this Postgraduate Certificate and enroll now in a program that will make you an undisputed leader in the Communications Security industry"*

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

01

### **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.

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02

### **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.

03

### **Building agents of change**

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

---

04

### **Increased international expansion possibilities**

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





05

### **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.

---

06

### **Increased competitiveness**

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

# 11

# Certificate

The Postgraduate Certificate in Implementation of Security Measures in Communications 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 Implementation of Security Measures in Communications** 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 diploma 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 Implementation of Security Measures in Communications**

Official N° of Hours: **150 h.**



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



## Postgraduate Certificate Implementation of Security Measures in Communications

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