

Postgraduate Certificate IoT Cybersecurity





Postgraduate Certificate IoT Cybersecurity

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

Website: www.techtute.com/us/school-of-business/postgraduate-certificate/iot-cybersecurity

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01 Welcome

Everyday life increasingly relies on connectivity and access to the Internet. And not only in the workplace, but in our personal lives as well. From home automation to GPS in our cars and on our phones, which allows us to monitor our homes while traveling safely, to having constant access to virtually all the information on the world wide web. It can also be seen in crucial services such as healthcare, whose methods have advanced significantly with the emergence of increasingly accurate robots. In short, myriad applications that have invaded our lives, almost without noticing it, to make them more convenient. However, the fact all these new technologies are connected to the Internet creates vulnerabilities when considering potentially dangerous breaches that could allow the wrong people to access personal data, which could cause serious personal or corporate damage. This TECH program seeks to meet the specialization needs of business professionals in IoT cybersecurity.



Postgraduate Certificate in IoT Cybersecurity
TECH Technological University



“

Completing this program will teach you to apply effective security tools to protect potentially vulnerable mechanisms from online attacks”

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* methodology (the most internationally recognized postgraduate learning methodology) with Harvard Business School case studies. A complex balance of traditional and state-of-the-art methods, within the most demanding academic framework.



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 groundbreaking 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 main objective of this TECH program is to offer business professionals the necessary qualification that will allow them to get up to date on the main methods used in lot cybersecurity. Students will have the opportunity to study with the best academic program on the subject today, which will be fundamental for their future professional development. Undoubtedly, a unique opportunity that should not be missed.



“

Specialize in IoT cybersecurity and add quality to your daily practice”

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

The **Postgraduate Certificate in IoT Cybersecurity** qualifies students to:

01

Examine the evolution and impact of the IoT

04

Analyze the main IoT architectures

02

Determine the parts of an IoT project



03

Identify, analyze and assess security risks involved in each part of an IoT project

05

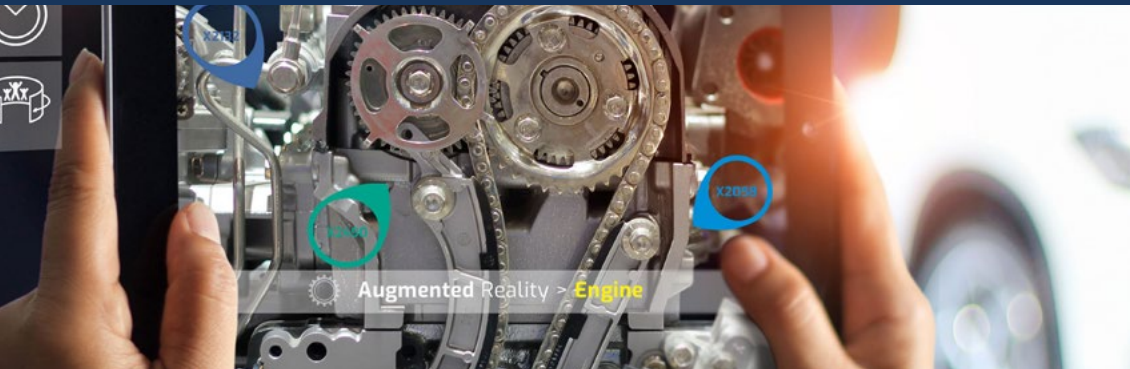
Explore connectivity technologies

06

Develop the main application protocols

08

Assess risk levels and known vulnerabilities



09

Develop insurance usage policies

07

Identify various types of existing devices

10

Establish appropriate conditions of use for these devices

05

Structure and Content

The content of this TECH Postgraduate Certificate covers every aspect of daily life that has been enhanced and improved thanks to digital interconnectivity. In this way, the program includes different useful fields, both personal and professional, that require strong security processes to prevent potential computer attacks that can cause immense damage and can violate private data confidentiality.



“

A carefully structured curriculum designed to offer you contextual and effective learning”

Syllabus

The Postgraduate Certificate in IoT Cybersecurity is an intensive program that prepares students to face challenges and business decisions in computer security. Its content is designed to promote the development of managerial skills that enable more rigorous decision-making in uncertain environments.

Over 150 hours of study, students will analyze a multitude of practical cases through individual work, which will allow them to acquire skills required to develop successfully in their daily practice. It is, therefore, an authentic immersion in real business situations.

This program deals with the different areas of a company in depth, and it is designed for managers to understand cybersecurity from a strategic, international and innovative perspective.

A study plan designed especially for students, focused on their professional development, which prepares them to achieve excellence in the field of information security management and administration. A program that understands your needs and those of your company through innovative content based on the latest trends, and supported by the best educational methodology and an exceptional faculty, which will provide you with the competencies to solve critical situations in a creative and efficient way.

It is a program which is carried out in six weeks and is divided into one module:

Module 1.

IoT Security



Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in IoT Cybersecurity completely online. Over the course of 6 weeks, 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.

Module 1. IoT Security

1.1. Devices

- 1.1.1. Types of Devices
- 1.1.2. Standardized Architectures
 - 1.1.2.1. ONEM2M
 - 1.1.2.2. IoTWF
- 1.1.3. Application Protocols
- 1.1.4. Connectivity Technologies

1.2. IoT Devices: Application Areas

- 1.2.1. Smart Home
- 1.2.2. Smart City
- 1.2.3. Transport
- 1.2.4. Wearables
- 1.2.5. Healthcare Sector
- 1.2.6. Industrial Internet of Things (IIoT)

1.3. Communication Protocols

- 1.3.1. MQTT
- 1.3.2. LWM2M
- 1.3.3. OMA-DM
- 1.3.4. TR-069

1.4. Smart Home

- 1.4.1. Home Automation
- 1.4.2. Networks
- 1.4.3. Household Appliances
- 1.4.4. Surveillance and Security

1.5. Smart City

- 1.5.1. Lighting
- 1.5.2. Meteorology
- 1.5.3. Security

1.6. Transport

- 1.6.1. Localisation
- 1.6.2. Making Payments and Obtaining Services
- 1.6.3. Connectivity

1.7. Wearables

- 1.7.1. Smart Clothes
- 1.7.2. Smart Jewels
- 1.7.3. Smart Watches

1.8. Healthcare Sector

- 1.8.1. Exercise/Heart Rate Monitoring
- 1.8.2. Monitoring Patients and Elderly People
- 1.8.3. Implantation
- 1.8.4. Surgical Robots

1.9. Connectivity

- 1.9.1. Wi-Fi/Gateway
- 1.9.2. Bluetooth
- 1.9.3. Built-In Connectivity

1.10. Securitization

- 1.10.1. Dedicated Networks
- 1.10.2. Password Managers
- 1.10.3. Use of Encrypted Protocols
- 1.10.4. Application Tips



A high-level program for professionals seeking excellence”



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.



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.

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 student profile for this TECH program is business professionals with extensive knowledge and work experience who understand the importance of continuing education throughout their work lives with the main objective of updating their knowledge and improving their daily practice. Thus, this Postgraduate Certificate in IoT Cybersecurity will provide them with the knowledge required to become successful managers in the field.





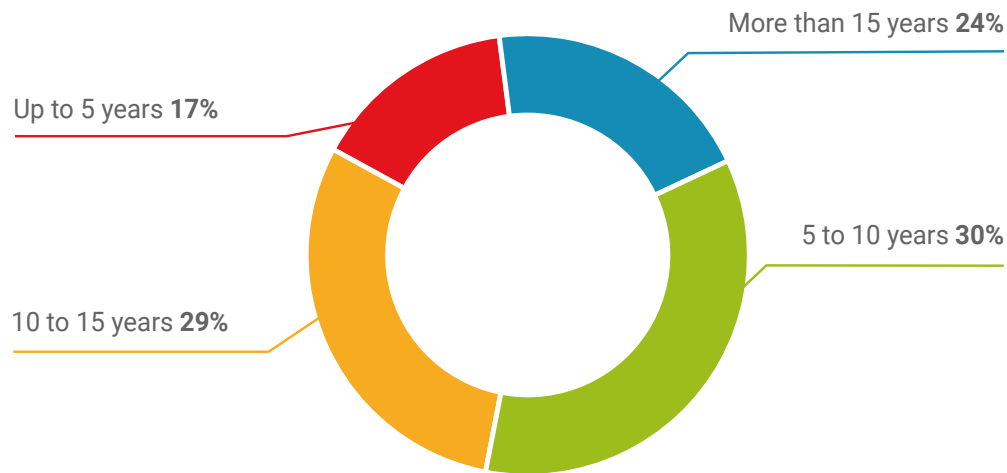
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*An essential program for business professionals
who want to specialize in IoT cybersecurity”*

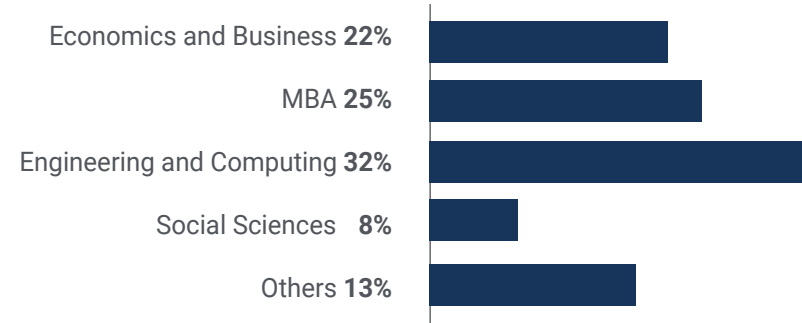
Average Age

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

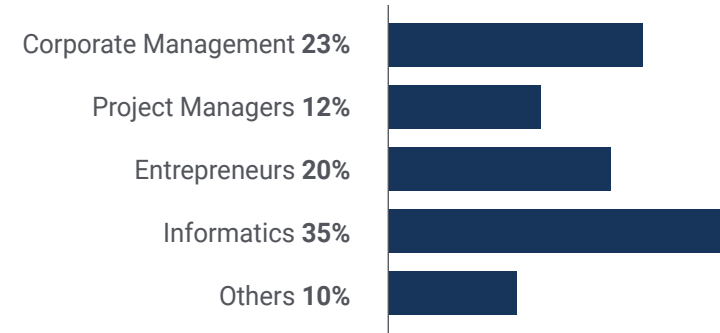
Years of Experience



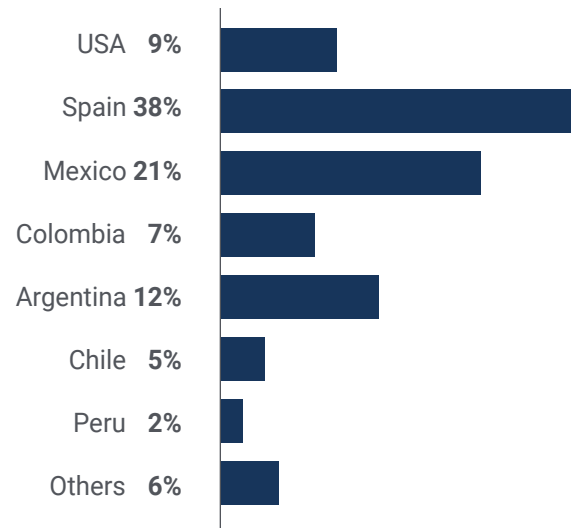
Training



Educational Profile



Geographical Distribution



Jaime Díaz

Chief Revenue Officer

"Completing this TECH program gave me the opportunity to acquire the knowledge I needed to use specific techniques to protect my company's mobile phones against potential malicious attacks that can cause serious damage, theft or misuse of confidential information. I will no doubt enrol again to further my training"

08

Course Management

The best professors in cybersecurity have joined forces for this TECH program. The professors, aware of the importance of quality specialization for business professionals, have compiled the most complete information available today to provide students with the knowledge required to succeed in a complex and high demand field. Certainly, a successful team to help students reach excellence.



“

Top-level professors will teach you the main developments in IoT cybersecurity”

International Guest Director

Dr. Frederic Lemieux is internationally recognized as an innovative expert and inspirational leader in the fields of **Intelligence, National Security, Internal security, Cybersecurity and Disruptive Technologies**. His constant dedication and relevant contributions in Research and Education position him as a key figure in the promotion of security and the understanding of today's emerging technologies. During his professional career, he has conceptualized and directed cutting-edge academic programs at various renowned institutions, such as the **University of Montreal, George Washington University and Georgetown University**.

Throughout his extensive background, he has published multiple books of great relevance, all related to **criminal intelligence, policing, cyber threats and international security**. He has also contributed significantly to the field of Cybersecurity with the publication of numerous articles in academic journals, which examine crime control during major disasters, counter-terrorism, intelligence agencies and police cooperation. In addition, he has been a panelist and keynote speaker at various national and international conferences, establishing himself as a reference in the academic and professional arena.

Dr. Lemieux has held editorial and evaluative roles in different academic, private and governmental organizations, reflecting his influence and commitment to excellence in his field of expertise. As such, his prestigious academic career has led him to serve as Professor of Practice and Faculty Director of the MPS programs in **Applied Intelligence, Cybersecurity Risk Management, Technology Management and Information Technology Management** at Georgetown University.



Dr Lemieux. Frederic

- Researcher in Intelligence, Cybersecurity and Disruptive Technologies at Georgetown University
- Director of the Master's Program in Information Technology Management at Georgetown University
- Director of the Master in Technology Management at Georgetown University
- Director of the Master in Cybersecurity Risk Management at Georgetown University
- Director of the Master's Program in Applied Intelligence at Georgetown University
- Professor of Internship at Georgetown University
- PhD in Criminology from the School of Criminology, University of Montreal
- B.A. in Sociology, Minor Degree in Psychology, University of Laval, France
- Member of New Program Roundtable Committee, by Georgetown University

“

Thanks to TECH you will be able to learn with the best professionals in the world"

Management



Ms. Fernández Sapena, Sonia

- ♦ Computer Security and Ethical Hacking Trainer National Reference Center of Getafe in Informatics and Telecommunications Madrid
- ♦ Certified E-Council Instructor Madrid
- ♦ Trainer in the following certifications: EXIN Ethical Hacking Foundation and EXIN Cyber & IT Security Foundation Madrid
- ♦ Accredited Expert Trainer, CAM; 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) University of the Balearic Islands
- ♦ IT Engineer Alcalá de Henares University. Madrid
- ♦ Master in DevOps: Docker and Kubernetes Cas-Training Madrid
- ♦ Microsoft Azure Security Technologies E-Council Madrid



“

With the help of the best professionals in cybersecurity, it won't take you long to become a true expert”

09

Impact on Your Career

Students who take this TECH academic program will find a unique opportunity to achieve a boost in their career, launching it in an already booming field, which demands professionals with extensive experience, but above all, with the necessary training in the use of the main programs and tools in IoT cybersecurity. In this way, they will soon achieve the professional change they seek.



“

Take a radical turn in your career thanks to the training TECH offers in this program”

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

The TECH Technological University Postgraduate Certificate in IoT Cybersecurity is an intensive and highly valuable program aimed at improving students' professional skills in a fiercely competitive field. Undoubtedly, it is a unique opportunity to improve professionally, but also personally, as it involves effort and dedication.

Those who wish to improve themselves, achieve a positive change at a professional level and interact with the best, will find their place at TECH.

*A high-level program
for you to improve
your competitiveness
and employability.*

*If you want your CV to
stand out in selection
processes, do not
hesitate and join TECH.*

Time of Change



Type of Change



Salary Increase

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



10

Benefits for Your Company

The TECH Postgraduate Certificate in IoT Cybersecurity will be of great benefit to the personal and professional growth of our students, as they will gain in-depth knowledge of a field that is becoming increasingly relevant both in companies and in the private sector. Therefore, at the end of this program, students will be better able to apply computer security tools in business to prevent potential attacks on companies.





“

This program will make a difference in the way you work, which will also be fundamental for your company”

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

01

Intellectual Capital and Talent Growth

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

02

Retaining high-potential executives to avoid talent drain

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

03

Building agents of change

The professional 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

Managers will be able to work on a real project or develop new projects in the R&D or Business Development area of their 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 IoT Cybersecurity 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 IoT Cybersecurity** contains the most complete and up-to-date educational program 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 express the qualification obtained in the Postgraduate Certificate, and will meet the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in IoT Cybersecurity**

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.



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