# Postgraduate Certificate
## IoT Cybersecurity

**tech** technological university

# 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.techtitute.com/us/information-technology/postgraduate-certificate/iot-cybersecurity**

# Index

# 01
# Introduction

Technology offers ever greater benefits in terms of intelligent applications that intervene in daily life by offering services, support, guidance, etc. From GPS to home automation, these programs work by relying on the use of personal data ranging from common habits to confidential information. This exchange translates into a vulnerability that exposes the user to numerous risks that grow along with the functions. In order to achieve systems that provide adequate and adapted security, the professional has to be constantly up to date. This Postgraduate Certificate is a high quality occasion to get up to date on everything related to Iot Cybersecurity. With TECH.

*A comprehensive analysis of smart applications in the most relevant domains with a focus on IoT Cybersecurity"*

From the moment we wake up in the morning, personalized information is already available and we take it for granted that it will be there for us: The clock on our phone, for example, is kept up to date with time changes when we travel or with daylight saving time changes, it is totally transparent to everyone.

There are many people who, in addition, have a whole intelligent and connected life; they wake up with an alarm at the precise time and when they get to the bathroom the light turns on and the shower water is already at the desired temperature, the radiant floor has the perfect temperature to go barefoot and the mirror has a display to show us the headlines of the relevant news of the day, the weather outside, the exact time and a system to defog when it detects condensation. In the dressing room, a robot has steamed our shirt and pants, oomba has connected to its charging station when it finished cleaning the floor, and from the kitchen comes the aroma of freshly brewed coffee and freshly toasted bread. Everything just right and at the precise moment.

However, all this support also has a dark side: An audit has detected vulnerabilities in a device and a potentially dangerous breach that could allow malicious people access to our personal data that could go as far as identity theft or worse, destroy the company's production. company's production.

In order to be up to date with all these important concepts, TECH offers the student an exclusive Masterclass, developed by an internationally renowned specialist in

Intelligence, Cybersecurity and Disruptive Technologies. The graduate will add to their learning in Cybersecurity in IoT, as well as the most effective strategies for prevention, detection and action against attacks or incidents in these devices.

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

♦ The development of case studies presented by cybersecurity experts

♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice

♦ Practical exercises where self-assessment can be used 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

*Learn how to combat cybercrime attacks by building IoT cybersecurity systems"*

" *Specialize in IoT Cybersecurity thanks to an innovative Masterclass, incorporated into the many high-quality learning materials offered by this program"*
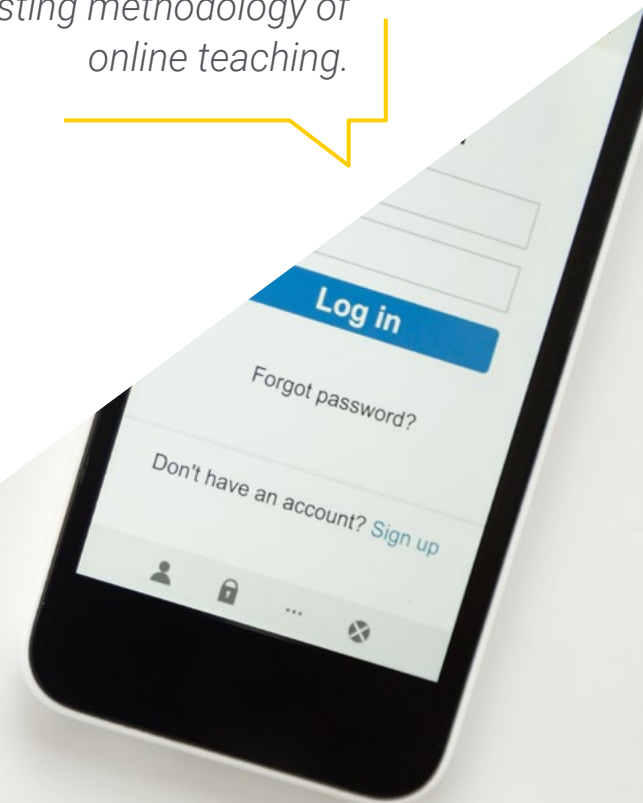
*A practice-focused Postgraduate Certificate that will raise your IoT Cybersecurity intervention skills to the level of a specialist.*

*A high education process created to be affordable and flexible, with the most interesting methodology of online teaching.*

The program's teaching staff includes professionals in the sector who contribute their work experience to this training 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 This will be done with the help of an innovative system of interactive videos made by renowned experts.

## 02
# Objectives

This Postgraduate Certificate in Cybersecurity in IoT, in a quick and easy way, will lead the student to the mastery of the necessary knowledge in this field. With realistic and highly relevant objectives, this course of study is designed to progressively lead students to the acquisition of the theoretical and practical knowledge necessary to intervene with excellence and to develop transversal competencies that will allow them to face complex situations by developing appropriate and precise responses.

*A process of exceptional teaching quality that will lead you to work with the backing of the most comprehensive and applicable knowledge in IoT Cybersecurity"*

## General Objectives

- Analyze the IoT in different areas today
- Examining the evolution and impact of IoT
- Determine the parts of an IoT project
- Identify, analyze and assess security risks of the IoT project parts

*A Postgraduate Certificate that will accompany you in your learning process with the most interesting study support systems for online teaching"*

## Specific Objectives

- Analyze the main IoT architectures
- Examine connectivity technologies
- Develop the main application protocols
- Specify the different types of existing devices
- Assessing risk levels and known vulnerabilities
- Develop safe use policies
- Establishing appropriate conditions of use for these devices

# 03
# Course Management

Teachers of exceptional expertise in this field will be in charge of offering you this process of growth. They combine technical and practical experience with teaching experience, offering students first-class support in achieving their goals. Through them, the course offers the most direct and immediate vision of the real characteristics of the intervention in this field, achieving a contextual vision of maximum interest.

*Postgraduate Diplomas experts in IoT Cybersecurity will accompany you in each phase of the study and will give you the most realistic view of this work"*

## International Guest Director

Frederic Lemieux, Ph.D. is internationally recognized as an innovative expert and inspirational leader in the fields of  **Intelligence, Homeland Security, Homeland 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 understanding of today's emerging technologies. During his professional career, he has conceptualized and directed cutting-edge academic programs at several 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 of them related to **criminal intelligence, policing, cyber threats, and 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, the fight against 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. In this way, 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. Sonia Fernández Sapena

- 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 Techonologies. E-Council

# 04
# Structure and Content

Through a module composed of the most relevant topics in this field, this Postgraduate Certificate allows students to acquire all the knowledge that the development of IoT security systems requires. To this end, it has been structured with a view to the efficient acquisition of complementary learning, which will promote the acquisition of hands-on content and consolidate what has been studied, providing students with the capacity to intervene as quickly as possible. A high-intensity, high-quality course created to educate the best in the industry.

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*All concepts of IoT Cybersecurity developed in a structured way in an efficient focused study approach"*

## Module 1. IoT Security

*A highly interesting and totally up-to-date syllabus designed to create a theoretical and practical knowledge base that will enable you to work safely and effectively in this field"*

# 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.*

## A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

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

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

*The student will learn to solve complex situations in real business environments through collaborative activities and real cases.*

## 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.

### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

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

### Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.

### Additional Reading

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

**30%**

**10%**

**8%**

**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.

# 06

# 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 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 Postgraduate Certificate issued by **TECH Technological University** will reflect the qualification obtained though the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Certificate in IoT Cybersecurity**

Official Nº of Hours: **150 h.**

tech technological university

Awards the following
**DIPLOMA**
to
Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

**POSTGRADUATE CERTIFICATE**
in
**IoT Cybersecurity**

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

*Tere Guevara Navarro*
Dean

Unique TECH Code: AFWORD23S     techtitute.com/certificates

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

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