

# Postgraduate Certificate Smartphone Cybersecurity



## Postgraduate Certificate Smartphone 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/information-technology/postgraduate-certificate/smartphone-cybersecurity](http://www.techtute.com/us/information-technology/postgraduate-certificate/smartphone-cybersecurity)

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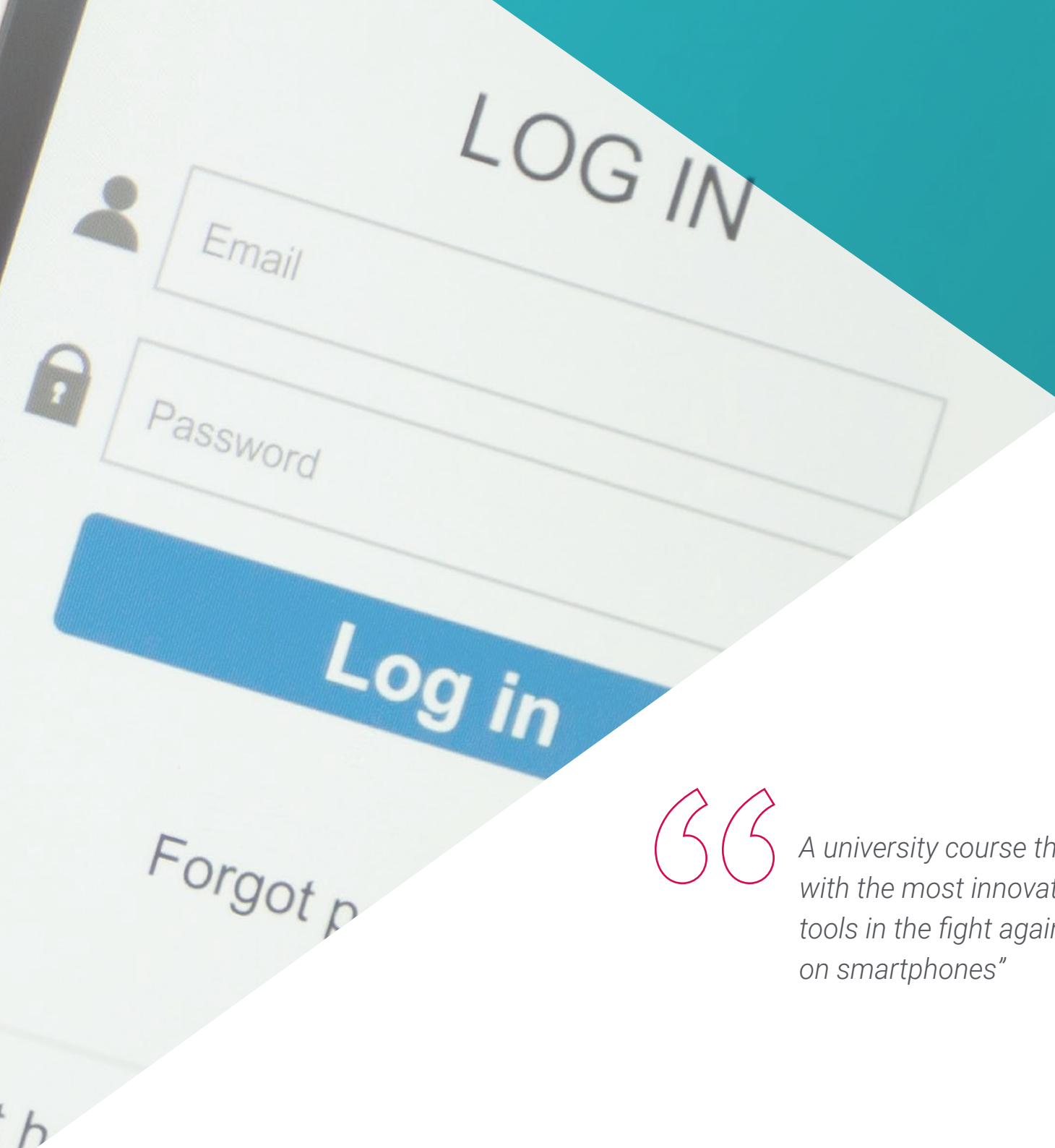
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# 01

# Introduction

The use of mobile devices forces users to assume a level of risk regarding the protection of their personal data that, in some cases, can be very high. The growing intelligence of these devices, phones or tablets also increases the attack surface associated with them, opening up new vulnerabilities that can become crimes that go as far as identity theft, robbery or fraud. To combat this, the cybersecurity professional is forced to work in parallel with the emergence of risks, constantly developing protective responses. This program is a tool that puts in the hands of professionals the most up to date information in this field, in order to enable them to provide effective and innovative solutions.





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*A university course that will provide you with the most innovative and up-to-date tools in the fight against cyber-attacks on smartphones”*

We live in an era in which the use of mobile devices is becoming more and more widespread. The phone has long since ceased to be just a phone and has become a small computer capable of browsing the Internet at any time, running applications of all kinds, locating our position on a map, plotting routes, storing data both internally and externally, and much more. When we talk about these devices, we are not only referring to cell phones, but also to tablets. Both are devices designed and prepared to make our lives easier. Thanks to them we can move easily and have access to the network at all times, in addition to having cloud services increasingly in demand.

We must not forget that, thanks to all this "Intelligence", the points of attack on these devices has increased exponentially from 0 to 100 and that the massive use of these devices has made them an easy target. Mobile devices are now a prime target for attackers seeking to invade privacy, usurp identity, steal data, gain access without user consent, and use the owners of such devices for criminal purposes.

Therefore, it is fundamental and absolutely essential that we take all the measures available to us to protect our privacy. There is no such thing as 100% security, but if we know the types of attacks we face, the risks to which we are exposed and have the necessary information to deal with them, we will have taken an important step and added another layer of security to our information.

This **Postgraduate Certificate in Smartphone Cybersecurity** contains the most complete and up-to-date 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



*Acquire the necessary knowledge to develop an efficient layered protection system in just a few weeks of work"*

“*The information that the professional needs to create protection systems that guarantee the security in the use of smartphones in a highly educational program.*”

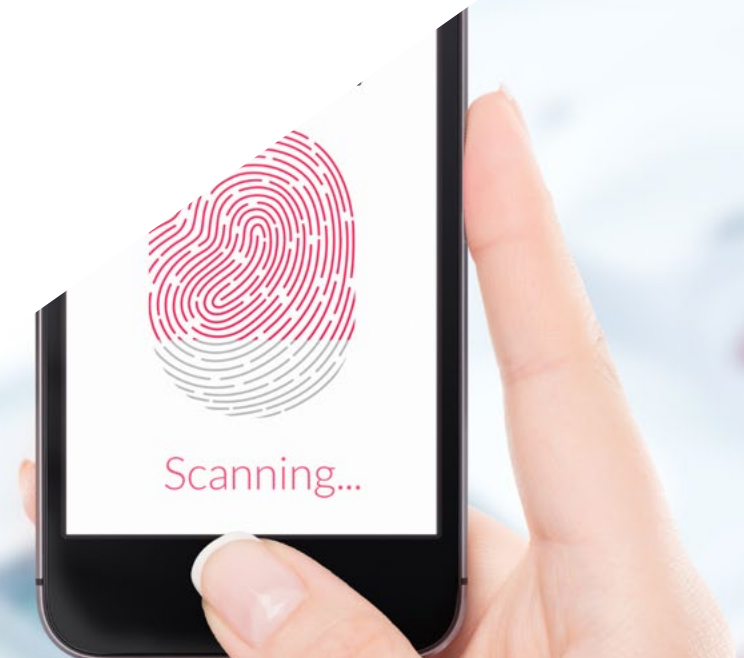
The program's teaching staff includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

*Study through a practice-focused Postgraduate Certificate to boost your 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.*



# 02 Objectives

This Postgraduate Certificate in Smartphone Cybersecurity provides students with the ability to work in this field quickly and easily. 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.





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*Put your skills to work in a field full of job possibilities through a process of exceptional teaching quality”*



## General Objectives

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- ♦ Analyze the main current mobile platforms, their characteristics and use
- ♦ Examine existing vulnerabilities and threats, as well as the main attack vectors
- ♦ Assess the risks associated with vulnerabilities both outside and inside the company
- ♦ Determine tools and best practice guidelines for securing mobile devices



*With the student in mind, this University Course implements the most interesting study support systems currently available"*





## Specific Objectives

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- ◆ Examine the various attack vectors to avoid becoming an easy target
- ◆ Determine the main attacks and types of Malware to which mobile device users are exposed
- ◆ Analyze the most current devices to establish greater security in the configuration
- ◆ Specify the main steps to perform a penetration test on both iOS and Android platforms
- ◆ Develop specialized knowledge about the different protection and security tools
- ◆ Establish best practices in programming for mobile devices

03

# Course Management

The teachers who teach this program have been selected for their exceptional competence in this field. They combine technical and practical experience with teaching experience, offering students first-class support in achieving their goals. Through them, the program 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 Diploma in Smartphone  
Cybersecurity experts 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

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- 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"*

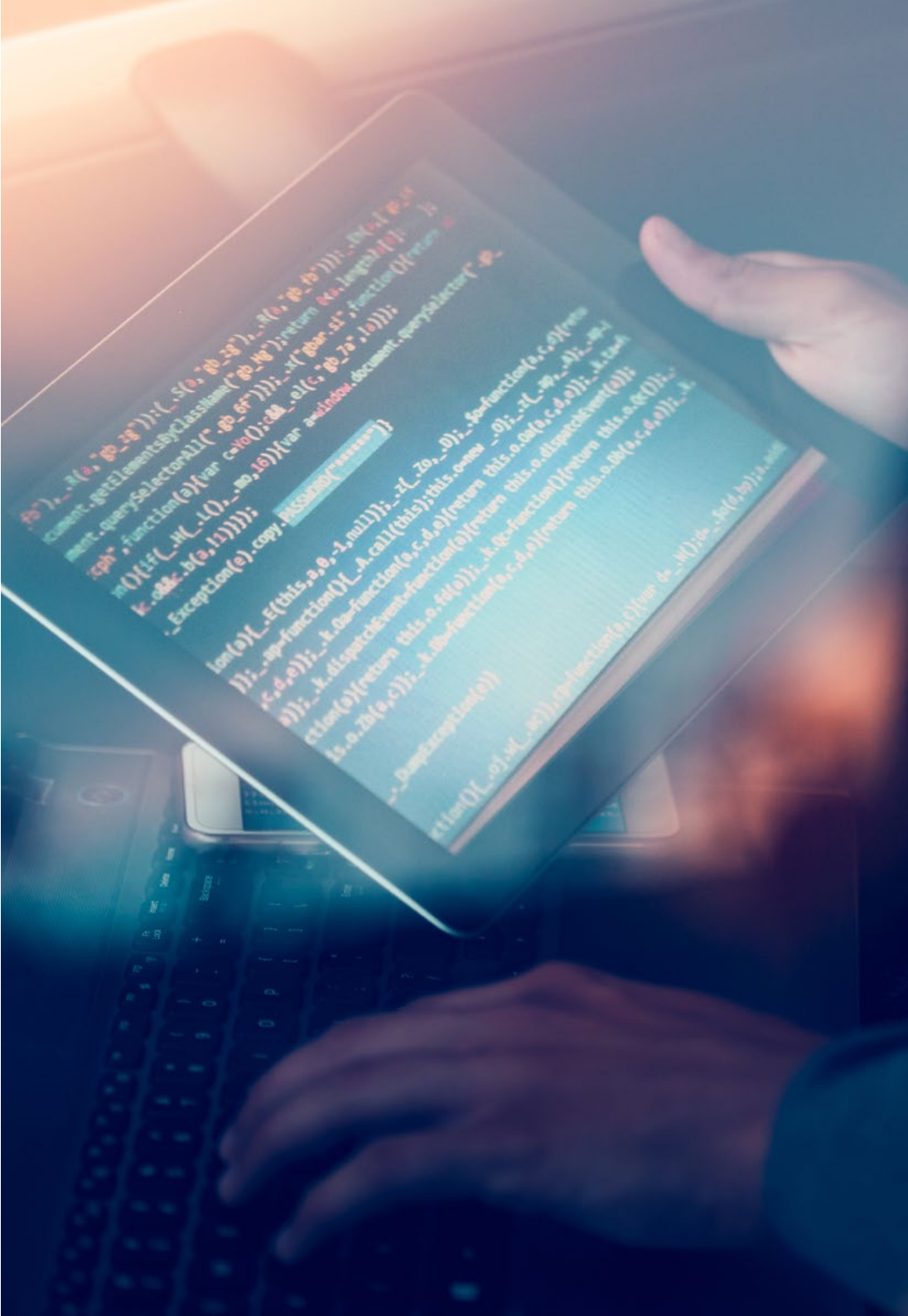
## Management



### Ms. Fernández Sapena, Sonia

- Computer Security and Ethical Hacking Trainer. Getafe National Reference Center for Informatics and Telecommunications. Madrid
- Certified E-Council instructor. Madrid
- Trainer in the following certifications: EXIN Ethical Hacking Foundation y 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)
- Colaboradora externa CSO/SSA (Chief Security Officer/Senior Security Architect). University of the Balearic Islands
- Computer Engineer. Alcalá de Henares University. Madrid
- Master's Degree in DevOps: Docker and Kubernetes. Cas Training. Madrid
- Microsoft Azure Security Technologies. E-Council. Madrid





## Professors

### Ms. Marcos Sbarbaro, Victoria Alicia

- ◆ Native Android Mobile Applications Developer at B60. UK
- ◆ Analyst Programmer for the management, coordination and documentation of a virtualized security alarm environment
- ◆ Analyst Programmer of Java applications for ATMs
- ◆ Software Development Professional for signature validation and document management application
- ◆ Systems Technician for equipment migration and for the management, maintenance and training of PDA mobile devices
- ◆ Technical Engineer in Computer Systems from the University Oberta de Catalunya
- ◆ Professional Master's Degree in Computer Security and Ethical Hacking Official EC-Council and CompTIA by the Professional School of New Technologies CICE

### Mr. Catalá Barba, José Francisco

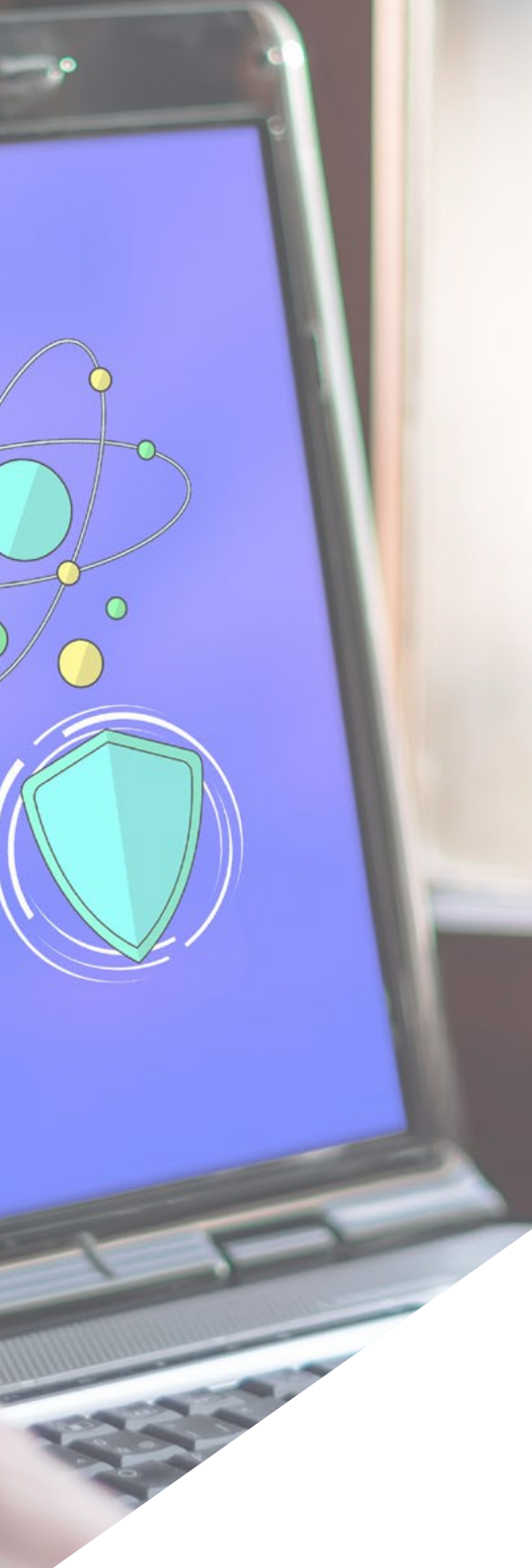
- ◆ Electronic Technician Cybersecurity Expert
- ◆ Mobile Application Development
- ◆ Electronics Technician in Intermediate Command in the Spanish Ministry of Defense
- ◆ Electronic technician at Ford's factory located in Valencia

# 04

# Structure and Content

Throughout the progress of the different units of this course the student will be able to acquire all the knowledge that the development of security systems in smartphones 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.





“All aspects of Smartphone Cybersecurity intervention developed in a structured way in an efficiency-focused study approach”

## Module 1. Smartphone Security

- 1.1. The World of Mobile Devices
  - 1.1.1. Types of Mobile Platforms
  - 1.1.2. IOS Devices
  - 1.1.3. Android Devices
- 1.2. Mobile Security Management
  - 1.2.1. OWASP Mobile Security Project
    - 1.2.1.1. Top 10 Vulnerabilities
  - 1.2.2. Communications, Networks and Connection Modes
- 1.3. The Mobile Device in the Enterprise Environment
  - 1.3.1. Risk
  - 1.3.2. BORRAR
  - 1.3.3. Device Monitoring
  - 1.3.4. Mobile Device Management (MDM)
- 1.4. User Privacy and Data Security
  - 1.4.1. Statements of Information
  - 1.4.2. BORRAR
    - 1.4.2.1. Licences
    - 1.4.2.2. Encryption
  - 1.4.3. Secure Data Storage
    - 1.4.3.1. Secure Storage on iOS
    - 1.4.3.2. Secure Storage on Android
  - 1.4.4. Best Practices in Application Development
- 1.5. Vulnerabilities and Attack Vectors
  - 1.5.1. Vulnerabilities
  - 1.5.2. Attack Vectors
    - 1.5.2.1. Malware
    - 1.5.2.2. Data Exfiltration
    - 1.5.2.3. Data Manipulation



- 1.6. Main Threats
  - 1.6.1. Unforced User
  - 1.6.2. Malware
    - 1.6.2.1. Types of Malware
  - 1.6.3. Social Engineering
  - 1.6.4. Data Leakage
  - 1.6.5. Information Theft
  - 1.6.6. Unsecured Wi-Fi Networks
  - 1.6.7. Outdated Software
  - 1.6.8. Malicious Applications
  - 1.6.9. Insecure Passwords
  - 1.6.10. Weak or No Security Configuration
  - 1.6.11. Physical Access
  - 1.6.12. Loss or Theft of the Device
  - 1.6.13. Identity Theft (Integrity)
  - 1.6.14. Weak or Broken Cryptography
  - 1.6.15. Denial of Service (DoS)
- 1.7. Main Attacks
  - 1.7.1. Phishing Attacks
  - 1.7.2. Attacks Related to Communication Modes
  - 1.7.3. Smishing Attacks
  - 1.7.4. Cryptojacking Attacks
  - 1.7.5. Man in The Middle
- 1.8. Hacking
  - 1.8.1. Rooting and Jailbreaking
  - 1.8.2. Anatomy of a Mobile Attack
    - 1.8.2.1. Threat Propagation
    - 1.8.2.2. Malware Installation on the Device
    - 1.8.2.3. Persistence
    - 1.8.2.4. Payload Execution and Information Extraction
  - 1.8.3. Hacking on iOS Devices: Mechanisms and Tools
  - 1.8.4. Hacking on Android Devices: Mechanisms and Tools

- 1.9. Penetration Testing
  - 1.9.1. iOS Pentesting
  - 1.9.2. Android Pentesting
  - 1.9.3. Data Science
- 1.10. Safety and Security
  - 1.10.1. Security Configuration
    - 1.10.1.1. On iOS Devices
    - 1.10.1.2. On Android Devices
  - 1.10.2. Safety Measures
  - 1.10.3. Protection Tools



*All the analysis, developments and protection tools for smartphones along a highly interesting and topical agenda”*

# 05 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.

“*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.

## 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.



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.



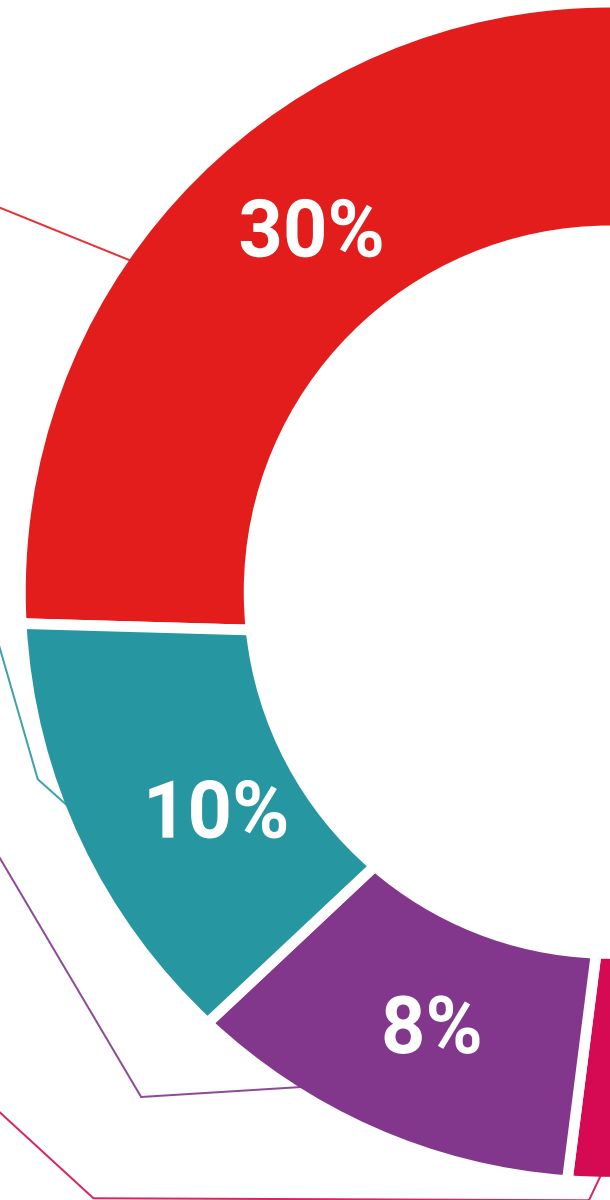
### Practising Skills and Abilities

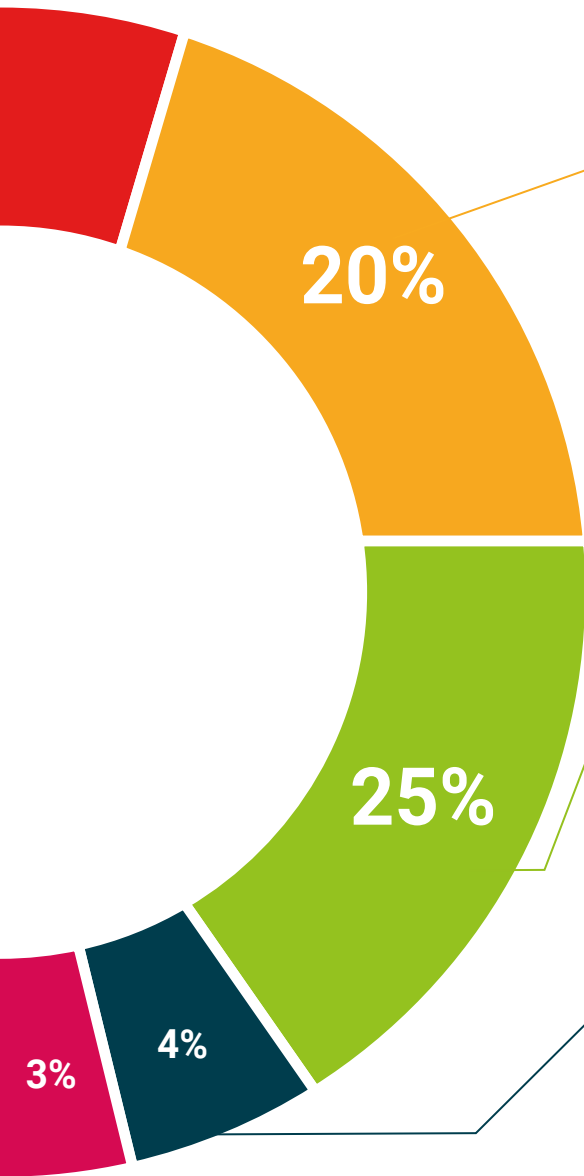
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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.





#### 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 Smartphone Cybersecurity guarantees, 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 Smartphone 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 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 Smartphone 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.



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present quality  
development lang  
virtual classroom



## Postgraduate Certificate Smartphone Cybersecurity

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