Postgraduate Certificate

Security in System Design and Development

tech *technological university*

Postgraduate Certificate
Security in System Design and Development

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

Website: **www.techtitute.com/in/information-technology/postgraduate-certificate/security-system-design-development**

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01
Introduction

Information systems play an essential role in companies and organizations. They allow accessing data or communicating internally and externally. Therefore, having adequate security in this area is very important, since otherwise the company's activities and operations may be jeopardized. Thus, the design and development of this type of systems, taking into account the correct protection, is a key task for contemporary companies. For that reason, this program proposes a thorough understanding of this field, providing the computer scientist with the most advanced knowledge to be able to access the best professional opportunities in this booming area.

With this program you will be able to access the best professional opportunities, since you will become a great expert in cybersecurity applied to information systems"

Of all the areas that a company or institution has to protect, the one concerning its information systems is the most important. This field involves processes such as communications, data access and other important elements. For this reason, more and more companies understand how necessary it is to turn to cybersecurity specialists to establish optimal defences against interference or information theft.

This Postgraduate Certificate in Security in System Design and Development has been specially designed to meet the current situation, in which more and more companies use digital technologies to perform all their internal activities. For this reason, the professional has a great opportunity with this program, since they will be able to delve into aspects such as the life cycle of an information system, access to data, cryptography, proper configuration of firewalls or protection against viruses and worms.

All of this is based on a 100% online teaching system that allows the professional to study at the time and place of their choice. You will also have access to numerous multimedia materials: theoretical and practical exercises, videos, master classes, complementary readings, etc. The best didactic resources to turn you into a specialist with a professional profile adapted to these times.

This **Postgraduate Certificate in Security in System Design and Development** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- Case studies presented by IT and 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 work
- Content that is accessible from any fixed or portable device with an Internet connection

Set up a company's or an institution's cybersecurity with the best techniques and the latest procedures thanks to this Postgraduate Certificate"

"

Learn in depth, thanks to this Postgraduate Certificate, the best tools in cryptography and the latest threats in viruses and worms"

This program is developed in a 100% online format and is fully adaptable to your personal and professional circumstances.

You will come into contact with a high-level teaching staff: working professionals who know the sector perfectly, today and in the future.

The program includes, in its teaching staff, professionals from the sector who bring to this training the experience of their work, in addition to recognized specialists from prestigious reference societies and 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 training programmed to train 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

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Objectives

This Postgraduate Certificate in Security in System Design and Development has been developed with the purpose of bringing the computer scientist closer to the latest developments and the most important keys in this field of cybersecurity. In this way, this program prepares professionals to face all kinds of challenges with the most up-to-date and cutting-edge tools, which will allow them to access the best opportunities in all types of companies, whether in the technological field or in other areas.

" *TECH's objectives are to provide you with the best tools in cybersecurity and bring you closer to your career goals"*

General Objectives

- Generate specialized knowledge about an information system, types and security aspects that must be taken into account
- Identify the vulnerabilities of an information system
- Apply the most appropriate security measures depending on the threats
- Develop legal regulations and criminalization of the crime attacking an information system
- Determine the security policy and plan for a company's information system, completing the design and implementation of the contingency plan

This program will allow you to adapt to the new professional context, where cybersecurity specialists are needed in the field of information systems"
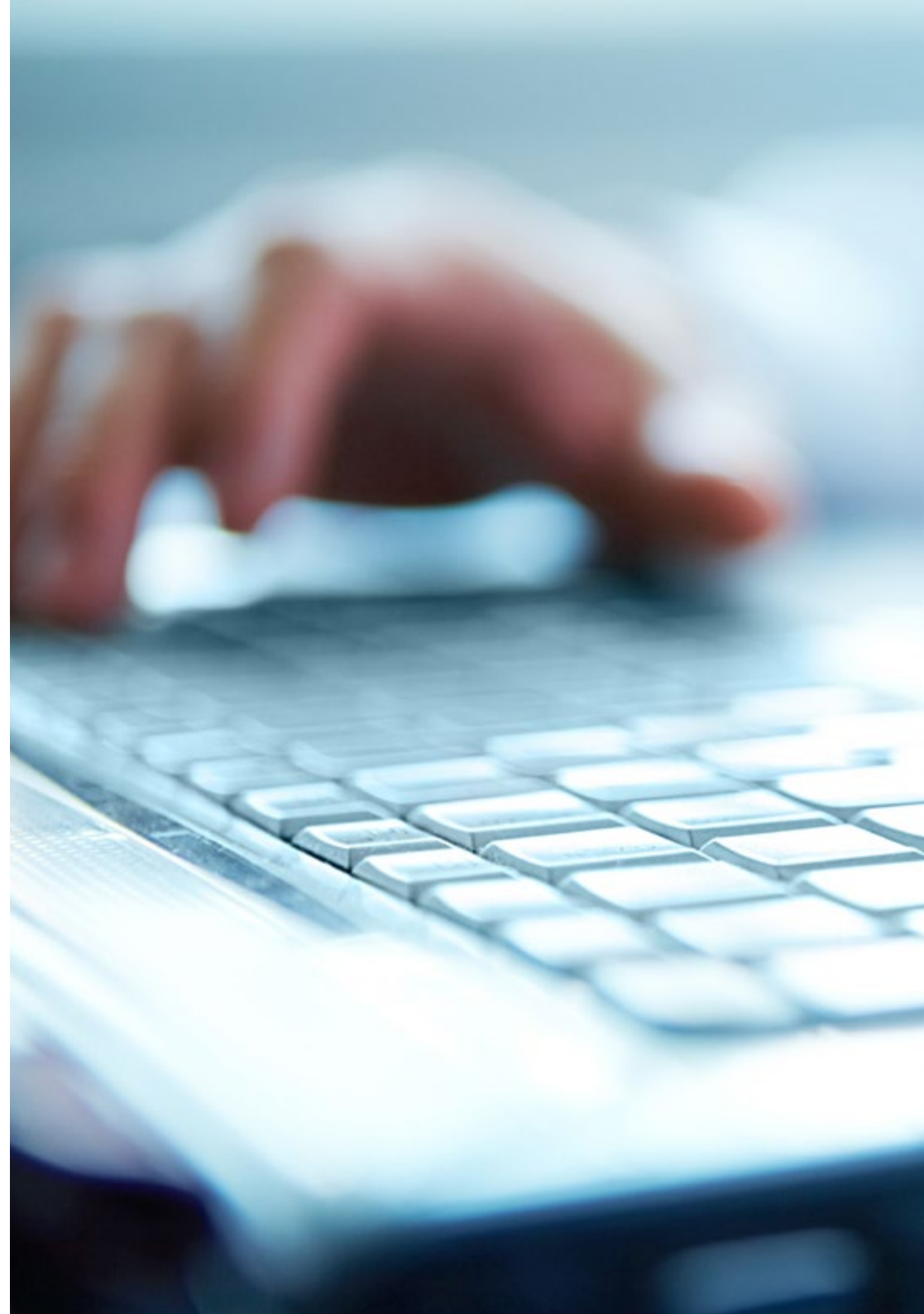
Specific Objectives

- Evaluate the security of an information system in all its components and layers
- Identify current security threat types and trends
- Establish security guidelines by defining security and contingency policies and plans
- Analyze strategies and tools to ensure the integrity and security of information systems
- Apply specific techniques and tools for each type of attack or security vulnerability
- Protect sensitive information stored in the information system
- Have the legal framework and typification of the crime, completing the vision with the typification of the offender and his victim

Course Management

This Postgraduate Certificate incorporates the best experts in this area of cybersecurity, so that the professional who completes the program will be able to incorporate into their daily work all the knowledge provided by the teachers. Thus, this is one of the great strengths of this qualification, since it offers the computer scientist the opportunity to come into contact with experts who have an intimate knowledge of the development of this technological field.

Take advantage of the experience of TECH's teaching staff, who will be at your disposal throughout the program"

Management

Mr. Olalla Bonal, Martín

- *Blockchain Technical Specialist* at IBM SPGI
- *Blockchain* Architect
- Infrastructure Architect in Banking
- Project management and implementation of solutions
- Digital Electronics Technician
- Teacher *Hyperledger Fabric* training to companies
- Teacher Business-oriented companies *Blockchain* training

Professors

Ms. Jurado Jabonero, Lorena

- Head of Information Security (CISO) at Grupo Pascual
- Graduate in Computer Engineering from Alfonso X El Sabio University
- Technical Computer Engineer from Polytechnical University of Madrid
- Knowledge: ISO 27001, ISO 27701, ISO 22301, ISO 20000, RGPD/LOPDGDD, NIST CSF, CSA, ITIL, PCI, etc.

" Our teaching team will provide you with all their knowledge so that you are up to date with the latest information on the subject"

04
Structure and Content

The contents of this Postgraduate Certificate in Security in System Design and Development have been structured in 1 specialized module, which has been subdivided, in turn, into 10 topics. Throughout 150 hours of learning, the professional will be able to delve into aspects such as information systems security protocols, security measures, computer crimes, contingency plans or cryptography.

Get ready for the future of cybersecurity with this Postgraduate Certificate"

Module 1. Security in System Design and Development

1.1. Information Systems
    1.1.1. Information System Domains
    1.1.2. Information System Components
    1.1.3. Information System Activities
    1.1.4. Life Cycle of an Information System
    1.1.5. Information System Resources

1.2. IT Systems Types
    1.2.1. Types of Information Systems
        1.2.1.1. Corporate
        1.2.1.2. Strategic
        1.2.1.3. According to the Area of Application
        1.2.1.4. Specific
    1.2.2. Information Systems Real Examples
    1.2.3. Evolution of Information Systems: Stages
    1.2.4. Methods of Information Systems

1.3. Information System Security Legal Implications
    1.3.1. Access to Data
    1.3.2. Security Threats: Vulnerabilities
    1.3.3. Legal Implications: Criminal Offenses
    1.3.4. Maintenance Procedures of an Information System

1.4. Information System Security Security Protocol
    1.4.1. Information System Security
        1.4.1.1. Integrity
        1.4.1.2. Confidentiality
        1.4.1.3. Availability
        1.4.1.4. Authentication
    1.4.2. Security Services
    1.4.3. Information Security Protocols Types
    1.4.4. Information System Sensitivity

1.5. Information System Security Access Control Measures and Systems
    1.5.1. Security Measures
    1.5.2. Type of Security Measures
        1.5.2.1. Prevention
        1.5.2.2. Detection
        1.5.2.3. Correction
    1.5.3. Access Control Systems Types
    1.5.4. Cryptography

1.6. Network and Internet Security
    1.6.1. *Firewalls*
    1.6.2. Digital Identification
    1.6.3. Viruses and Worms
    1.6.4. *Hacking*
    1.6.5. Examples and Real Cases

1.7. Computer Crimes
    1.7.1. Computer Crimes
    1.7.2. Computer Crimes Types
    1.7.3. Computer Crimes Attack Types
    1.7.4. The Case for Virtual Reality
    1.7.5. Profiles of Offenders and Victims Criminalization of the Crime
    1.7.6. Computer Crimes Examples and Real Cases

1.8. Security Plans in Information Systems
    1.8.1. Security Plan Objectives
    1.8.2. Security Plan Plan
    1.8.3. Risk Plan Analysis
    1.8.4. Security Policy Implementation in the Organization
    1.8.5. Security Plan Implementation in the Organization
    1.8.6. Security Procedures Types
    1.8.7. Security Plan Examples:

The most complete and up-to-date information systems security curriculum on the market is here"

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%
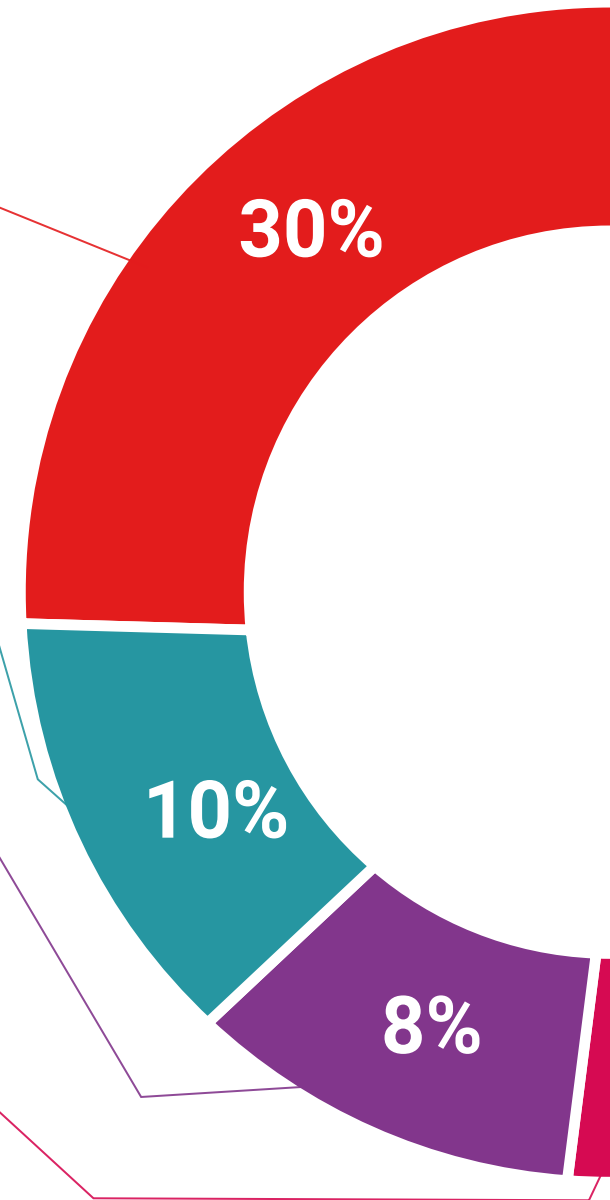
Case Studies

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 Security in Systems Design and Development 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 Security in System Design and Development** contains the most complete and up-to-date educational 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 certificate 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 Security in System Design and Development**

Official N° of Hours: **150 h.**

tech technological university

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

POSTGRADUATE CERTIFICATE
in

Security in System Design and Development

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

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.   Unique TECH Code: AFWORD23S   techtitute.com/certificates

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

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