

Postgraduate Certificate Internet of Things (IoT)





Postgraduate Certificate Internet of Things (IoT)

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Global University
- » Accreditation: 6 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/us/information-technology/postgraduate-certificate/internet-of-things

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01

Introduction

Thanks to technological advancements, IoT is used daily in homes, smart cities, and numerous industrial sectors. The ability it offers to connect various devices to perform numerous tasks that make life easier for its users has led to a significant increase in demand for IT professionals specialized in its management and optimization. As a result, TECH has created this program, which will allow students to perfect their knowledge regarding the existing types and platforms of IoT, as well as the most effective security systems for them. In this way, they will achieve significant professional growth without leaving home, thanks to the 100% online methodology in which the program is developed.





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*Through this Postgraduate Certificate,
you will determine the best strategies
to ensure maximum security for an
IoT platform”*

The Internet of Things (IoT) refers to the network of software and electronic devices of various types that are interconnected through the internet, allowing them to exchange data with each other. Thanks to this, everyday actions such as closing automatic blinds in smart homes or providing traffic status information to drivers become possible. Therefore, due to the benefits and extensive applications this field offers, specializing in it is an excellent opportunity to enjoy great professional prospects in the digital age.

In response to this, TECH has designed this program, through which IT professionals will deepen their understanding of the most advanced aspects of the Internet of Things to boost their career growth in this area. Over the course of 6 intensive weeks, participants will explore IoT applications in Industry 4.0 and learn to manage the operation of major platforms of this caliber. Additionally, they will determine the best strategies to implement strong security in the Internet of Things, ensuring the privacy of its users.

Since this Postgraduate Certificate is delivered entirely online, students will have the flexibility to manage their time as they wish to achieve effective learning. Furthermore, they will have access to educational content in various formats, such as readings, explanatory videos, and self-assessment tests. TECH's goal is to provide an engaging and fully individualized learning experience.

This **Postgraduate Certificate in Internet of Things (IoT)** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ The development of practical case studies presented by experts in IoT and technological solutions
- ♦ The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out 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



Delve into the benefits and limitations of the most common IoT platforms available today, thanks to this program"

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Learn at your own pace and without teaching limitations, thanks to the Relearning methodology provided by this qualification”

Optimize your learning through interactive educational materials such as videos and self-assessment tests.

Throughout this academic experience, you will delve into the various applications that the Internet of Things offers across different sectors of Industry 4.0.

The program's teaching staff includes professionals from the field 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned experts.



02 Objectives

The design of this Postgraduate Certificate has been developed with the premise of providing students with the most advanced and up-to-date knowledge on the Internet of Things in just 180 hours. During your academic journey, you will be able to analyze cutting-edge IoT platforms and their architecture, as well as address the most relevant security aspects associated with them. All of this is guided by the general and specific objectives set for this program.



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Upon completion of this Postgraduate Certificate, you will significantly enhance your opportunities to work in the IT services of the world's most prestigious companies”



General Objectives

- Conduct a comprehensive analysis of the profound transformation and radical paradigm shift being experienced in the current global digitalization process
- Provide in-depth knowledge and the necessary technological tools to face and lead the technological leap and the challenges currently present in companies
- Mastering the digitalization procedures of companies and the automation of their processes to create new fields of wealth in areas such as creativity, innovation and technological efficiency
- Lead digital change

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Increase your knowledge of IoT in just 180 hours to position yourself at the forefront of Information Technology”





Specific Objectives

- ♦ Have detailed knowledge of the functioning of IoT and Industry 4.0 and its combinations with other technologies, its current situation, its main devices and uses and how hyper-connectivity gives rise to new business models where all products and systems are connected and in permanent communication
- ♦ Delve into the knowledge of an IoT platform and its components, the challenges and opportunities of implementing IoT platforms in factories and businesses, the main business areas related to IoT platforms, and the relationship between IoT platforms, robotics, and other emerging technologies
- ♦ Understand the main existing wearable devices, their utility, the security systems to be applied to any IoT model, and its industrial variant, known as Industrial IoT (IIoT)

03

Course Management

Thanks to TECH's unwavering commitment to elevating the level of its qualifications, this program is led and taught by professionals who have undertaken numerous roles in the IoT sector and technological solutions for businesses. These experts are responsible for developing all the educational materials that the student will have access to throughout this Postgraduate Certificate. For this reason, the content you will receive has been previously applied by these instructors in their professional experiences.



IoT



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To provide you with the most up-to-date knowledge in IoT, this program is designed and delivered by active professionals working in the field”

Management



Mr. Segovia Escobar, Pablo

- ♦ Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group.
- ♦ Corporate Project Director Indra
- ♦ Master's Degree in Companies Administration and Management by the National University of Distance Education.
- ♦ Postgraduate in Strategic Management Function
- ♦ Member of: Spanish Association of People with High Intellectual Quotient



Mr. Diezma López, Pedro

- ♦ Chief Innovation Officer and CEO of Zerintia Technologies
- ♦ Founder of the technology company Acuilae.
- ♦ Member of the Kebala Group for business incubation and promotion.
- ♦ Consultant for technology companies such as Endesa, Airbus or Telefónica
- ♦ Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for Occupational Safety

Professors

Mr. Castellano Nieto, Francisco

- ♦ Head of Indra Company Maintenance Area
- ♦ Consultant for Siemens AG, Allen-Bradley at Rockwell Automation and other companies
- ♦ Industrial Electronic Technical Engineer by the Universidad Pontificia Comillas

Mr. Cámara Madrid, José Antonio

- ♦ Automotive Engineer at Mindcaps
- ♦ Quality Manager in the Defense and Security Sector of Indra Company
- ♦ Electronic Engineer for Metro de Madrid Works
- ♦ Master's Degree in Industrial Technologies from the University of Nebrija



A unique, essential and decisive learning experience to boost your professional development"

04

Structure and Content

The syllabus of this program consists of one module through which IT professionals will acquire the most relevant and up-to-date knowledge about the Internet of Things. The educational resources available throughout the duration of this Postgraduate Certificate are offered in a variety of formats, including readings, videos, and interactive summaries. As a result, students will benefit from a fully online, effective learning experience that can be completed 24/7 from any location.





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The 100% online methodology of this Postgraduate Certificate will allow you to optimize your learning from the comfort of your own home”

Module 1. Internet of Things (IoT)

- 1.1. Cyber-Physical Systems (CPS) in the Industry 4.0 Vision
 - 1.1.1. Internet of Things (IoT)
 - 1.1.2. Components Involved in IoT
 - 1.1.3. Cases and Applications of IoT
- 1.2. Internet of Things and Cyber-Physical Systems
 - 1.2.1. Computing and Communication Capabilities to Physical Objects
 - 1.2.2. Sensors, Data and Elements in Cyber-Physical Systems
- 1.3. Device Ecosystem
 - 1.3.1. Typologies, Examples and Uses
 - 1.3.2. Applications of the Different Devices
- 1.4. IoT Platforms and their Architecture
 - 1.4.1. IoT Market Typologies and Platforms
 - 1.4.2. Operation of an IoT Platform
- 1.5. Digital Twins
 - 1.5.1. Digital Twins
 - 1.5.2. Uses and Applications the Digital Twin
- 1.6. Indoor & outdoor Geolocation (Real Time Geospatial)
 - 1.6.1. Indoor and Outdoor Geolocation Platforms
 - 1.6.2. Implications and Challenges of Geolocation in an IoT Project
- 1.7. Security Intelligence Systems
 - 1.7.1. Typologies and Platforms for Security Systems Implementation
 - 1.7.2. Components and Architectures in Intelligent Safety Systems
- 1.8. IoT and IIoT Platform Security
 - 1.8.1. Security Components in an IoT System
 - 1.8.2. IIoT Security Implementation Strategies
- 1.9. Wearables at Work
 - 1.9.1. Types of Wearables in Industrial Environments
 - 1.9.2. Lessons Learned and Challenges in Implementing Wearables in the Workplace
- 1.10. Implementing an API to Interact with a Platform
 - 1.10.1. Types of APIs Involved in an IoT Platform
 - 1.10.2. API Market
 - 1.10.3. Strategies and Systems to Implement API Integrations





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Enroll in this qualification and enjoy a wide range of textual and multimedia formats that will allow you to tailor your learning to your own academic needs”

05 Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



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TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

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*At TECH you will NOT have live classes
(which you might not be able to attend)”*



The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

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TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want”

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.



A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.



As such, the best educational materials, thoroughly prepared, will be available in this program:



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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



Interactive Summaries

We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

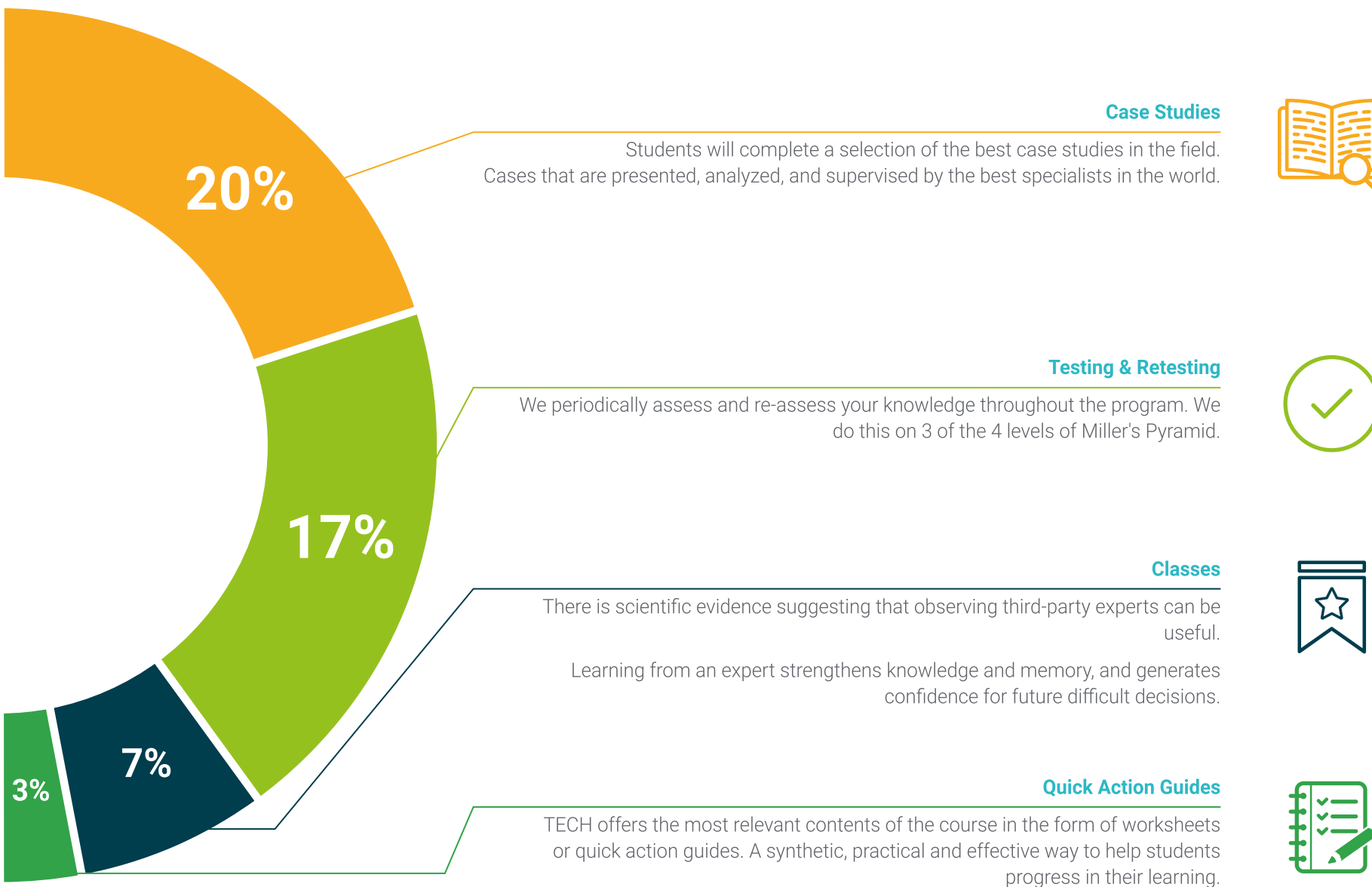
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





06 Certificate

This Postgraduate Certificate in Internet of Things (IoT) guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Postgraduate Certificate issued by TECH Global University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This private qualification will allow you to obtain a diploma for the **Postgraduate Certificate in Internet of Things (IoT)** endorsed by TECH Global University, the world's largest online university.

TECH Global University, is an official European University publicly recognized by the Government of Andorra ([official bulletin](#)). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

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Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



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



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