Postgraduate Certificate

Digital Forensics and Artificial Intelligence-Assisted Incident Response
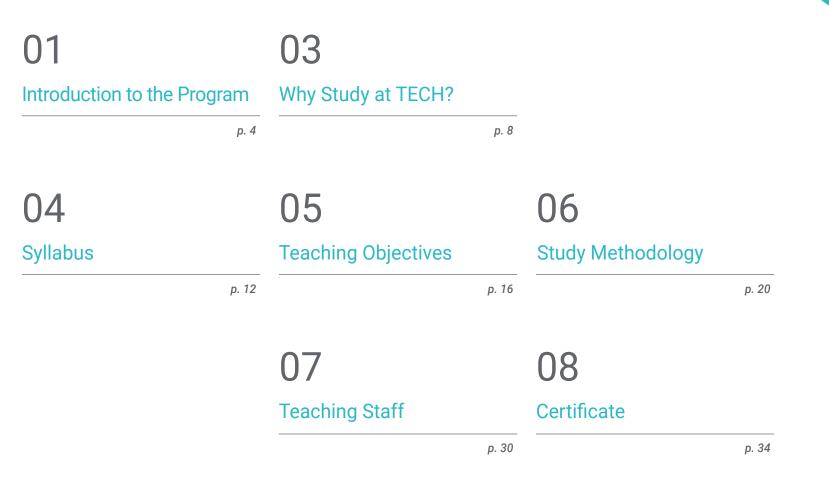
tech global university

Postgraduate Certificate
Digital Forensics and Artificial Intelligence-Assisted Incident Response

» 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/digital-forensics-artificial-intelligence-assisted-incident-responseinteligencia-artificial**

Index

Introduction to the Program

As digital threats become more sophisticated, organizations face the need to quickly investigate and respond to incidents that compromise critical data and business operations. This landscape has driven the adoption of advanced technologies, including Artificial Intelligence, to improve the accuracy, efficiency and depth of Digital Forensics. For this reason, TECH is launching a comprehensive university program that prepares computer scientists to address contemporary challenges in cybersecurity, providing them with both advanced tools and key competencies to address incidents, from evidence identification to automated response. All this, taught through a 100% online modality and with the innovative Relearning methodology.

You will acquire the necessary skills to lead strategic projects in Digital Forensic Analysis, from the investigation of computer crimes to the management of critical infrastructures. And all 100% online!"

Digital Forensics and Incident Response represent two of the most critical disciplines within cybersecurity today. These areas focus on the investigation and resolution of digital incidents, such as cyberattacks, data breaches, and malicious activity on computer systems. Artificial Intelligence, meanwhile, has transformed the digital security landscape, providing new capabilities to analyze large volumes of data, identify malicious patterns, and automate complex processes. Models such as ChatGPT have proven to be key allies in this field by facilitating the identification of digital evidence, event correlation and incident reconstruction with unprecedented accuracy.

However, with the advent of digital transformation and increasing global connectivity, there has been an exponential increase in cyber threats, making it essential to have trained experts who can identify, analyze and mitigate damage in digital environments. In this context arises this TECH Postgraduate Certificate, which offers computer scientists a comprehensive tour of the most outstanding aspects in this field, from the basics of Digital Forensic Analysis to the most advanced techniques assisted by Artificial Intelligence, such as the identification and extraction of evidence, correlation of events through log analysis, and data recovery in compromised systems.

In addition, professionals will benefit from a completely online study methodology, which eliminates the need to attend classes in person or adjust to a fixed schedule. This pedagogical model allows greater flexibility so that, in just 6 weeks of intensive study, they can learn about the use of intelligent systems, understanding the competitive advantages they offer. This academic itinerary will position them at the technological forefront, preparing them to lead innovative projects both in the present and in the future. In addition, the learning process is based on the Relearning method, a pedagogical strategy that facilitates the consolidation of key concepts through progressive and contextualized repetition.

This **Postgraduate Certificate in Digital Forensics and Artificial Intelligence-Assisted Incident Response** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in Artificial Intelligence, Cybersecurity and advanced technologies

- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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

You will integrate Artificial Intelligence into Cybersecurity processes, optimizing threat detection and real-time incident response"

"

You will employ advanced security techniques to mitigate risks, protect sensitive data and resolve incidents supported by disruptive technologies"

You will simplify your learning with the Relearning method, of which TECH is a pioneer, designed to optimize your study time and improve the retention of concepts.

You will deepen your understanding of the use of Gemini to automate forensic processes, improving efficiency in the identification and analysis of evidence.

The program's teaching staff includes professionals from the sector who contribute their work experience to this specializing 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
Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it relies on an enormous faculty of more than 6,000 professors of the highest international renown.

"

Study at the world's largest online university and guarantee your professional success. The future starts at TECH"

tech

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

Forbes
The best online
university in
the world

The
most complete
syllabus

TOP
international
faculty

The most effective
methodology

**World's
No.1**
The World's largest
online university

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Partner
PREMIER 2023

NBA
The Official
Online University
of the **NBA**

4.9/5
★★★★★
★ global score

99%
maximun
employability
guaranteed

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

03

Syllabus

This TECH study offers a comprehensive and practical vision of the most cutting-edge tools and methodologies to investigate digital incidents. Through this academic pathway, computer scientists will delve into evidence identification, incident analysis and application of Artificial Intelligence models in key processes such as data recovery and event reconstruction. In addition, this curriculum ensures a comprehensive understanding of modern forensic techniques, preparing professionals to meet today's cybersecurity challenges with innovative and ethical solutions.

You will delve into Data Recovery, Event Correlation and Log Analysis, ensuring you have a comprehensive understanding of the most advanced techniques in the industry"

Module 1. Digital Forensics and Artificial Intelligence-Assisted Incident Response

1.1.   ChatGPT Forensic Processes for the Identification of Evidence
    1.1.1.   Basic Concepts of Forensic Analysis in Digital Environments
    1.1.2.   Stages of Evidence Identification and Collection
    1.1.3.   Role of ChatGPT in the Support of Forensic Identification

1.2.   Gemini and ChatGPT in Data Identification and Data Mining
    1.2.1.   Fundamentals of Data Extraction for Forensic Analysis
    1.2.2.   Relevant Data Identification Techniques
    1.2.3.   Contribution of Artificial Intelligence to the Automation of the Extraction Process

1.3.   Log Analysis and Event Correlation with Artificial Intelligence
    1.3.1.   Importance of Logs in Incident Analysis
    1.3.2.   Event Correlation Techniques for Incident Reconstruction
    1.3.3.   Use of Artificial Intelligence to Identify Patterns in Log Correlation

1.4.   Data Recovery and Restoration of Systems Using Artificial Intelligence
    1.4.1.   Data Recovery Principles and Their Importance in Digital Forensics
    1.4.2.   Restoration Techniques of Compromised Systems
    1.4.3.   Application of Artificial Intelligence to Improve Recovery and Restoration Processes

1.5.   Machine Learning for Incident Detection and Reconstruction
    1.5.1.   Introduction to Machine Learning in Incident Detection
    1.5.2.   Incident Reconstruction Techniques with Artificial Intelligence Models
    1.5.3.   Ethical and Practical Considerations in Event Detection

1.6.   Incident Reconstruction and Simulation with ChatGPT
    1.6.1.   Fundamentals of Incident Reconstruction in Forensic Analysis
    1.6.2.   ChatGPT's Ability to Create Incident Simulations
    1.6.3.   Limitations and Challenges in Complex Incident Simulation

1.7.   Detection of Malicious Activity on Mobile Devices
    1.7.1.   Characteristics and Challenges in Forensic Analysis of Mobile Devices
    1.7.2.   Major Malicious Activities in Mobile Environments
    1.7.3.   Application of Artificial Intelligence to Identify Threats in Mobile Devices

You will master the ethical and legal principles of Digital Forensic Analysis, ensuring that your professional decisions respect privacy, transparency and international regulations"

04
Teaching Objectives

Throughout this TECH Postgraduate Certificate, IT professionals will acquire key skills to identify digital evidence, reconstruct Incidents and automate responses using advanced Artificial Intelligence tools such as ChatGPT and Gemini. At the same time, they will strengthen their ability to integrate innovative solutions in complex environments, ensuring technical efficiency, ethical compliance and leadership in cybersecurity projects.

You will use intelligent systems like ChatGPT to identify evidence, retrieve data and accurately reconstruct incidents"

General Objectives

- Acquire advanced knowledge of Digital Forensic Analysis and its application in the identification and collection of evidence in digital environments

- Develop skills in the use of Artificial Intelligence for the automation of forensic processes and Incident Response

- Train in the application of data mining and analysis techniques assisted by generative models such as ChatGPT and Gemini

- Promote the understanding of ethical and legal principles in the use of Artificial Intelligence tools in the Forensic field

- Facilitate the mastery of strategies for log correlation and reconstruction of complex incidents using Artificial Intelligence

- Promote the integration of advanced methodologies for data recovery and restoration of compromised systems

- Drive the analysis and detection of malicious activity on mobile devices using specialized technologies

- Ensure the ability to implement automated workflows for efficient response to cybersecurity incidents

Specific Objectives

- Learn to identify, extract and analyze digital evidence with the support of Artificial Intelligence tools

- Use Artificial Intelligence to automate data retrieval and reconstruction of security incidents

- Design and practice automated response workflows, ensuring speed and effectiveness in mitigating incidents

- Integrate advanced forensic analysis tools for the investigation of complex cyber-attacks

- Develop Artificial Intelligence-based event reconstruction techniques for post-incident audits

- Create automated incident response protocols, prioritizing operational continuity and damage mitigation

You will master advanced techniques to automate Incident Response, optimizing time and resources in critical situations"

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.

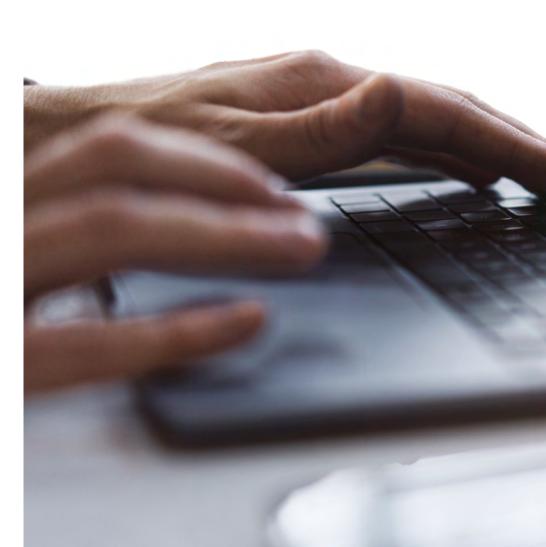*TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"*

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.

"

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.

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.
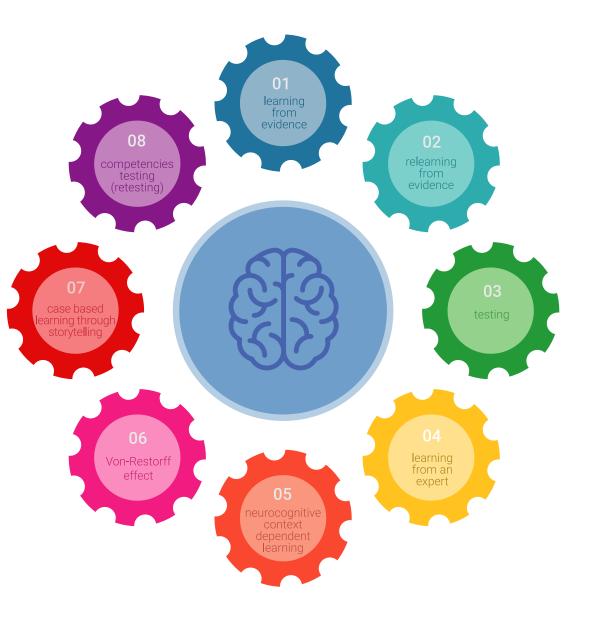
Relearning Methodology

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.

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)

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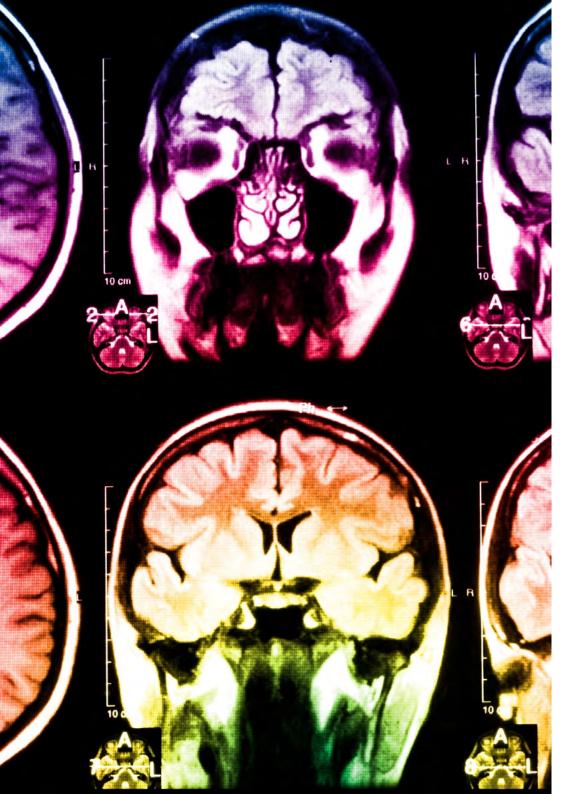
Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

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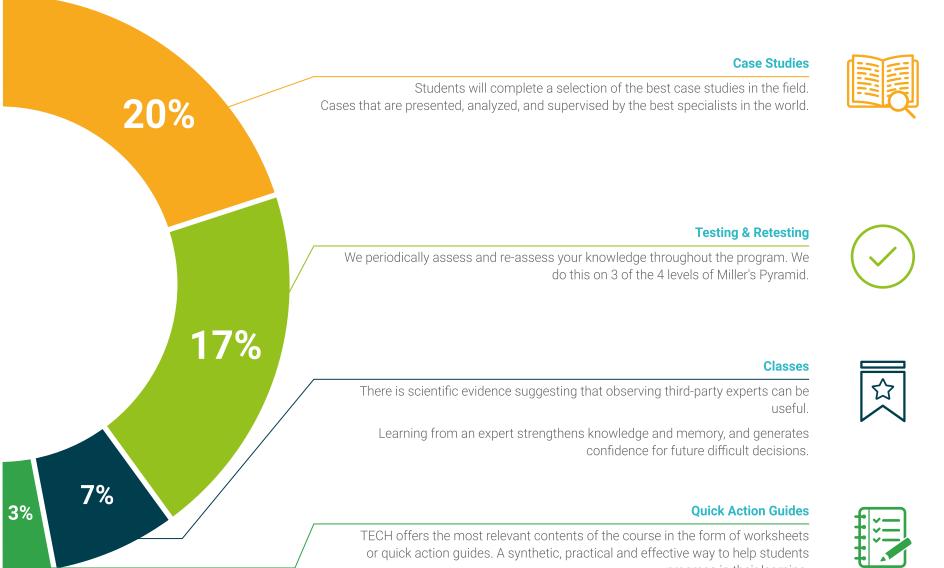
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Additional Reading

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

20%

15%

15%

3%

20%

17%

7%

3%

Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

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 for future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

Teaching Staff

The teaching staff of this university program is composed of renowned experts in the field of Cybersecurity, Digital Forensics and Artificial Intelligence. Thanks to their extensive professional and academic experience, they offer a practical and updated preparation, focused on the use of intelligent systems in the resolution of Incidents. In addition, they have a multidisciplinary approach that combines technical, ethical and strategic knowledge, ensuring a first class education.

You will have the support of a teaching team made up of experts in Artificial Intelligence, who will show you the latest trends in this field"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at AI Shepherds GmbH
- Consultant and Strategic Business Advisor at Alliance Medical
- Director of Design and Development at DocPath
- Doctorate in Psychology from the University of Castilla La Mancha
- Doctorate in Economics, Business and Finance from the Camilo José Cela University
- Doctorate in Psychology from University of Castilla La Mancha
- Master's Degree in Executive MBA from the Isabel I University
- Master's Degree in Sales and Marketing Management from the Isabel I University
- Expert Master's Degree in Big Data by Hadoop Training
- Master's Degree in Advanced Information Technologies from the University of Castilla La Mancha
- Member of: SMILE Research Group

Professors

Mr. Del Rey Sánchez, Alejandro

- Responsible for implementation of programs to improve tactical care in emergencies
- Degree in Industrial Organization Engineering
- Certification in Big Data and Business Analytics
- Certification in Microsoft Excel Advanced, VBA, KPI and DAX
- Certification in CIS Telecommunication and Information Systems

" *All teachers in this program accumulate extensive experience, offering you an innovative perspective on the main advances in this field of study"*

07

Certificate

The Postgraduate Certificate in Digital Forensics and Artificial Intelligence-Assisted Incident Response guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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 **Postgraduate Certificate in Digital Forensics and Artificial Intelligence-Assisted Incident Response** 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.

Title: **Postgraduate Certificate in Digital Forensics and Artificial Intelligence-Assisted Incident Response**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

tech *global university*

Mr./Ms. _____, with identification document _____ has successfully passed and obtained the title of:

Postgraduate Certificate in Digital Forensics and Artificial Intelligence-Assisted Incident Response

This is a private qualification of 1,800 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
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 Global University will make the necessary arrangements to obtain it, at an additional cost.

Postgraduate Certificate
Digital Forensics and Artificial Intelligence-Assisted Incident Response

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

Postgraduate Certificate
Digital Forensics and Artificial Intelligence-Assisted Incident Response