

Postgraduate Certificate Intelligent Systems in Video Game Programming



Postgraduate Certificate Intelligent Systems in Video Game Programming

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

Website: www.techtute.com/us/information-technology/postgraduate-certificate/postgraduate-certificate-intelligent-systems-video-game-programming

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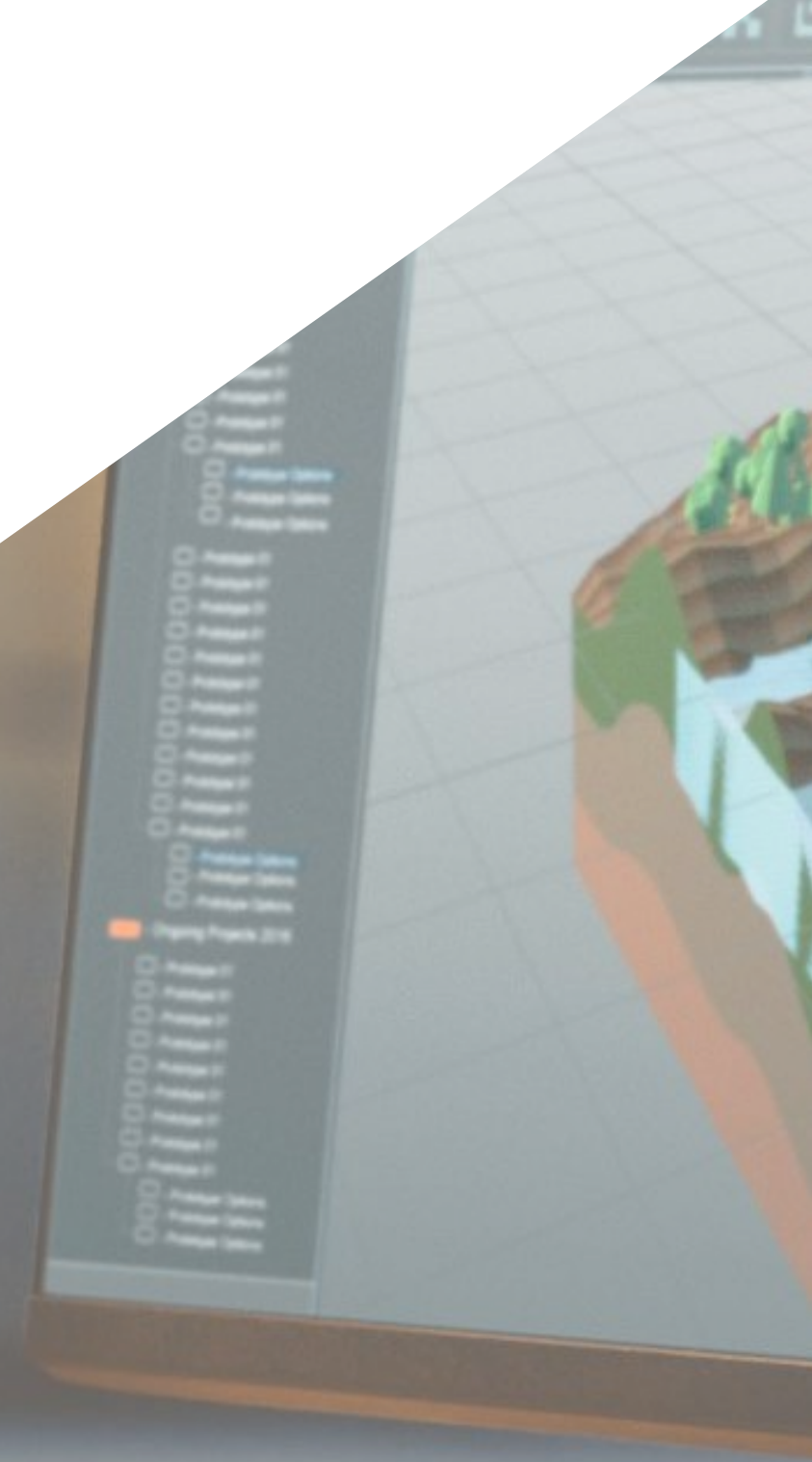
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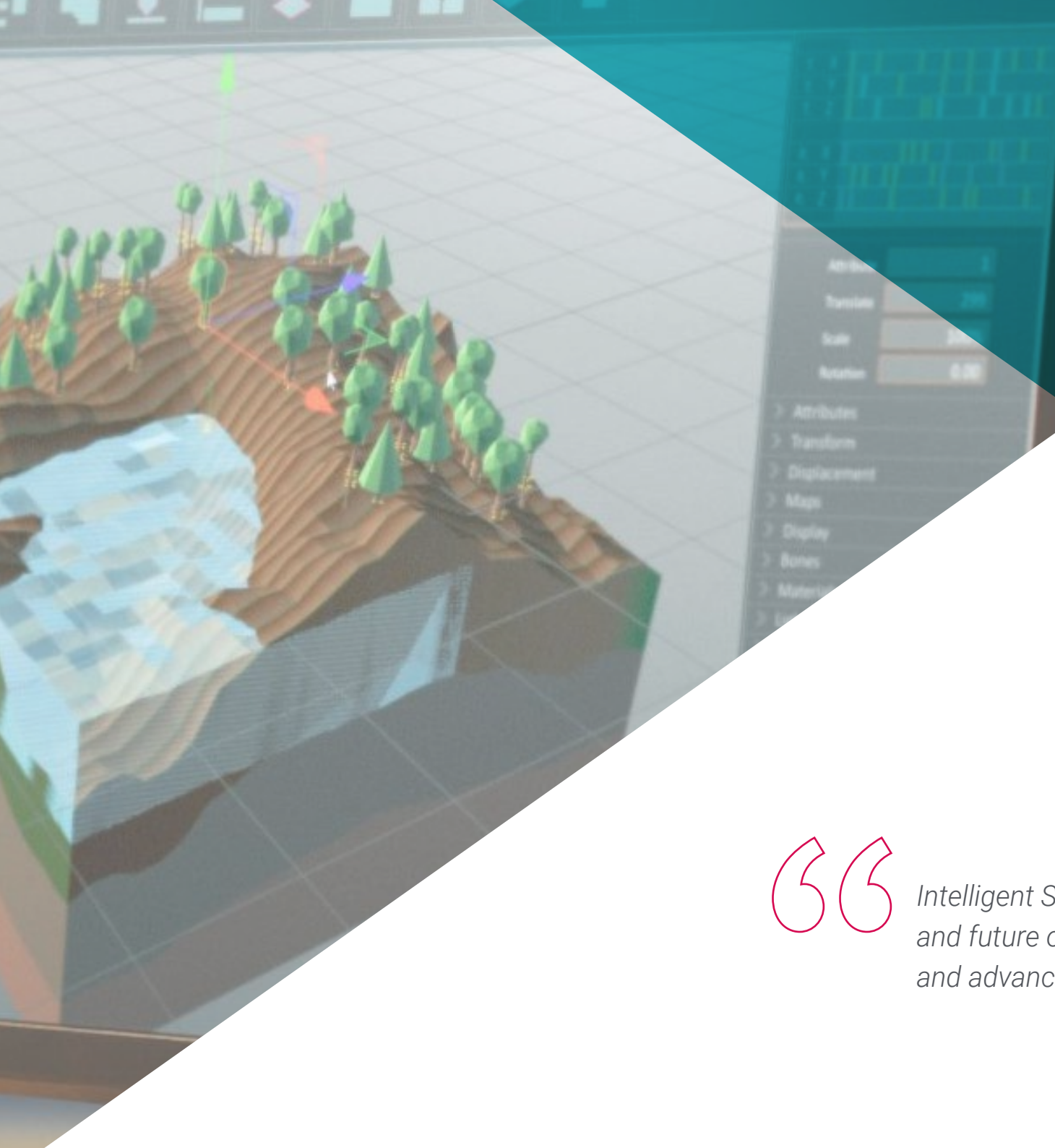
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01

Introduction

Intelligent Systems are a fundamental part of Video Games nowadays, since they have require more and more advanced technologies that can meet Gamer expectations. Artificial Intelligence has helped to fulfill Gamer demands for realism, resulting in the industry seeking experts in this matter. But this type of professional is not abundant, so specializing in this area can mean a radical change in students' careers. That is why this course can be essential to achieve the professional advancement they are looking for.





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Intelligent Systems are the present and future of Video Games. Enroll and advance professionally”

Artificial Intelligence is one of the Scientific and Technological branches with the greatest future today. This discipline is used in numerous fields, from healthcare to finance, from customer services to sports. And it will continue to expand as its applications continue to grow.

Video games are no different, as they can create increasingly accurate, realistic and enjoyable products. That is why this area of specialization increasingly requires more and more experts who can meet the challenges posed by the industry.

This Postgraduate Certificate in Intelligent Systems in Video Game Programming aims to meet this demand by preparing students to be able to contribute their knowledge in artificial intelligence to video games, making the companies they work for achieve success thanks to their new skills.

Furthermore, this course follows a 100% online learning methodology, so it adapts to every students' situation, allowing them to balance their studies with their careers.

This **Postgraduate Certificate in Intelligent Systems in Video Game Programming** contains the most complete and up-to-date scientific program on the market. Its most notable features are:

- ◆ Practical cases presented by experts in programming and Artificial Intelligence
- ◆ The graphic, schematic, and eminently 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



Artificial Intelligence is the future of the Video Game Industry. Don't miss this opportunity and enroll now"

“*Intelligent Systems are an essential part of today's video games. Great opportunities await you thanks to this Postgraduate Certificate*”

Specialization is key in the Video Game Industry. This Postgraduate Certificate is your opportunity to advance your career.

You will be essential to your company when you complete this course.

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

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive 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 during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.



02 Objectives

The main objective of this Postgraduate Certificate in Intelligent Systems in Video Game Programming is to offer students the best professional opportunities in the Video Game Industry. To this end, it has prepared this high-level program, which aims to prepare students for all the challenges posed by Artificial Intelligence used in Video Games. When students complete this program, they will be able to perform tasks in this field, ensuring themselves a bright future in a large company in the industry.



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With this Postgraduate Certificate in Intelligent Systems in Video Game Programming, you will achieve all your professional goals”



General objectives

- ◆ Delve deeper into the Video Game Production Process and Integrate Programming throughout each stage
- ◆ Learn the Fundamentals of Video Game Design and the theoretical knowledge that a Video Game Designer must have
- ◆ Apply knowledge of Software Engineering and Specialized Programming to Video Games
- ◆ Understand the role of Programming in Video Game Development





Specific objectives

- ◆ Establish Agent Theory concepts, Agent Architecture and the Reasoning Process behind it
- ◆ Assimilate the Theory and Practice behind the Concepts of Information and Knowledge, as well as the different ways of Representing Knowledge
- ◆ Understand the functioning of Semantic Reasoners, Knowledge-Based Systems and Expert Systems

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Enroll now and sit back to see your career launch”

03

Structure and Content

The contents of this Postgraduate Certificate in Intelligent Systems in Video Game Programming have been designed by leading experts in Artificial Intelligence applied to Video Games; so, this syllabus will be a high-level training experience for students who complete the program. At the end of this course, students will have become true specialists in the field and will be able to access numerous career opportunities in large companies in the industry.



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*A comprehensive syllabus to specialize in
Intelligent Systems applied to Video Games”*

Module 1. Intelligent Systems

- 1.1. Agents Theory
 - 1.1.1. Concept History
 - 1.1.2. Agent Definition
 - 1.1.3. Agents in Artificial Intelligence
 - 1.1.4. Agents in Software Engineering
- 1.2. Agent Architectures
 - 1.2.1. Agent Thought Process
 - 1.2.2. Reactive Agents
 - 1.2.3. Deductive Agents
 - 1.2.4. Hybrid Agents
 - 1.2.5. Comparison
- 1.3. Information and Knowledge
 - 1.3.1. Difference between Data, Information and Knowledge
 - 1.3.2. Data Quality Assessment
 - 1.3.3. Data Collection Methods
 - 1.3.4. Information Acquisition Methods
 - 1.3.5. Knowledge Acquisition Methods
- 1.4. Knowledge Representation
 - 1.4.1. The Importance of Knowledge Representation
 - 1.4.2. Definition of Knowledge Representation According to Role
 - 1.4.3. Knowledge Representation Features
- 1.5. Ontologies
 - 1.5.1. Introduction to Metadata
 - 1.5.2. Philosophical Concept of Ontology
 - 1.5.3. Computing Concept of Ontology
 - 1.5.4. Domain Ontologies and Higher-Level Ontologies
 - 1.5.5. Building an Ontology





- 1.6. Ontology Languages and Ontology Creation Software
 - 1.6.1. Triple RDF, Turtle and N3
 - 1.6.2. RDF Schema
 - 1.6.3. OWL
 - 1.6.4. SPARQL
 - 1.6.5. Introduction to Ontology Creation Tools
 - 1.6.6. Installing and Using Protégé
- 1.7. Semantic Web
 - 1.7.1. Current and Future Status of Semantic Web
 - 1.7.2. Semantic Web Applications
- 1.8. Other Knowledge Representation Models
 - 1.8.1. Vocabulary
 - 1.8.2. Global Vision
 - 1.8.3. Taxonomy
 - 1.8.4. Thesaurus
 - 1.8.5. Folksonomy
 - 1.8.6. Comparison
 - 1.8.7. Mind Maps
- 1.9. Knowledge Representation Assessment and Integration
 - 1.9.1. Zeroth-Order Logic
 - 1.9.2. First-Order Logic
 - 1.9.3. Description Logic
 - 1.9.4. Relation between Different Types of Logic
 - 1.9.5. Prolog: Programming Based on First-Order Logic
- 1.10. Semantic Reasoners, Knowledge-Based Systems and Expert Systems
 - 1.10.1. Concept of Reasoner
 - 1.10.2. Reasoner Applications
 - 1.10.3. Knowledge-Based Systems
 - 1.10.4. MYCIN: History of Expert Systems
 - 1.10.5. Expert Systems Elements and Architecture
 - 1.10.6. Creating Expert Systems

04

Methodology

This training program offers 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.





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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"

At TECH we use the Case Method

Our program offers a revolutionary method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

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At TECH, you will experience a way of learning that is shaking the foundations of traditional universities around the world”



We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.



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

A learning method that is different and innovative.

This intensive Information Technology program at TECH Global University prepares you to face all the challenges in this field, both nationally and internationally. We are committed to promoting your personal and professional growth, the best way to strive for success, that is why at TECH Global University you will use Harvard case studies, with which we have a strategic agreement that allows us, to offer you material from the best university in the world.

“ *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

Our university is the first in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance Harvard case studies 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 university 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.



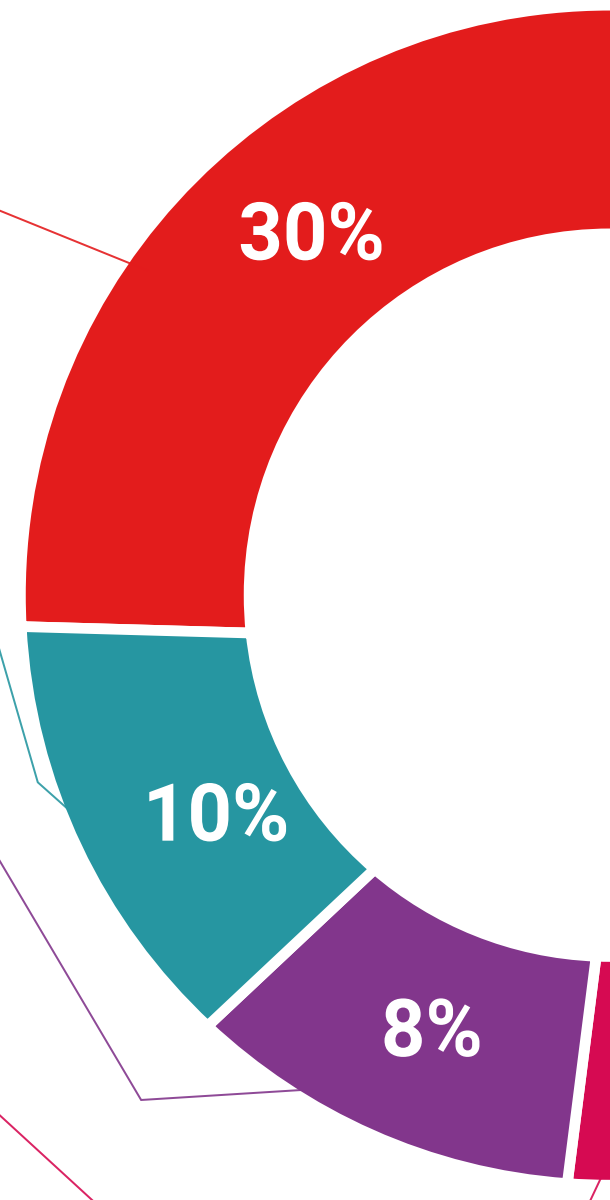
Practising Skills and Abilities

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



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

They will complete a selection of the best case studies in the field used at Harvard. Cases that are presented, analyzed, and supervised by the best senior management 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 multimedia content presentation training Exclusive system 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 your goals.



05 Certificate

The Postgraduate Certificate in Intelligent Systems in Video Game Programming guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Global University.



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Successfully complete this training and receive your university degree without travel or laborious paperwork”

This program will allow you to obtain your **Postgraduate Certificate in Intelligent Systems in Video Game Programming** 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** title 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 Intelligent Systems in Video Game Programming**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*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.

health future
confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present
online training
development language
classroom



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- » Schedule: at your own pace
- » Exams: online

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