

# Postgraduate Certificate Video Game Orchestration and Virtual Acoustics





## Postgraduate Certificate Video Game Orchestration and Virtual Acoustics

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

Website: [www.techtute.com/us/videogames/postgraduate-certificate/video-game-orchestration-virtual-acoustics](http://www.techtute.com/us/videogames/postgraduate-certificate/video-game-orchestration-virtual-acoustics)

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Certificate

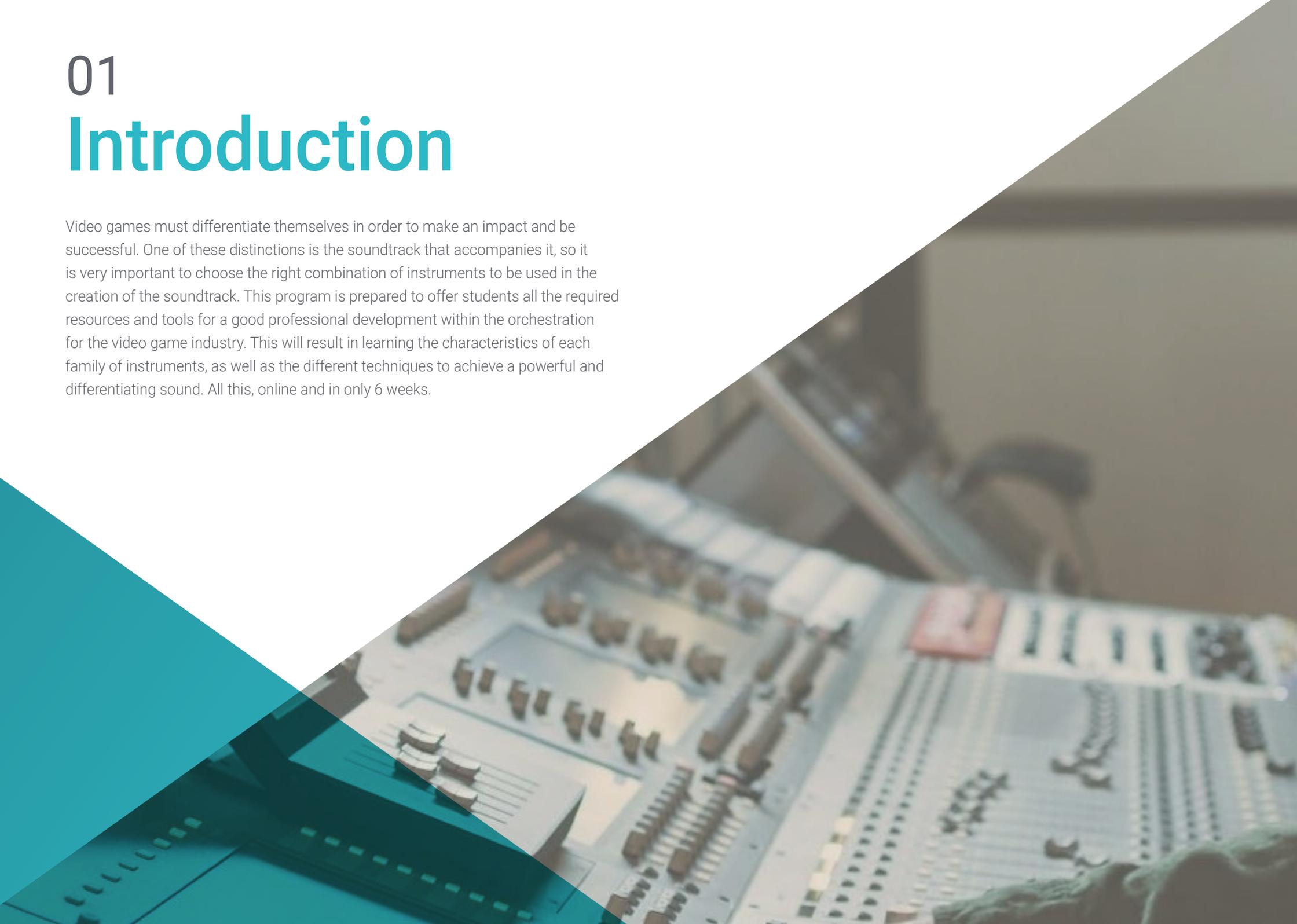
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# 01

# Introduction

Video games must differentiate themselves in order to make an impact and be successful. One of these distinctions is the soundtrack that accompanies it, so it is very important to choose the right combination of instruments to be used in the creation of the soundtrack. This program is prepared to offer students all the required resources and tools for a good professional development within the orchestration for the video game industry. This will result in learning the characteristics of each family of instruments, as well as the different techniques to achieve a powerful and differentiating sound. All this, online and in only 6 weeks.



“

*You will delve into the different groups of instruments, their techniques and their most recognizable timbre effects, to apply them in a melody that accompanies a video game”*

Video game companies need an essential element when creating a soundtrack: good orchestration. For this purpose, they require professionals who know the appropriate musical instruments for each piece. In this way, the different elements of the game will converge in great harmony. The differentiation between the use of real instruments and virtual ones is also a factor that is important to take into account not only in terms of the final result, but also taking into account the final objective.

This Postgraduate Certificate is designed for those professionals who want to specialize in the world of acoustic and virtual orchestration focused on the realization of a digital game. For this reason, they have a syllabus divided into subjects related to the more acoustic instruments and those that are virtual comparing and merging these two aspects will be enriching, both professionally and musically, for the graduates.

This program has highly qualified teachers to instruct students through this knowledge. With an online methodology, TECH is a strong candidate to be the ideal option for those who cannot follow the conventional pace established by a university. In this way, it offers the possibility of studying this program from anywhere, without schedules or external pressures. In addition to all of this, we must add the most innovative educational techniques on the market, such as *Relearning* or the case method, both of which are endorsed by the educational community.

This **Postgraduate Certificate in Video Game Orchestration and Virtual Acoustics** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Practical cases so that learning is carried out in a more direct way
- ◆ Specialized content on development and animation in video games
- ◆ 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



*Enroll in this Postgraduate Certificate and you will learn the most innovative orchestration techniques to improve your creations”*

“

*In this course you will learn, through different activities and real cases, how to solve different situations in real work environments”*

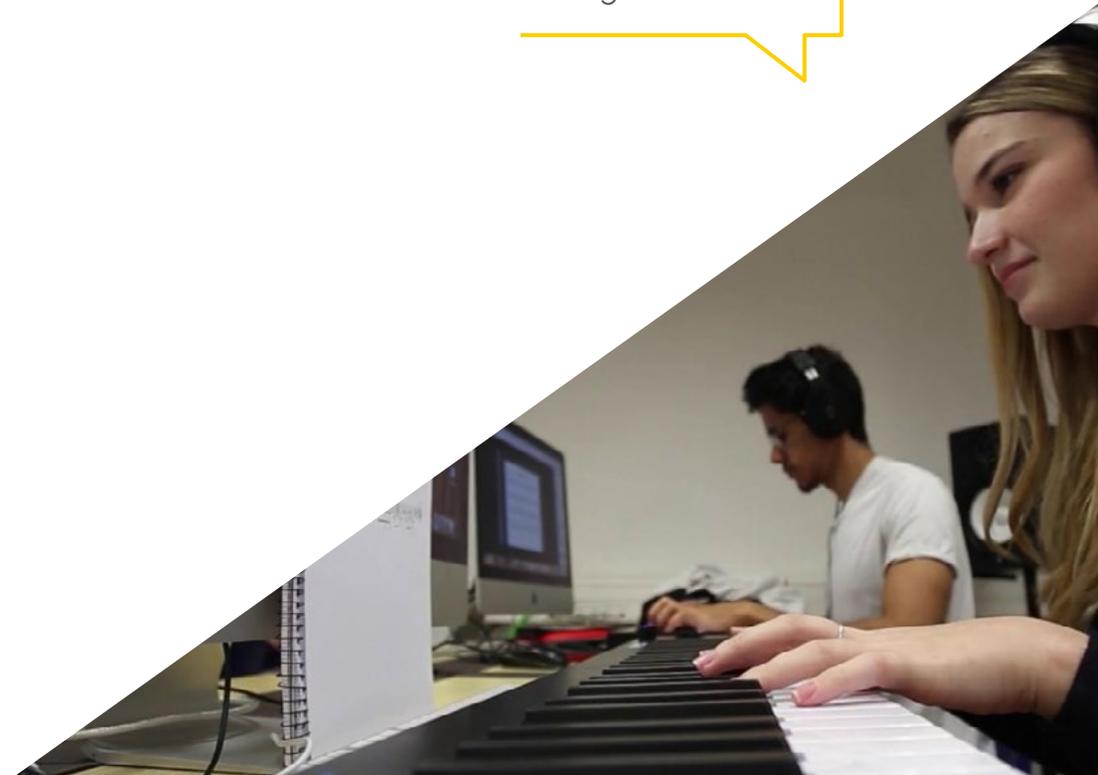
*Learn the key aspects and differences between a virtual orchestra and a traditional orchestra.*

*Compose soundtracks that are remembered by different generations.*

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

Its multimedia content, developed with the latest educational technology, will allow professionals to learn in a contextual and situated learning environment, i.e., a simulated environment that will provide immersive education programmed to prepare in real situations.

The design of this program focuses on Problem-Based Learning, by means of which professionals 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 goal of this program is for graduates to become professionals in Orchestration and Acoustics for Video Games. For this purpose, it focuses on different general and specific objectives that will help the correct assimilation of the relevant concepts and skills to achieve them. Upon completion of this program, students will be prepared to develop their careers in an optimal and successful way.





“

*As a result of the contents of this program, you will become a specialist in orchestration and acoustics for video games”*



## General Objective

- ◆ Distinguish the various instruments and the proper use of a traditional orchestra and a virtual orchestra

“

*Know the different characteristics of the instruments that form part of an orchestra. Learn to differentiate between them depending on their functionality and construction”*





## Specific Objectives

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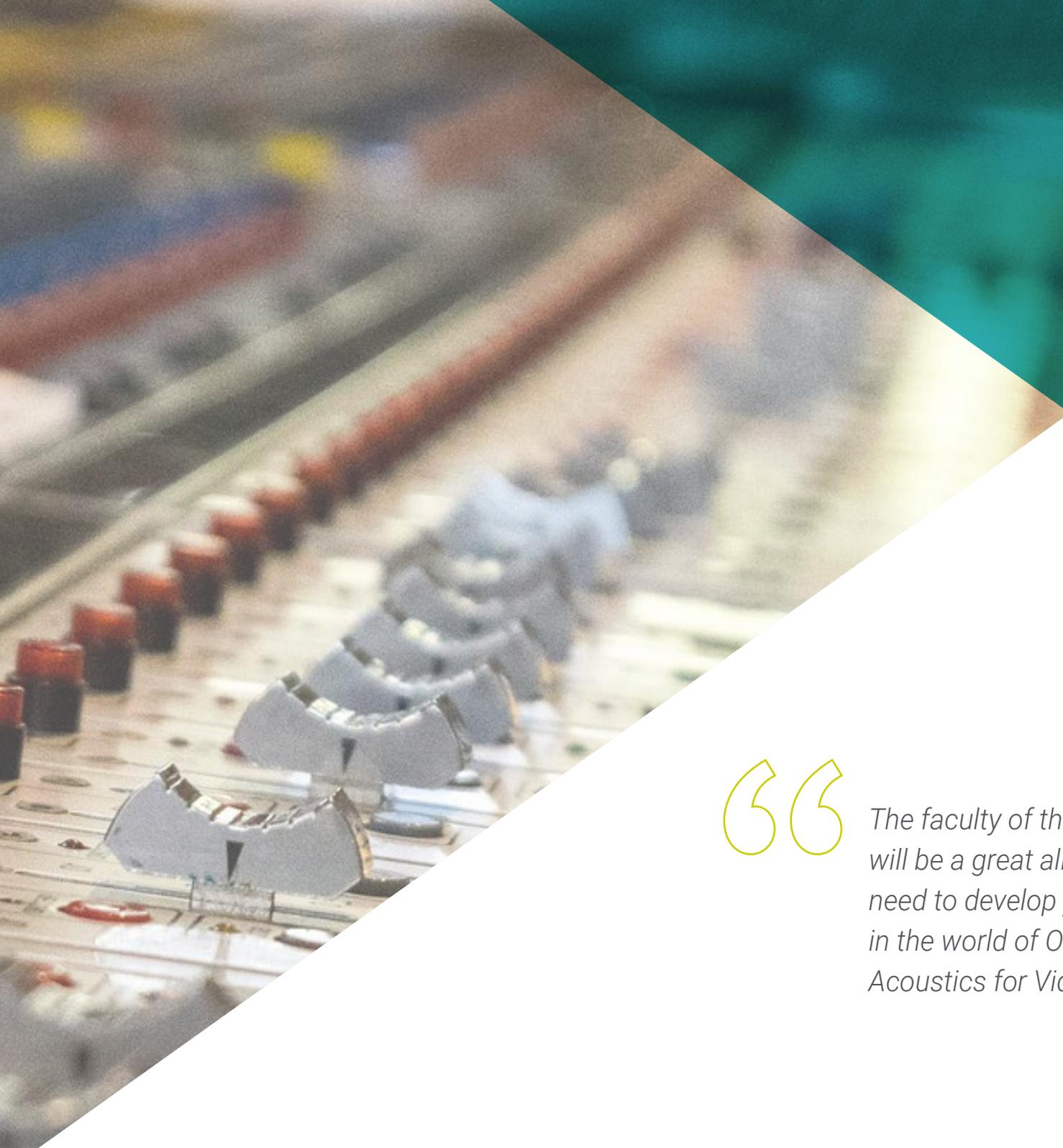
- ◆ Understand the construction and different formations of the orchestra
- ◆ Differentiate the instruments by their construction and way of emitting sound
- ◆ Broadly understand the use of the string section for various moments of sound
- ◆ Classify the various types of percussion instruments according to their construction
- ◆ Learn in detail how other less common instruments work in the traditional orchestra
- ◆ Differentiate widely between the behavior of a real orchestra and that of a virtual orchestra
- ◆ Control the different sections of a virtual orchestra

03

# Course Management

TECH has experts in the field, as faculty of this Postgraduate Certificate. Students will be taught and guided towards a correct assimilation and understanding of the topics taught in the program. For this purpose, all our faculty members use the *Relearning* method, emphasizing the repetition of key concepts.





“

*The faculty of this Postgraduate Certificate will be a great ally to adopt everything you need to develop your professional career in the world of Orchestration and Virtual Acoustics for Video Games”*

## Management



### Mr. Raya Buenache, Alberto

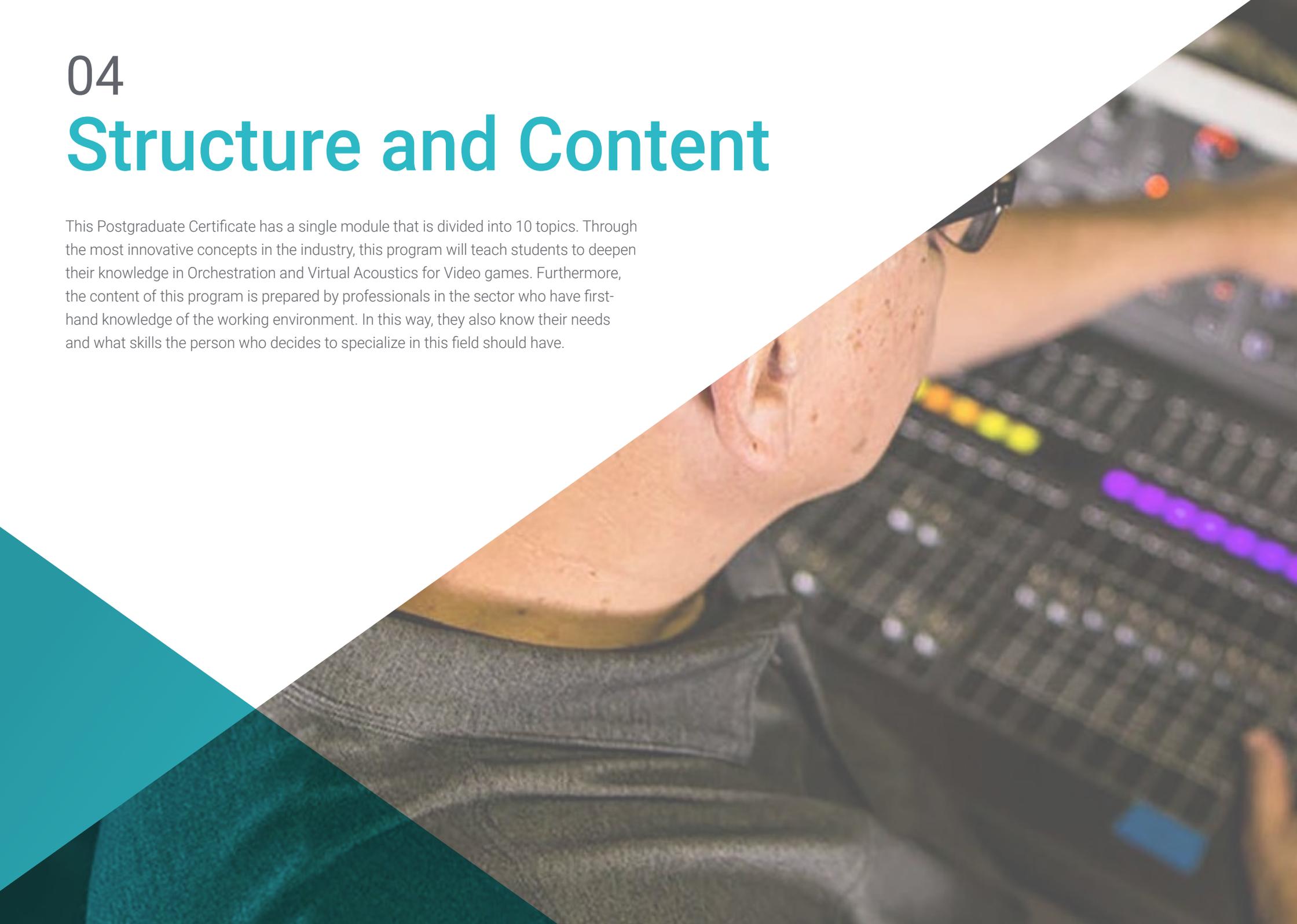
- Musician Specialist in Performance and Composition for Audiovisual Media
- Musical director from of the Colmejazz Big Band
- Director of the Colmenar Viejo Youth Symphony Orchestra
- Professor of Music Composition for Audiovisual Media and Music Production
- Advanced Music Degree in the Specialty of Performance from the Royal Conservatory of Music of Madrid
- Master's Degree in Composition for Audiovisual Media (MCAV) from the Katarina Gurska University of Applied Sciences



# 04

## Structure and Content

This Postgraduate Certificate has a single module that is divided into 10 topics. Through the most innovative concepts in the industry, this program will teach students to deepen their knowledge in Orchestration and Virtual Acoustics for Video games. Furthermore, the content of this program is prepared by professionals in the sector who have first-hand knowledge of the working environment. In this way, they also know their needs and what skills the person who decides to specialize in this field should have.



“

*If you want to be a professional in Video Game Orchestration and Virtual Acoustics for video games, this program is for you. Get to know all the most relevant aspects of this specialization and become a professional”*

## Module 1. Acoustic and Virtual Orchestration

- 1.1. The Orchestra
  - 1.1.1. Instruments
  - 1.1.2. Formats
  - 1.1.3. Hybrid Orchestra
- 1.2. Instruments
  - 1.2.1. Structure and Classification
  - 1.2.2. Techniques
  - 1.2.3. Timbre Effects
- 1.3. String Orchestration
  - 1.3.1. Sound Planes
  - 1.3.2. Contrapuntal vs. Homophonic Writing Homophone
  - 1.3.3. Accompanying a Soloist
- 1.4. Woodwind and String Accompaniment Orchestration
  - 1.4.1. Contrapuntal vs. Homophonic Writing Homophone
  - 1.4.2. Use of Wood to Achieve Color Contrasts
  - 1.4.3. Special Effects
- 1.5. Brass and Woodwind Orchestration with Woodwinds and Strings
  - 1.5.1. Uses and Duplications
  - 1.5.2. Melody, Homophonic and Contrapuntal Writing
  - 1.5.3. Sound Climax and Timbral Effects
- 1.6. Percussion Section
  - 1.6.1. Instrument Classification
  - 1.6.2. Number and Distribution of Instrumentalists
  - 1.6.3. Notation of Percussion Instruments





- 1.7. Other Instruments
  - 1.7.1. Keyboard Instruments
  - 1.7.2. String Instruments without a Bow
  - 1.7.3. Orchestration for These Instruments
- 1.8. Differences between “Samplers” and Real Orchestras
  - 1.8.1. Dynamics, Balance and Panorama
  - 1.8.2. Layers
  - 1.8.3. Keyswitches
- 1.9. Orchestration Techniques for “Samplers”: Patches Ensemble
  - 1.9.1. Full and Powerful Sound
  - 1.9.2. Using Patches Ensemble
  - 1.9.3. Strings: Sustain, Tremolo and Staccato
- 1.10. Orchestration Techniques for “Samplers”: Pairing
  - 1.10.1. Timpani
  - 1.10.2. Orchestra and Percussion Pairing
  - 1.10.3. Choir and Orchestra Pairing



*At the end of this course, you will know all the orchestration techniques for samplers, and you will know how to apply your personal touch to your works”*

05

# Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





“

*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## Case Study to contextualize all content

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

“

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



*You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.*



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

### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

**“** *Our program prepares you to face new challenges in uncertain environments and achieve success in your career”*

The case method has been the most widely used learning system among the world's leading business 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. Over the course of 4 years, you will be presented with multiple practical case studies. You will have to combine all your knowledge, and research, argue, and defend your ideas and decisions.

## Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 8 different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

*In 2019, we obtained the best learning results of all online universities in the world.*

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



### Practising Skills and Abilities

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

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 Video Game Orchestration and Virtual Acoustics 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 Video Game Orchestration and Virtual Acoustics** contains the most complete and up-to-date program on the market..

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Video Game Orchestration and Virtual Acoustics**  
Official N° of Hours: **150 h.**



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

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

**tech** technological  
university

personalized service innovation

knowledge present

online training

development language

virtual classroom

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