

# Postgraduate Diploma Technological Innovation and ICT in Education





## Postgraduate Diploma

### Technological Innovation and ICT in Education

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

Website: [www.techtute.com/in/education/postgraduate-diploma/postgraduate-diploma-technological-innovation-ict-education](http://www.techtute.com/in/education/postgraduate-diploma/postgraduate-diploma-technological-innovation-ict-education)

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01

# Introduction

Qualified professionals need to incorporate technological advances in their day-to-day work, and to do so, they must be trained within a curricular framework adapted to the demands of the center and the students





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*This Postgraduate Diploma in Technological Innovation and ICT in Education will generate a sense of confidence when fulfilling your role in your profession, which will help you to grow both on a personal and professional level"*

Technological advances are of immeasurable value in the world of education, and professionals need to acquire the necessary knowledge to be able to incorporate them into their daily activities with skill and confidence

With the introduction of ICT, teachers and educators have had to enter fully into a new way of teaching and adapt quickly to this ever-growing technology

Knowledge of what ICT is, its objectives and its use in education will provide the teacher with a solid foundation to continue learning more ways to adapt this valuable knowledge for teaching that is adapted to the digital age

Educators must have good knowledge of the technological tools at their disposal because the effectiveness of their work and the speed with which students can use them, depend on their proper application

Teachers face a great challenge because after a lifetime of teaching in a traditional way, they have to evolve and acquire new teaching techniques, especially virtual ones

Today, educators need to acquire basic knowledge in various areas because educational methods have evolved significantly and words or textbooks are no longer enough to interest students

Educators need to acquire basic knowledge in a wide range of areas related to programming, gamification and robotics. All this will help to make the classes more interesting and attract the student's attention

This **Postgraduate Diploma in Technological Innovation and ICT in Education** contains the most complete and up-to-date program on the market. The most important features include:

- ♦ Development of more than 75 case studies presented by experts in Technological Innovation and ICT in Education
- ♦ The graphic, schematic, and practical contents with which they are created provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Latest information on detection and intervention in Technological Innovation and ICT in Education
- ♦ Practical exercises where the self-evaluation process can be carried out to improve learning
- ♦ Algorithm-based interactive learning system for decision-making in the situations that are presented to the student
- ♦ Special emphasis on evidence-based methodologies in Technological Innovation and ICT in Education
- ♦ All of this will be complemented by 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



*Update your knowledge through this Postgraduate Diploma in Technological Innovation and TIC in Education"*

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*This Postgraduate Diploma may be the best investment you can make in choosing a refresher program, for two reasons: in addition to updating your knowledge in Technological Innovation and ICT in Education, you will obtain a qualification from TECH Technological University”*

The teaching staff includes teaching professionals from the field of Technological Innovation and ICT in Education, who contribute the experience of their work to this program, as well as renowned specialists belonging to 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 an immersive academic experience 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 throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system developed by recognized experts in the field of Technological Innovation and ICT in Education with extensive teaching experience

*Increase your decision-making confidence by updating your knowledge with this Postgraduate Diploma.*

*Make the most of the opportunity to learn about the latest advances in Technological Innovation and TIC in Education and improve the training of your students.*



02

# Objectives

The program in Technological Innovation and ICT in Education is aimed at facilitating the performance of teaching professionals who wish to gain new knowledge on ICT in the field of education and other highly topical content for use within the classroom



START

START

**ONLINE TEACHING**

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START

START





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*This program is designed for you to update your knowledge in Technological Innovation and ICT in Education, with the use of the latest educational technology, to contribute with quality and confidence to the decision making and monitoring of your students"*



## General Objectives

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- Acquire fundamental knowledge and skills to be able to carry out the job of a teacher, learning everything you need to know about technology 4.0 and its online application
- Know the challenges of face-to-face education and the new trends in virtual education: augmented reality
- Acquire basic knowledge of programming, robotics and gamification which will be very useful in their application in the field of education



*Make the most of the opportunity and take the step to get up to speed on the latest developments in Technological Innovation and ICT in Education"*





## Specific Objectives

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### Module 1. ICT and its Practical and Interactive Application

- ◆ Describe new technologies in education
- ◆ Know how to implement ICT in the classroom and its different applications
- ◆ Understand social media and its applications in teaching
- ◆ Know the new methodologies in the classroom

### Module 2. ICTs in Academic Guidance

- ◆ Explain the use of technology in recreation among students
- ◆ Identify the use of educational technology by students
- ◆ Distinguish between Digital Immigrant vs Digital Native
- ◆ Identify technological difficulties in adults
- ◆ Distinguish between mobile and wi-fi networks
- ◆ Learn about the electronic whiteboard
- ◆ Understand the management of the computerized student body
- ◆ Explain online classes and tutoring

### Module 3. Technological Innovation in Education

- ◆ Distinguish between mobile and wi-fi networks
- ◆ Classify mobile devices: tablets and smartphones
- ◆ Discover the extent of the use of tablets in the classroom
- ◆ Learn about the electronic whiteboard
- ◆ Understand the management of the computerized student body
- ◆ Explain online classes and tutoring

03

# Course Management

The teaching staff of this program includes leading experts in Technological Innovation and TIC in Education who contribute the experience of their work to this program. In addition, other experts of recognized prestige participate in its design and elaboration, completing the program in an interdisciplinary way



A large, stylized yellow double quote icon.

*Learn the latest advances in the field of  
Technological Innovation and ICT in Education  
from leading professionals”*

## Management



### Mr. Cabezuelo Doblaré, Álvaro

- ♦ Psychologist
- ♦ Certificate in Digital Identity and Master's Degree in Communication,
- ♦ Digital Marketing and Social Media
- ♦ Digital Identity Teacher
- ♦ Social Media Manager at a Communication Agency
- ♦ Teacher at Aula Salud

## Professors

### Dr. De la Serna, Juan Moisés

- ♦ PhD in Psychology and Professional Master's Degree in Neurosciences and Behavioral Biology
- ♦ Author of the Cátedra Abierta de Psicología y Neurociencias and scientific disseminator.

### Mr. Gris Ramos, Alejandro

- ♦ Technical Engineer in Computer Management.
- ♦ Master's Degree in E-Commerce and Specialist in the Latest Technologies,
- ♦ Digital Marketing, Web Application Development and Internet Business

### Mr. Albiol Martín, Antonio

- ♦ Master's Degree in Education and Information and Communication Technologies from the UOC
- ♦ Master's Degree in Literary Studies
- ♦ Graduate in Philosophy and Literature
- ♦ Head of CuriosiTIC: JABY School's ICT Integration Program in the classroom



# 04

# Structure and Content

The structure of the contents has been designed by a team of professionals from the best educational centers and universities in the national territory, who are aware of the relevance of current training to be able to intervene in the preparation and support of high achieving students, and who are committed to quality teaching through new educational technologies





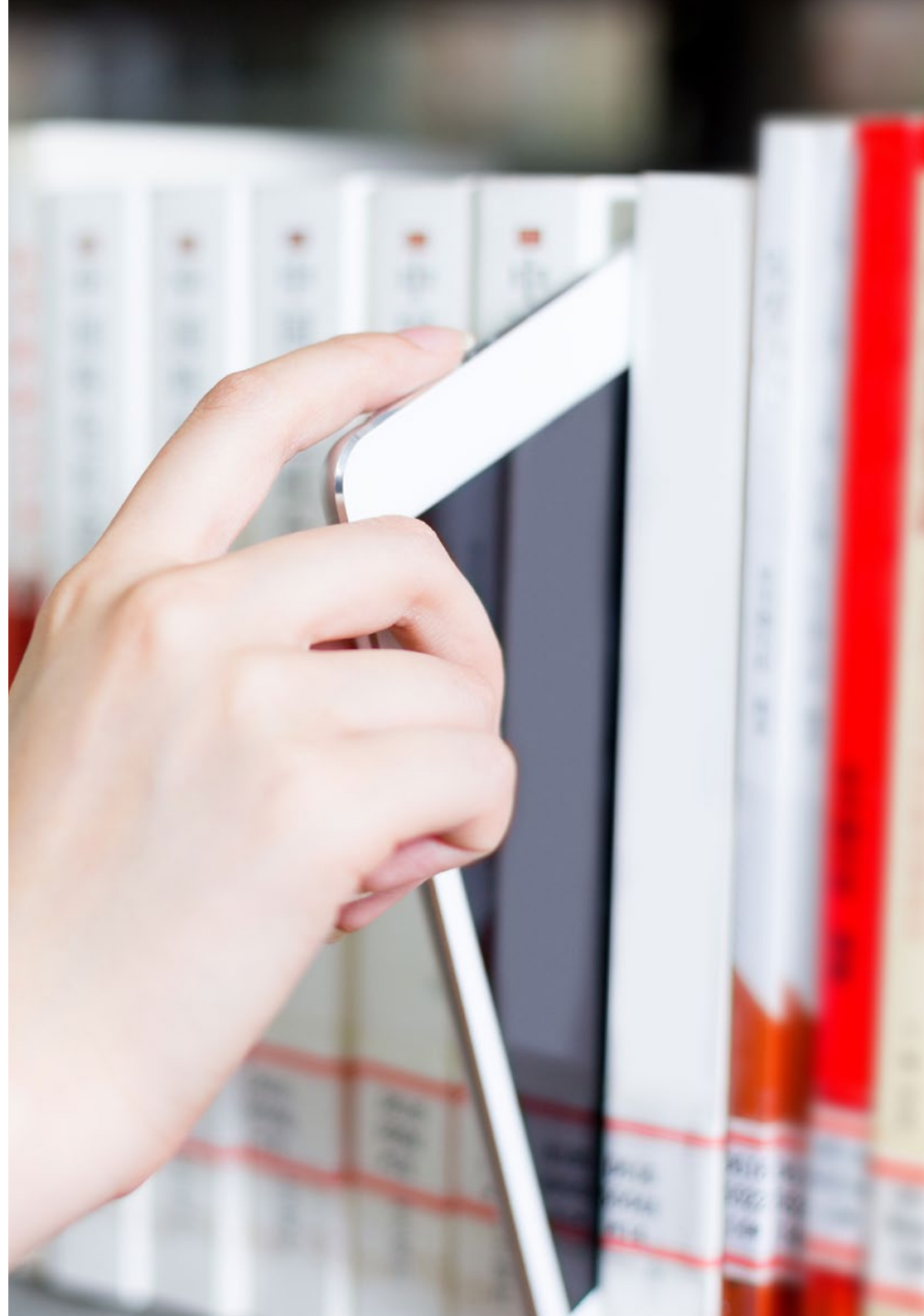


“

*This Postgraduate Diploma in Technological Innovation and ICT in Education contains the most complete and up-to-date program on the market”*

## Module 1. ICT and its Practical and Interactive Application

- 1.1. New Technologies in Education
  - 1.1.1. The Educational Context 2.0
  - 1.1.2. Why use ICT?
  - 1.1.3. The Digital Competencies of Teachers and Students
  - 1.1.4. Summary
- 1.2. ICT in the Classroom and its Application
  - 1.2.1. Digital Book
  - 1.2.2. Digital Whiteboard
  - 1.2.3. Digital Backpack
  - 1.2.4. Mobile Devices
  - 1.2.5. Summary
- 1.3. ICT on the Web and its Application
  - 1.3.1. Browse, Search and Filter Information
  - 1.3.2. Educational *Software*
  - 1.3.3. Guided Activities on the Internet
  - 1.3.4. Educational Blogs and Web Pages
  - 1.3.5. Language and Literature Teacher's Wikis
  - 1.3.6. Learning Platforms: Moodle and Schoology
  - 1.3.7. Google Classroom
  - 1.3.8. Google Docs
  - 1.3.9. MOOCs
  - 1.3.10. Summary
- 1.4. Social Media and their Applications in Teaching
  - 1.4.1. Introduction to Social Media
  - 1.4.2. Facebook
  - 1.4.3. Twitter
  - 1.4.4. Instagram
  - 1.4.5. LinkedIn
  - 1.4.6. Summary



- 1.5. New Methodologies in the Classroom
  - 1.5.1. Outlines, Concept, and Mind Maps
  - 1.5.2. Infographics
  - 1.5.3. Presentations and Moving Texts
  - 1.5.4. Creation of Videos and Tutorials
  - 1.5.5. Gamification
  - 1.5.6. *Flipped Classroom*
  - 1.5.7. Summary
- 1.6. Design of Collaborative Activities
  - 1.6.1. Creation of Collaborative Activities
  - 1.6.2. Reading and Writing with ICT
  - 1.6.3. Expanding Dialogue and Reasoning Skills with ICTs.
  - 1.6.4. Attention to Group Diversity
  - 1.6.5. Scheduling and Monitoring of Activities
  - 1.6.6. Summary
- 1.7. Evaluation with ICT
  - 1.7.1. Assessment Systems with ICT
  - 1.7.2. *e-Portfolio*
  - 1.7.3. Self-Assessment, Peer Assessment, and Feedback
  - 1.7.4. Summary
- 1.8. Possible Risks of the Web
  - 1.8.1. Filtering Information and Infoxication
  - 1.8.2. Online Distractors
  - 1.8.3. Activity Tracking
  - 1.8.4. Summary
- 1.9. My ICT Resources
  - 1.9.1. Storage and Retrieval of Resources, Materials, and Tools
  - 1.9.2. Updating Resources, Materials, and Tools
  - 1.9.3. Summary

## Module 2. ICTs in Academic Guidance

- 2.1. Technology in Education
  - 2.1.1. History and Evolution of Technology
  - 2.1.2. New Challenges
  - 2.1.3. Summary
- 2.2. Internet in Schools
  - 2.2.1. History and First Years of the Internet
  - 2.2.2. The Impact of the Internet on Education
  - 2.2.3. Summary
- 2.3. Devices for Teachers and Students
  - 2.3.1. Devices in the Classroom
  - 2.3.2. The Electronic Whiteboard
  - 2.3.3. Devices for Students
  - 2.3.4. Tablets
  - 2.3.5. 7 Ways to Use Mobile Devices in the Classroom
  - 2.3.6. Summary
- 2.4. Online Tutoring
  - 2.4.1. Why Tutor Online?
  - 2.4.2. Student Adaptation
  - 2.4.3. Advantages and Disadvantages
  - 2.4.4. Tutor Tasks
  - 2.4.5. Implementation
  - 2.4.6. Summary
- 2.5. Creativity in Schools
  - 2.5.1. Creativity in Schools
  - 2.5.2. Practical Lateral Thinking
  - 2.5.3. The First Technological Teachers
  - 2.5.4. The New Teacher Profile
  - 2.5.5. Summary

- 2.6. Parents and Teachers as Digital Migrants
  - 2.6.1. Digital Natives vs. Digital Migrants
  - 2.6.2. Technological Training for Digital Migrants
  - 2.6.3. Digital Native Development and Enhancement
  - 2.6.4. Summary
- 2.7. Responsible Use of New Technologies
  - 2.7.1. Privacy
  - 2.7.2. Data Protection
  - 2.7.3. Cyber Crime
  - 2.7.4. Summary
- 2.8. Addictions and Pathologies
  - 2.8.1. Definition of Technology Addiction
  - 2.8.2. Avoiding Addiction
  - 2.8.3. How to Overcome Addiction?
  - 2.8.4. New Pathologies Produced by Technology
  - 2.8.5. Summary
- 2.9. Some Projects and Experiences in Guidance and ICTs
  - 2.9.1. Introduction
  - 2.9.2. "My vocational e-portfolio" (MYVIP)
  - 2.9.3. MyWayPass (Free Online Platforms for Decision-Making)
  - 2.9.4. Uveni (Guidance Platform for Secondary Education)
  - 2.9.5. At the Ring of a Bell
  - 2.9.6. Socio-school
  - 2.9.7. Orientaline
  - 2.9.8. Virtual Student Lounge
  - 2.9.9. Discover FP
  - 2.9.10. Summary

- 2.10. Some Digital Resources for Education Guidance
  - 2.10.1. Introduction
  - 2.10.2. Associations and Portals of Interest in the Field Guidance
  - 2.10.3. Blogs
  - 2.10.4. Wikis
  - 2.10.5. Professional or Institutional Social Media for Academic and Vocational Guidance
  - 2.10.6. Facebook Groups
  - 2.10.7. Guidance Apps
  - 2.10.8. Interesting Hashtags
  - 2.10.9. Other ICT Resources
  - 2.10.10. Personal Learning Environments in Guidance: OrientaPLE

### Module 3. Technological Innovation in Education

- 3.1. Advantages and Disadvantages of the Use of Technology in Education
  - 3.1.1. Technology as a Means of Education
  - 3.1.2. Advantages of Use
  - 3.1.3. Inconveniences and Addictions
  - 3.1.4. Summary
- 3.2. Educational Neurotechnology
  - 3.2.1. Neuroscience
  - 3.2.2. Neurotechnology
  - 3.2.3. Summary
- 3.3. Programming in Education
  - 3.3.1. Benefits of Programming in Education
  - 3.3.2. Scratch Platform
  - 3.3.3. Confection of the First Hello World
  - 3.3.4. Commands, Parameters and Events
  - 3.3.5. Export of Projects
  - 3.3.6. Summary



- 3.4. Introduction to the *Flipped Classroom*
  - 3.4.1. What it is Based On?
  - 3.4.2. Examples of use
  - 3.4.3. Video Recording
  - 3.4.4. YouTube
  - 3.4.5. Summary
- 3.5. Introduction to Gamification
  - 3.5.1. What is Gamification?
  - 3.5.2. Gamification Tools
  - 3.5.3. Success Stories
  - 3.5.4. Summary
- 3.6. Introduction to Robotics
  - 3.6.1. The Importance of Robotics in Education
  - 3.6.2. *Arduino (Hardware)*
  - 3.6.3. *Arduino (Programming Language)*
  - 3.6.4. Summary
- 3.7. Introduction to Augmented Reality
  - 3.7.1. What is AR?
  - 3.7.2. What are the Benefits in Education?
  - 3.7.3. Summary
- 3.8. How to Develop your own AR Applications?
  - 3.8.1. Professional Augmented Reality
  - 3.8.2. Unity/Vuforia
  - 3.8.3. Examples of use
  - 3.8.4. Summary
- 3.9. *Samsung Virtual School Suitcase*
  - 3.9.1. Immersive Learning
  - 3.9.2. The Backpack of the Future
  - 3.9.3. Summary
- 3.10. Tips and Examples of Use in the Classroom
  - 3.10.1. Combining Innovation Tools in the Classroom
  - 3.10.2. Real Examples
  - 3.10.3. Summary

05

# 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 Education School we use the Case Method

In a given situation, what should a professional do? Throughout the program students will be presented with multiple simulated cases based on real situations, where they will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method.

*With TECH, educators can experience a learning methodology that is shaking the foundations of traditional universities around the world.*

### At TECH Education School we use the Case Method



*It is a technique that develops critical skills and prepares educators to make decisions, defend their arguments, and contrast opinions.*



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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

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

1. Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life teaching.
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.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

Our University is the first in the world to combine case studies with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



*Educators will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*

At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we have trained more than 85,000 educators with unprecedented success in all specialties. 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

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.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



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



#### Study Material

All teaching material is produced by the specialist educators who teach the course, specifically for the course, so that the teaching content is really 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.



#### Educational Techniques and Procedures on Video

TECH introduces students to the latest techniques, with the latest educational advances, and to the forefront of Education. All this, first-hand, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



#### 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".



#### 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.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### 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.



#### 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.



#### 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.



06

# Certificate

The Postgraduate Diploma in Technological Innovation and ICT in Education guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University



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

This **Postgraduate Diploma in Technological Innovation and ICT in Education** 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 Diploma** issued by **TECH Technological University** via tracked delivery\*.

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

Title: **Postgraduate Diploma in Technological Innovation and ICT in Education**

Official N° of Hours: **450 h.**



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



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



## Postgraduate Diploma Technological Innovation and ICT in Education

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

# Postgraduate Diploma

## Technological Innovation and ICT in Education