

Postgraduate Diploma Programming to Learn Through Play





Postgraduate Diploma Programming to Learn Through Play

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 17 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/education/postgraduate-diploma/postgraduate-diploma-programming-learn-through-play

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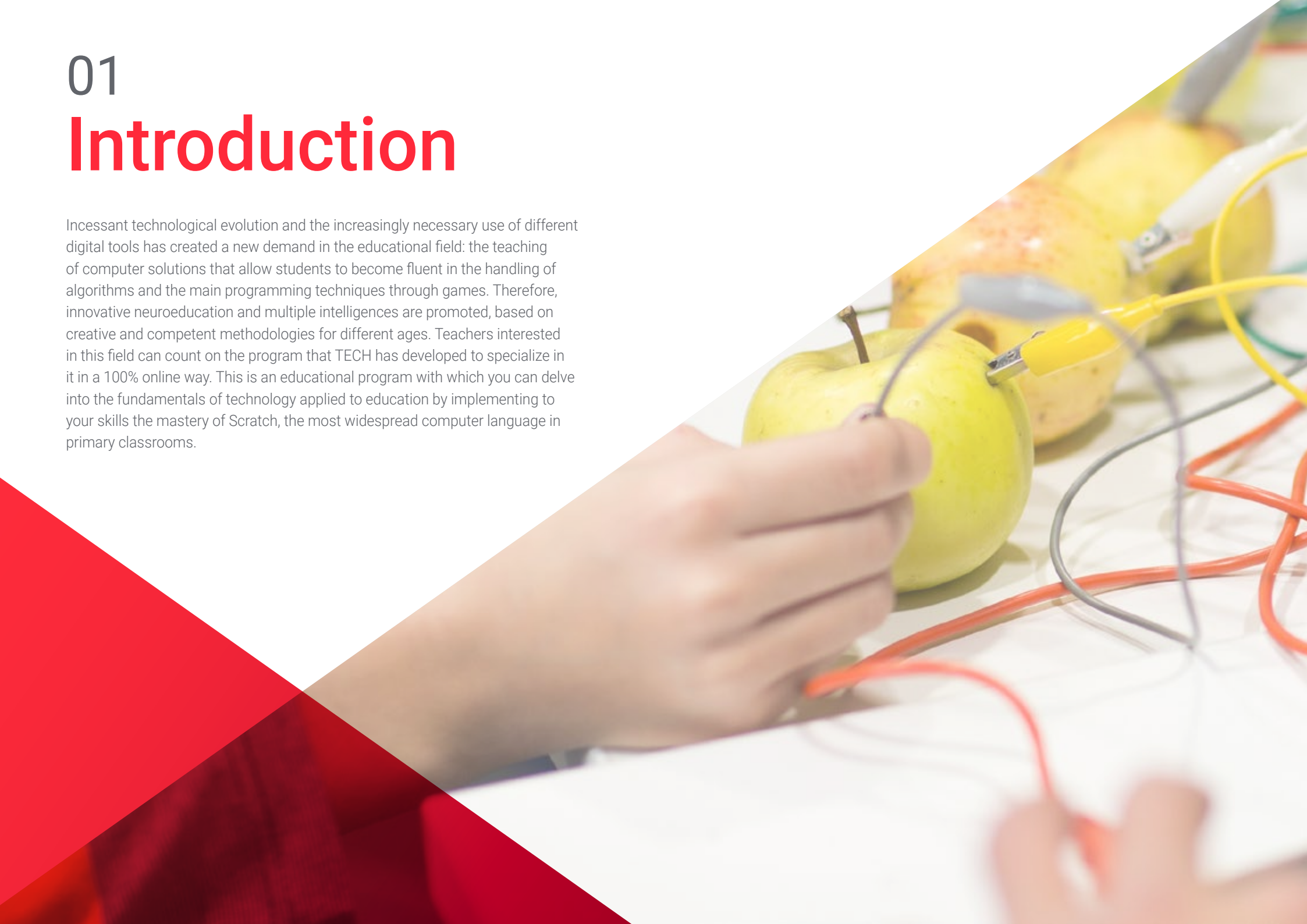
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01

Introduction

Incessant technological evolution and the increasingly necessary use of different digital tools has created a new demand in the educational field: the teaching of computer solutions that allow students to become fluent in the handling of algorithms and the main programming techniques through games. Therefore, innovative neuroeducation and multiple intelligences are promoted, based on creative and competent methodologies for different ages. Teachers interested in this field can count on the program that TECH has developed to specialize in it in a 100% online way. This is an educational program with which you can delve into the fundamentals of technology applied to education by implementing to your skills the mastery of Scratch, the most widespread computer language in primary classrooms.





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Would you like to teach programming through games? TECH will give you the keys to achieve it at all levels of Primary through this 100% online Postgraduate Diploma"

The future of the labor market is uncertain, but if there is one thing for sure, it is that new technologies and computer advances will be present in all areas of society. For this reason, more and more educational systems are betting on the inclusion of programming at different school levels, from pre-school to high school, promoting in your students skills such as problem solving, enhancing their logical skills, raising their level of abstraction and improving their attention and concentration skills. And that there are thousands of projects that have demonstrated that, using tools such as Scratch, children have fun learning while developing their cognitive capacity in a practical, simple and elementary way.

For this reason, and given the demand in the current academic sector for professionals who master the teaching of programming from 0 to 12 years, TECH and its team versed in teaching and technology have designed a complete, modern and comprehensive program that will allow you to specialize in this field in just 6 months of 100% online experience. This is a multidisciplinary and innovative Postgraduate Diploma through which they can delve into the fundamentals and the evolution of digital tools applied to teaching, focusing on the promotion of multiple intelligences through their use. Then, the student will be able to delve into the teaching of computer language adapted to Pre-School and Primary, to conclude in a detailed approach to Scratch software, from its basis to the design of complete programming blocks.

And to achieve this you will have 425 hours of the best theoretical, practical and additional material, which will be available from the beginning of the course in the state-of-the-art Virtual Campus to which you will have access from any device with an Internet connection. TECH is committed to offering flexible and complete academic experiences, which is why it gives its students the possibility of designing their own academic calendar, without restricted schedules. This ensures that they can get the most out of them without stress and with the confidence of having the support of one of the largest digital universities in the world.

This **Postgraduate Diploma in Programming to Learn Through Play** contains the most complete and up-to-date educational program on the market. The most important features include:

- ♦ Case studies presented by experts in Education and Innovation
- ♦ The graphic, schematic, and practical contents with which they are created, provide techniques and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



A multidisciplinary and innovative educational experience that gathers the latest information related to technology applied to today's educational environment"

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With this program you will be able to teach your students to develop programming blocks of different levels of complexity through the most sophisticated and innovative techniques"

The program's teaching staff includes professionals from the sector who contribute their work experience to this 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 knowledge 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 student will be assisted by an innovative interactive video system created by renowned and experienced experts.

The best program on the current academic market to delve into the most effective teaching tools to introduce programming in the classroom in an effective and dynamic way.

If you are looking for a program to master Scratch and its tools, this Postgraduate Diploma is perfect for you.



02

Objectives

TECH is always committed to educational innovation, which is why it offers programs like this one, with the objective of providing teachers and professors with the necessary information that allows them to update their teaching activity based on the most avant-garde pedagogical and teaching strategies. In this way, they can work on the management of programming with their students, through state-of-the-art tools such as Scratch, which promote effective and dynamic learning through play.





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If one of your objectives is to learn in detail the main platforms for learning to program from pre-school to sixth grade, this program is perfect for you"



General Objectives

- ♦ Raise teachers' awareness of the importance of a transformation in education, motivated by the new generations
- ♦ Learn about new learning models and the application of programming to motivate students towards technological careers
- ♦ Facilitating relationship skills and abilities for the new classrooms of the future

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A program that will prepare you to improve motivation, creativity and innovation through programming in the classroom"





Specific Objectives

Module 1. Fundamentals and Evolution of Applied Technology in Education

- ♦ Raise teachers' awareness of new educational trends and the direction of their role in education
- ♦ Provide knowledge of new information and communication technology skills
- ♦ Help teachers to promote educational change within the classroom to create environments that improve student achievement
- ♦ Introduce learning theories related to Educational Robotics
- ♦ Understand the laws of robotics

Module 2. Programming to Learn Through Play

- ♦ Understand the importance of Free Software in Education and how to use it
- ♦ Learn about Arduino software and other online applications
- ♦ Learn to work by challenges for classroom application
- ♦ Discover the different international contests in order to encourage students' participation and learning

Module 3. The Most Widespread Language in Primary School Classrooms: Scratch

- ♦ Working with software to initiate students in programming
- ♦ Learn to relate content to Robotics
- ♦ Learn to develop Robotics activities in the primary school stage
- ♦ Develop teamwork skills in teachers

03

Course Management

TECH always prioritizes the design of the highest level of teaching staff, based not only on the curriculum of the candidates, but also on their willingness to help graduates who access this type of program. It is essential to have a specialized teaching team, in this case, in Educational Technology, but it is also essential that they are characterized by a commendable human quality that is materialized in the design of the best educational material and in an effective accompaniment during the 6 months over which this program is developed.



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If you have any questions during the course of the program, you will be able to count on the teaching team to solve them through the direct communication tool that you will find in the Virtual Campus”

Management



Ms. Muñoz Gambín, Marina

- ♦ Teacher and Expert in Educational Technology
- ♦ Head of Educational Robotics and Programming at Robotuxc Academy for Kindergarten and Primary School
- ♦ Certified in Lego Education© methodology
- ♦ Degree in Early Childhood Education Teaching from CEU Cardenal Herrera University
- ♦ Educational Coach certified by the Alicante Chamber of Commerce
- ♦ Emotional Intelligence in the Classroom Trainer
- ♦ Neuroscience Teacher Training
- ♦ Expert in Neurolinguistic Programming certified by Richard Bandler
- ♦ Certified in Music Education as therapy

Professors

Ms. Gambín Pallarés, María del Carmen

- ♦ Social Worker and Family Therapist
- ♦ Systemic Family Therapist
- ♦ Social Worker
- ♦ Founder and director of "Educa Diferente" Positive Discipline Alicante
- ♦ Family and teacher educator in Positive Discipline
- ♦ Lego Serious Play methodology facilitator
- ♦ Coaching training for professionals

Mr. Coccaro Quereda, Alejandro

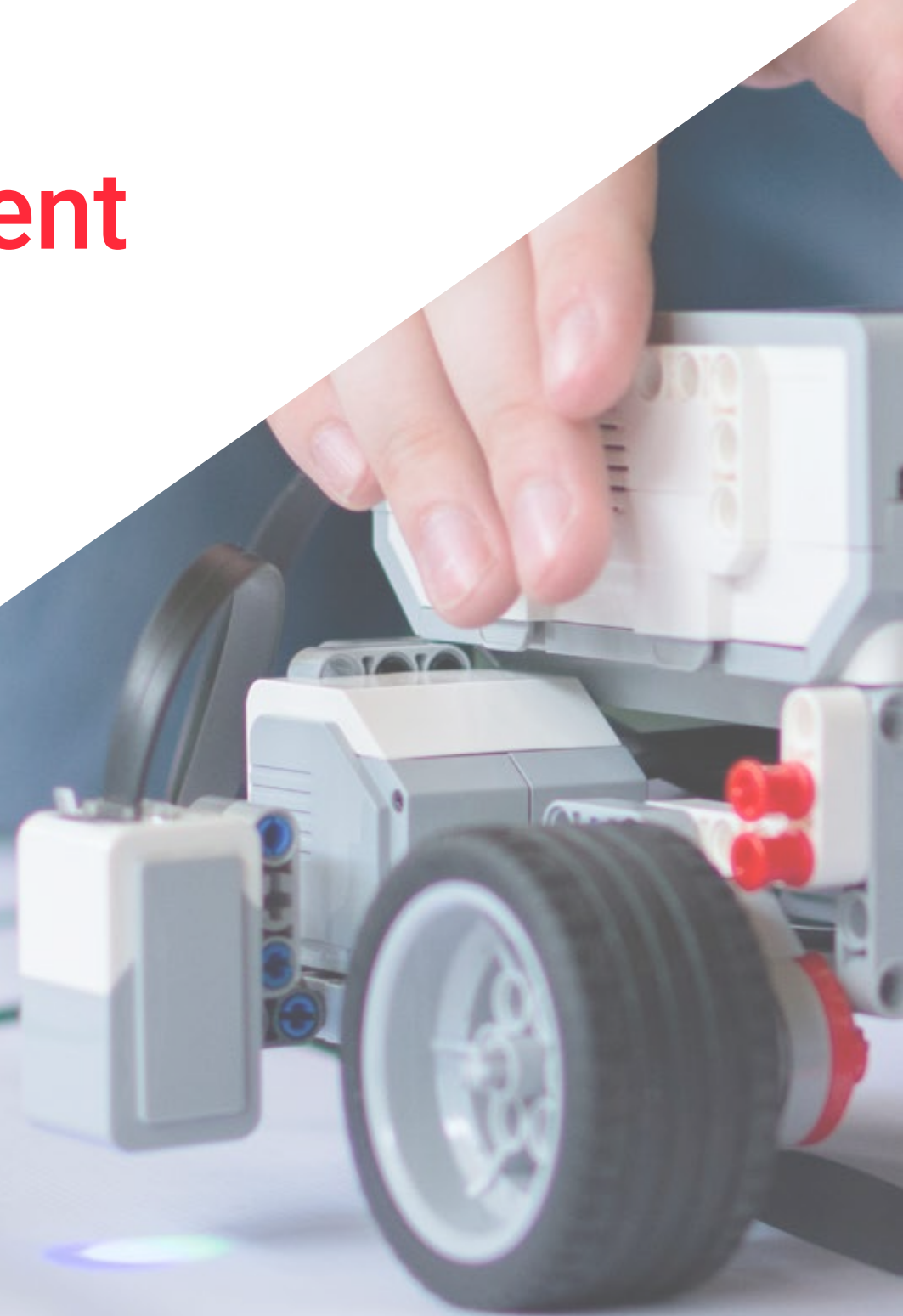
- ♦ Specialist in Educational Robotics
- ♦ Expert in Educational Robotics, Design and 3D Printing
- ♦ Robotuxc Academy Robotics National Competition Challenges Specialist
- ♦ Certified in Lego Education© methodology
- ♦ Head of Educational Robotics, Design and 3D Printing for Primary and High School at Robotuxc Academy



04

Structure and Content

Several leading academic and pedagogical entities have determined that the Relearning methodology is the best learning strategy for online teaching. For this reason, TECH is a pioneer in its use, adapting all of its programs to the specifications that comprise it. In this way, through the reiteration of concepts throughout the syllabus, the graduate expands their knowledge in a natural and progressive way, without having to invest extra hours in memorizing. In addition, the use of additional material as a teaching complement adds dynamism to the academic experience, favoring the durability of the information for a longer period of time.





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The teaching team has selected case studies so that you can improve your teaching skills by solving them"

Module 1. Fundamentals and Evolution of Applied Technology in Education

- 1.1. Align with HORIZON 2020
 - 1.1.1. Early Advances in ICT and Teacher Participation
 - 1.1.2. Horizon 2020 European Plan Progress
 - 1.1.3. UNESCO: ICT Skills for Teachers
 - 1.1.4. The Teacher as a Coach
- 1.2. Pedagogical Foundations of Educational Robotics
 - 1.2.1. MIT - a Pioneering Center of Innovation
 - 1.2.2. Jean Piaget - Forerunner of Constructivism
 - 1.2.3. Seymour Papert - Transformer of Technology Education
 - 1.2.4. George Siemens' Connectivism
- 1.3. Regularization of a Technological-legal Environment
 - 1.3.1. Ethical Agreement on Applied Robotics European Report
- 1.4. Importance of the Curricular Implementation of Robotics and Technology
 - 1.4.1. Educational Skills
 - 1.4.1.1. What Is a Skill?
 - 1.4.1.2. What Is an Educational Skill?
 - 1.4.1.3. Core Skills in Education
 - 1.4.1.4. Application of Educational Robotics to Educational Skills
 - 1.4.2. STEAM. New learning Approach. Innovative Education to Train Future Professionals
 - 1.4.3. Technological Classroom Designs
 - 1.4.4. Creativity and Innovation Included in the Curricular Model.
 - 1.4.5. The Classroom as a Makerspace
 - 1.4.6. Critical Thinking
- 1.5. Another Way of Teaching
 - 1.5.1. Why Should We Innovate in Education?
 - 1.5.2. Neuroeducation; Emotion as Success in Education
 - 1.5.2.1. Some Neuroscience to Understand How do we Produce Learning in Children?
 - 1.5.3. The 10 Keys to Gamify your Classroom
 - 1.5.4. Educational Robotics; The Flagship Methodology of the Digital Age
 - 1.5.5. Advantages of Robotics in Education
 - 1.5.6. Design with 3D Printing and Its Impact on Education
 - 1.5.7. Flipped Classroom y Flipped Learning
- 1.6. Gardner and Multiple Intelligences
 - 1.6.1. The 8 Types of Intelligence
 - 1.6.1.1. Logical-Mathematical Intelligence
 - 1.6.1.2. Linguistic Intelligence
 - 1.6.1.3. Spatial Intelligence
 - 1.6.1.4. Musical Intelligence
 - 1.6.1.5. Body and Kinesthetic Intelligence
 - 1.6.1.6. Intrapersonal Intelligence
 - 1.6.1.7. Interpersonal Intelligence
 - 1.6.1.8. Naturalistic Intelligence
 - 1.6.2. The 6 Keys to Apply the Different Intelligences
- 1.7. Knowledge Analytical Tools
 - 1.7.1. Applying Big Data in Education

Module 2. Programming to Learn Through Play

- 2.1. The Future of Education Lies in Teaching How to Code
 - 2.1.1. The Origins of Programming for Children: the LOGO Language
 - 2.1.2. Impact of Learning Programming in the Classroom.
 - 2.1.3. Small Creators Without Fear of Error
- 2.2. Teaching Tools for Introducing Programming in the Classroom
 - 2.2.1. From Where Do We Start Teaching Programming?
 - 2.2.2. How Can It Be Introduced in the Classroom?
- 2.3. What Programming Tools Can We Find?
 - 2.3.1. Platform for Learning to Program Starting from Early Childhood Org Code
 - 2.3.2. Video Game Programming in 3D. Kodu Game Lab
 - 2.3.3. Learn to Program in High School with JavaScript, C+, Phyton. Code Combat
 - 2.3.4. Other Alternatives for Programming at School

Module 3. The Most Widespread Language in Primary School Classrooms: Scratch

- 3.1. Introduction to Scratch
 - 3.1.1. What Is Scratch?
 - 3.1.2. Free Knowledge
 - 3.1.3. Educational Use of Scratch
- 3.2. Getting to Know Scratch
 - 3.2.1. Stage
 - 3.2.2. Object and Scenario Editing
 - 3.2.3. Menu Bar and Tools
 - 3.2.4. Switch to Costume and Sound Editing
 - 3.2.5. View and Share Projects
 - 3.2.6. Program Block Editing
 - 3.2.7. Help
 - 3.2.8. Backpack

- 3.3. Programming Blocks Development
 - 3.3.1. According to Shape
 - 3.3.2. According to the Color
 - 3.3.2.1. Motion Blocks (Navy blue)
 - 3.3.2.2. Appearance Blocks (Purple)
 - 3.3.2.3. Sound Blocks (Pink)
 - 3.3.2.4. Pencil Blocks (Green)
 - 3.3.2.5. Data Blocks (Orange)
 - 3.3.2.6. Event Blocks: (Brown)
 - 3.3.2.7. Control Blocks (Ochre)
 - 3.3.2.8. Sensor Blocks (Light Blue)
 - 3.3.2.9. Operator Blocks (Light Green)
 - 3.3.2.10. More Blocks (Violet and Dark Gray)
- 3.4. Stacking Blocks Practical Part
- 3.5. Scratch Community for Students
- 3.6. ScratchED Learn, Share and Connect. Teachers' Community



The best educational program to gamify your classroom and make your teaching a benchmark practice in the school 2.0 environment through the use of the most modern and sophisticated educational programming technology"

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.



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 Harvard 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 Programming to Learn Through Play guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.



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

This program will allow you to obtain your **Postgraduate Diploma in Programming to Learn Through Play** 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 Diploma in Programming to Learn Through Play**

Modality: **online**

Duration: **6 months**

Accreditation: **17 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.

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



Postgraduate Diploma
Programming to Learn
Through Play

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