

Postgraduate Certificate Bio-Inspired Computing



Postgraduate Certificate Bio-Inspired Computing

- » 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/bio-inspired-computing

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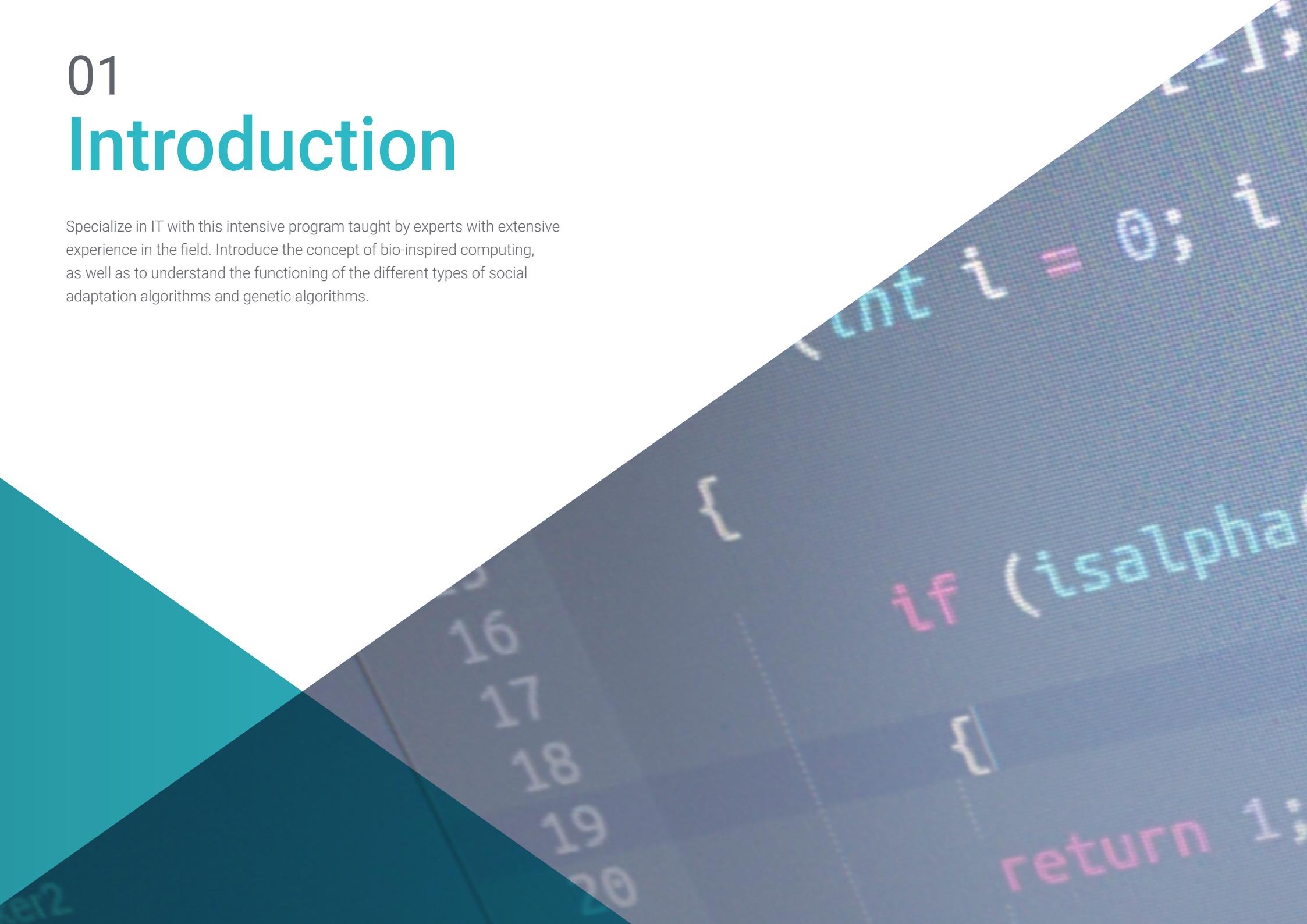
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01

Introduction

Specialize in IT with this intensive program taught by experts with extensive experience in the field. Introduce the concept of bio-inspired computing, as well as to understand the functioning of the different types of social adaptation algorithms and genetic algorithms.





“

This Postgraduate Certificate will allow you to up to date your knowledge in Bio-Inspired Computing in a practical way, 100% online, without renouncing to the maximum academic rigor”

This program is aimed at those interested in attaining a higher level of knowledge Bio-Inspired Computing. The main objective is for students to specialize their knowledge in simulated work environments and conditions in a rigorous and realistic manner so they can later apply it in the real world.

This program will prepare scientifically and technologically, as well as to develop the professional practice of software engineering, with a transversal and versatile approach adapted to the new technologies and innovations in this field. Students will gain extensive knowledge Bio-Inspired Computing from professionals in the field.

The students will be able to take the opportunity and study this program in a 100% online format, without neglecting their obligations. Up to date your knowledge and obtain your Postgraduate Certificate to continue growing personally and professionally.

This **Postgraduate Certificate in Bio-Inspired Computing** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Development of 100 simulated scenarios presented by experts in Information Bio-Inspired Computing
- ◆ The graphic, schematic and practical contents with which they are conceived, provide scientific and practical information on geography
- ◆ News on the latest developments in Bio-Inspired Computing
- ◆ It contains practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Interactive learning system based on the case method and its application to real practice
- ◆ 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



Learn about Information Systems with this intensive program , from the comfort of your home"

“ *This program will enhance your skills and update your knowledge of Bio-Inspired Computing* ”

Take advantage of the latest educational technology to up to date on Information Systems from the comfort of your home.

Learn about the latest techniques in Information Systems from experts in the field.

It includes in its teaching staff professionals belonging to the field of education, who bring to this training their work experience, in addition to recognized specialists belonging to reference societies and prestigious universities.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare in real situations.

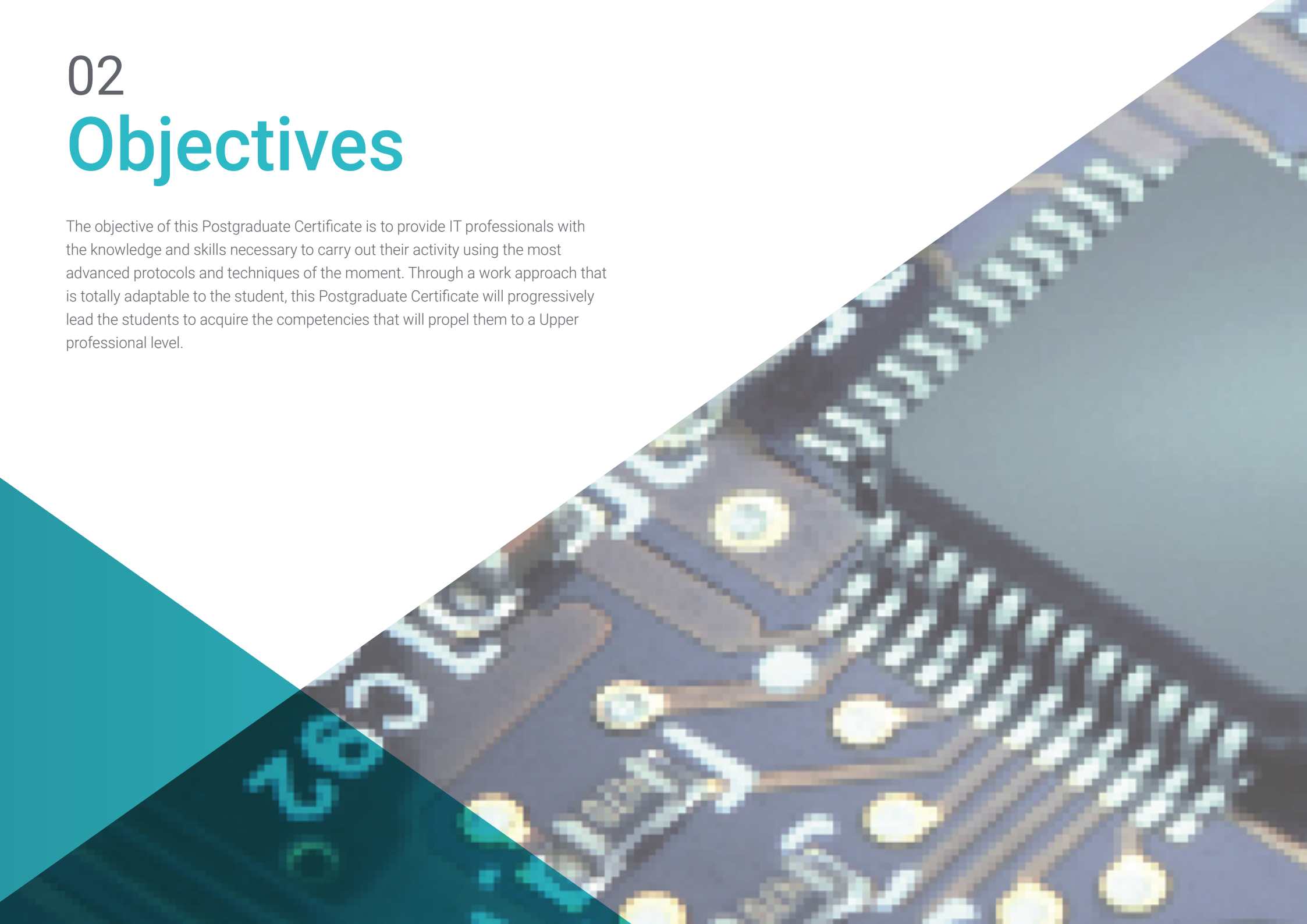
The program design is based on Problem-Based Learning, through which teachers must try to solve the different professional practice situations that arise throughout the course. To that end, they will be assisted by an innovative, interactive video system created by renowned experts in Bio-Inspired Computing have extensive teaching experience.



02

Objectives

The objective of this Postgraduate Certificate is to provide IT professionals with the knowledge and skills necessary to carry out their activity using the most advanced protocols and techniques of the moment. Through a work approach that is totally adaptable to the student, this Postgraduate Certificate will progressively lead the students to acquire the competencies that will propel them to a Upper professional level.



“

Achieve the level of knowledge you desire and master the fundamental concepts in Bio-Inspired Computing with this high-level training program”



Specific Objectives

- ◆ Introduce the concept of bio-inspired computing, as well as to understand the functioning of the different types of social adaptation algorithms and genetic algorithms
- ◆ Study of the different models of evolutionary computation, knowing their strategies, programming, algorithms and models based on estimation of distributions
- ◆ Understand the main space exploration-exploitation strategies for genetic algorithms
- ◆ Understand the operation of evolutionary programming applied to learning problems and multi-objective problems
- ◆ Learn the essential concepts related to neural networks and understand the operation of real use cases applied to fields as diverse as medical research, economics and artificial vision

03

Structure and Content

The structure of the contents has been designed by a team of IT engineering professionals, aware of the relevance of current preparation in order to delve into this area of knowledge , in order to humanistically enrich the students and raise the level of knowledge in Information Systems through the latest educational technologies available.



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This Postgraduate Certificate in Bio-Inspired Computing contains the most complete and up-to-date educational program on the market”

Module 1. Bio-Inspired Computing

- 1.1. Introduction to Bio-Inspired Computing
 - 1.1.1. Introduction to Bio-Inspired Computing
- 1.2. Social Adaptation Algorithms
 - 1.2.1. Bio-Inspired Computation Based on Ant Colonies
 - 1.2.2. Variants of Ant Colony Algorithms
 - 1.2.3. Particle Cloud Computing
- 1.3. Genetic Algorithms
 - 1.3.1. General Structure
 - 1.3.2. Implementations of the Major Operators
- 1.4. Space Exploration-Exploitation Strategies for Genetic Algorithms
 - 1.4.1. CHC Algorithm
 - 1.4.2. Multimodal Problems
- 1.5. Evolutionary Computing Models I
 - 1.5.1. Evolutionary Strategies
 - 1.5.2. Evolutionary Programming
 - 1.5.3. Algorithms Based on Differential Evolution
- 1.6. Evolutionary Computing Models II
 - 1.6.1. Evolutionary Models Based on Estimation of Distributions (EDA)
 - 1.6.2. Genetic Programming
- 1.7. Evolutionary Programming Applied to Learning Problems
 - 1.7.1. Rules-Based Learning
 - 1.7.2. Evolutionary Methods in Instance Selection Problems
- 1.8. Multi-Objective Problems
 - 1.8.1. Concept of Dominance
 - 1.8.2. Application of Evolutionary Algorithms to Multi-Objective Problems
- 1.9. Neural Networks I
 - 1.9.1. Introduction to Neural Networks
 - 1.9.2. Practical Example with Neural Networks
- 1.10. Neural Networks II
 - 1.10.1. Use Cases of Neural Networks in Medical Research
 - 1.10.2. Use Cases of Neural Networks in Economics
 - 1.10.3. Use Cases of Neural Networks in Artificial Vision



A unique, key, and decisive educational experience to boost your professional development”



04

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.



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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.

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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”

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.



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

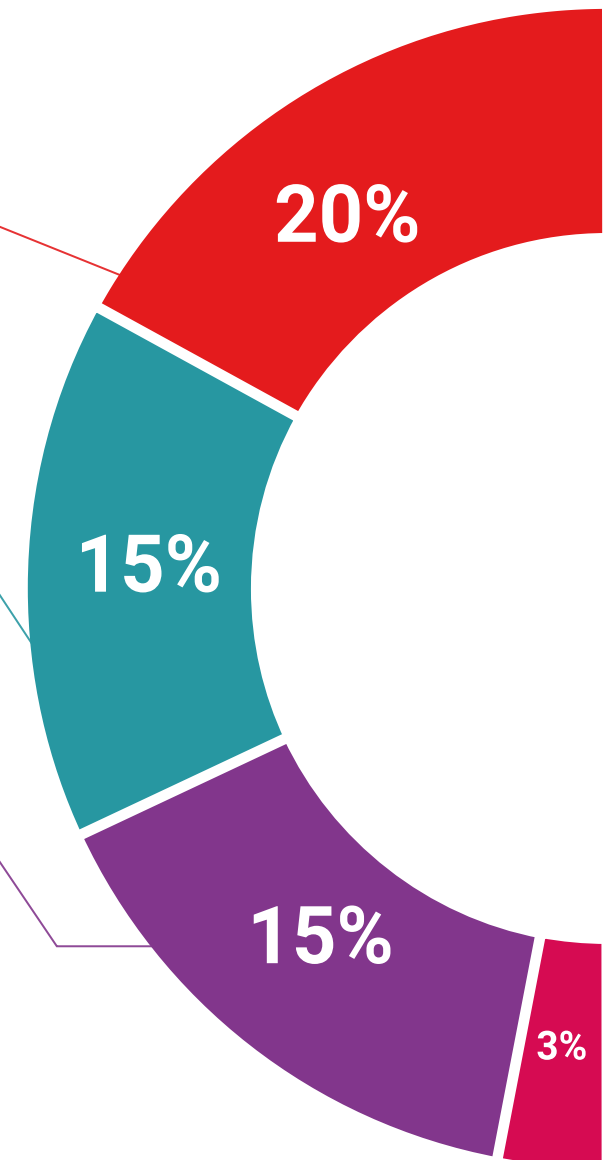
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

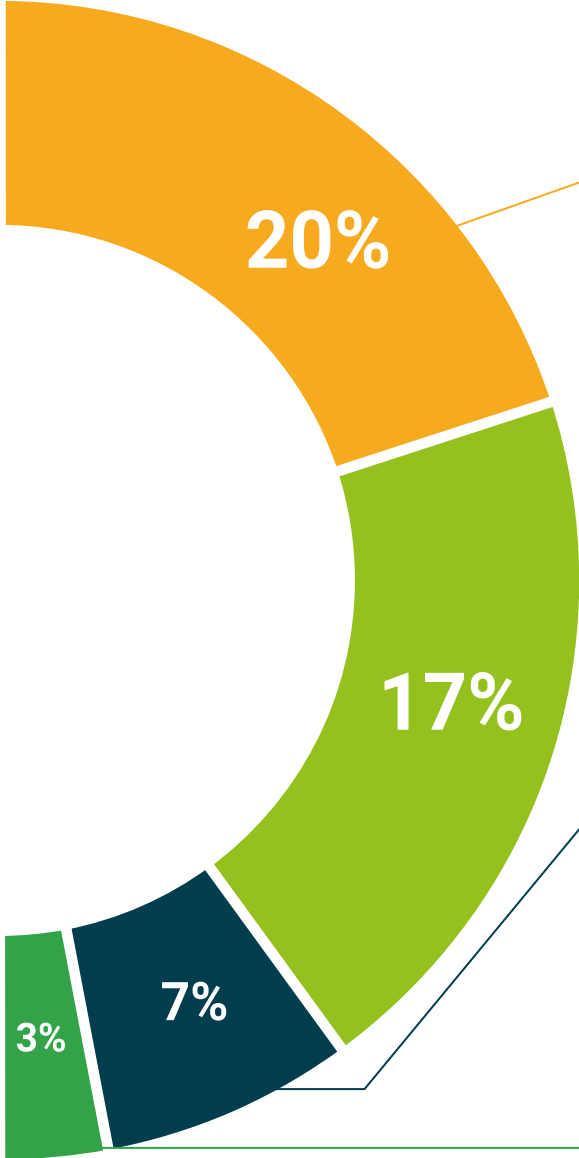
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

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





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.



05 Certificate

The Postgraduate Certificate in Bio-Inspired Computing guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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Include in your training a Certificate in Bio-Inspired Computing: a highly qualified added value for any professional in this area"

This private qualification will allow you to obtain a **Postgraduate Certificate in Bio-Inspired Computing** 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 Bio-Inspired Computing**

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.

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

Postgraduate Certificate Bio-Inspired Computing

```
mirror_mod.use_x = False  
mirror_mod.use_y = True  
mirror_mod.use_z = False  
action = "MIRROR_2"  
mirror_mod.use_x = False  
mirror_mod.use_y = False  
mirror_mod.use_z = True  
  
#selection at the end -add back the deselected mirror  
mirror_ob.select= 1  
modifier_ob.select=1  
bpy.context.scene.objects.active = modifier_ob  
print("Selected" + str(modifier_ob)) # modifier ob is the  
#mirror_ob.select = 0  
obj = bpy.context.selected_objects  
obj[0].select = 1
```