Postgraduate Certificate
3D Printers: Types and Selection

tech global university

Postgraduate Certificate
3D Printers: Types and Selection

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

Website: **www.techtitute.com/us/engineering/postgraduate-certificate/3d-printers-types-selection**

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01
Introduction to the Program

3D Printing has established itself as an essential technology in Additive Manufacturing, enabling the production of complex and customized parts. However, the diversity of technologies means that selecting the right equipment is critical to industrial success. Therefore, engineering specialists need to master performance analysis criteria, costs, maintenance, and compatibility with digital design, as well as stay up to date with the latest innovations in the industry. In this context, TECH presents an innovative university program focused on the use of 3D printers: Types and Selection. And all in a flexible, 100% online format!

Thanks to this completely online program, you will select the optimal 3D Printer based on the requirements of industrial projects"

The integration of 3D Printing in modern manufacturing has revolutionized the design and production of parts. In this sense, choosing the right type of 3D Printer is crucial to ensure compatibility with the design requirements and quality of the final product. Faced with this, engineers need to have extensive technical knowledge of the different 3D Printing technologies, as well as skills in comparative analysis of costs, performance, and maintenance.

With this in mind, TECH has created an exclusive program on 3D Printer Types and Selection. Designed by leaders in the industry, the academic itinerary will delve into aspects ranging from the variety of 3D Printers and their preventive maintenance protocols to the optimization of parameters for manufacturing high-strength parts. In line with this, the teaching materials will provide graduates with the most effective techniques for selecting the most suitable printer according to quality, cost, and efficiency parameters. In this way, students will develop comprehensive skills that will enable them to select, adjust, and optimally maintain 3D printing equipment, adapting it to the specific needs of each project.

On the other hand, the university qualification is based on the revolutionary Relearning methodology, a learning system pioneered by TECH that consists of repeating key aspects so that they remain in the mind. In this way, specialization can be planned individually, since there are no fixed schedules or evaluation timelines. In addition, the Virtual Campus will be available 24 hours a day, allowing engineers to download materials for consultation whenever they wish. There, graduates will have access to a library full of multimedia support resources such as detailed videos, specialized readings, and interactive summaries. Without a doubt, this is a dynamic experience that will enable engineers to take a significant leap forward in their careers.

This **Postgraduate Certificate in 3D Printers: Types and Selection** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in 3D Printers: Types and Selection

- 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

- Practical exercises where self-assessment can be used to improve learning

- Its special emphasis on innovative methodologies in engineering practice

- 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

You will lead digital transformation projects that incorporate 3D Printing technologies in manufacturing"

You will gain in-depth knowledge of the maintenance and operation of 3D printers, ensuring their integration into industrial environments.

You will carry out comparative analyses of equipment and propose solutions to optimize productivity.

" *TECH's Relearning system will allow you to learn with less effort and more performance, involving you more in your specialization as an engineer"*

Its teaching staff includes professionals from the field of 3D Printers: Types and Selection, who bring their work experience to this program, as well as renowned specialists from leading companies 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 learning experience designed to prepare for real-life situations.

This program is designed around Problem-Based Learning, whereby the student 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 created by renowned and experienced experts.

02
Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it relies on an enormous faculty of more than 6,000 professors of the highest international renown.

"

Study at the world's largest online university and guarantee your professional success. The future starts at TECH"

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

Forbes
The best online university in the world

The most complete **syllabus**

↑
TOP
international faculty

⚙ The most effective methodology

World's No.1
The World's largest online university

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills. and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.

Google Partner
PREMIER 2023

The Official Online University of the **NBA**

4.9/5
★★★★★
★ global score

99%
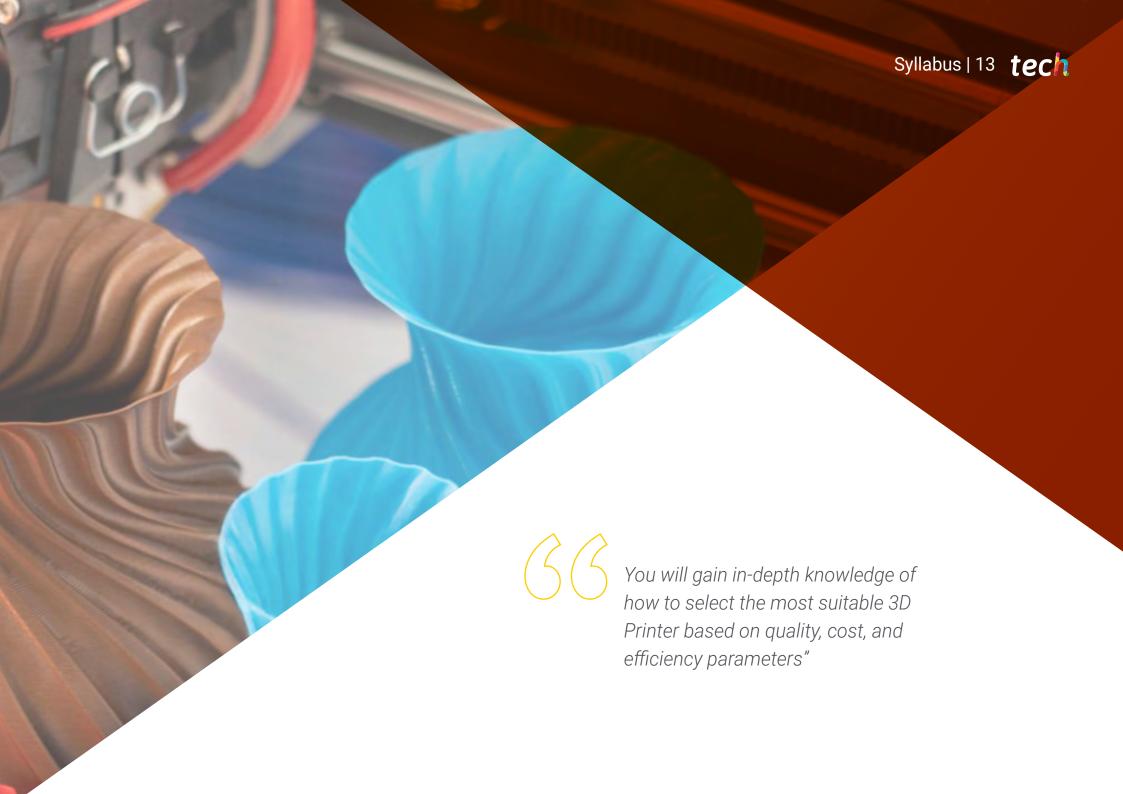maximun employability guaranteed

Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.

The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.

03
Syllabus

The educational content of this program has been developed by experts in the use of 3D Printers. The syllabus will cover topics ranging from the different types of printers and their preventive maintenance to the configuration of parameters for high-strength parts. In this way, students will develop comprehensive skills that will enable them to select, configure, and maintain 3D Printers optimally, adapting them to the specific needs of each project.

"You will gain in-depth knowledge of how to select the most suitable 3D Printer based on quality, cost, and efficiency parameters"

Module 1. 3D Printers: Types and Selection

1.1.   Types of FDM 3D Printers (Cartesian, Delta, Polar)

    1.1.1.   Features of Cartesian Printers

    1.1.2.   Advantages and Disadvantages of Delta Printers

    1.1.3.   Specific Applications of Polar Printers

1.2.   FDM Printers: Operation and Maintenance

    1.2.1.   Basic Operation of the FDM Process

    1.2.2.   Preventive and Corrective Maintenance

    1.2.3.   Parameter Adjustment to Improve Quality

1.3.   SLA and DLP Printers: Characteristics and Use

    1.3.1.   Differences between SLA and DLP

    1.3.2.   Industrial Uses and High-Precision Applications

    1.3.3.   Specific Maintenance and Care

1.4.   SLS Printers: Selection and Configuration

    1.4.1.   Selection of SLS Printers according to Application

    1.4.2.   Parameter Configuration for High-Strength Parts

    1.4.3.   Maintenance Requirements for SLS Printers

1.5.   MultiJet Fusion Printers: How to Choose the Right One

    1.5.1.   Factors to Consider When Choosing MJF

    1.5.2.   Comparison of MJF with Other Technologies

    1.5.3.   Recommended Applications for MJF

1.6.   Key Factors in Selecting a 3D Printer

    1.6.1.   Budget and Operating Costs – Examples

    1.6.2.   Size and Complexity of Parts. Volumes and Speeds

    1.6.3.   Compatibility with Materials

1.7.   Printer Comparison: Cost, Speed, and Quality

    1.7.1.   Assessment of Acquisition and Maintenance Costs

    1.7.2.   Comparison of Printing Speeds in Different Technologies

    1.7.3.   Part Quality According to the Selected Printer

You will develop skills to analyze technical characteristics, costs, production times, and maintenance for each technology"

Teaching Objectives

This program will provide engineers with advanced skills in the assessment and selection of 3D printers. In line with this, students will be able to compare technologies, analyze technical parameters, costs, and maintenance. In addition, they will acquire the ability to optimize production processes and lead digital integration projects in industrial environments. These skills strengthen their capacity for innovation and adaptation to the demands of Industry 4.0, driving efficiency, competitiveness, and significant technological leadership.

"*You will integrate concepts of digital transformation and production process optimization in the application of 3D Printing equipment*"

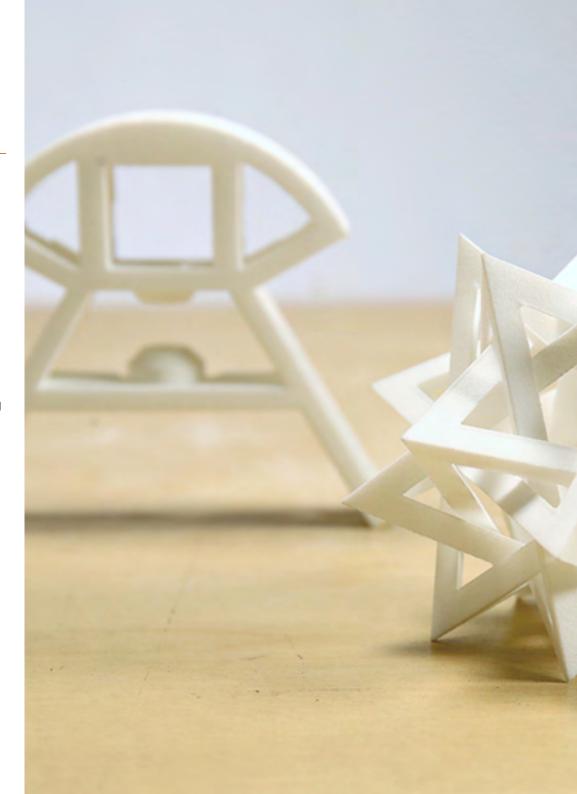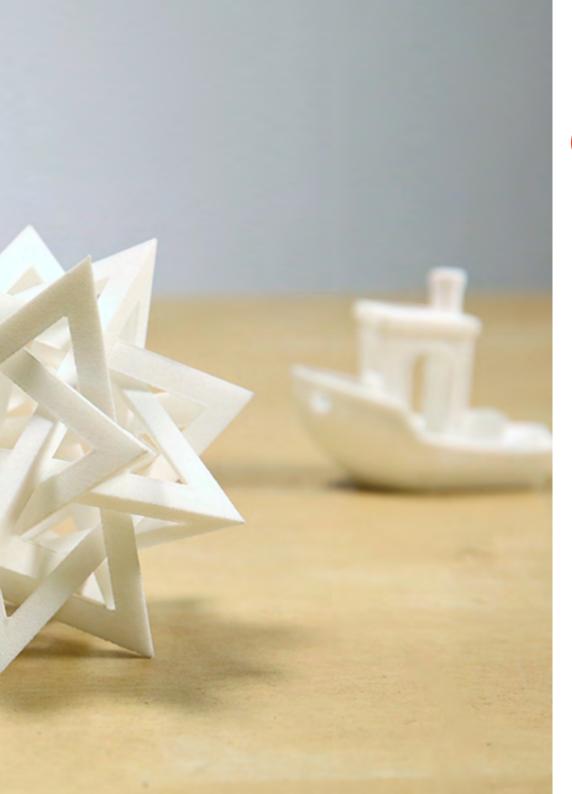## General Objectives

- Understand the concepts of how Additive Manufacturing works
- Delve into the technologies specifically for the materials used
- Understand how each technology works and its application, whether by the function of the part or object or by its performance
- Use 3D surface modeling software
- Delve into the different types of 3D printers, understanding their operating principles
- Learn about topological design and optimization of parts for 3D printing
- Use the most advanced post-processing techniques to optimize 3D printing
- Visualize products for specific sectors such as automotive, aerospace, and architecture
- Encourage the identification of business opportunities in the field of Additive Manufacturing
- Develop project management skills, from conceptualization and design to manufacturing and post-processing of parts

Specific Objectives

- Develop skills to select the most suitable 3D printer according to project requirements
- Promote the exploration and adaptation of emerging technologies in 3D Printing, driving continuous improvement and efficiency in production processes

You will have access to the Virtual Campus at any time and will be able to download the content to consult whenever you wish. What are you waiting for to enroll?"

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.

" *TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"*
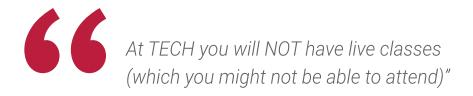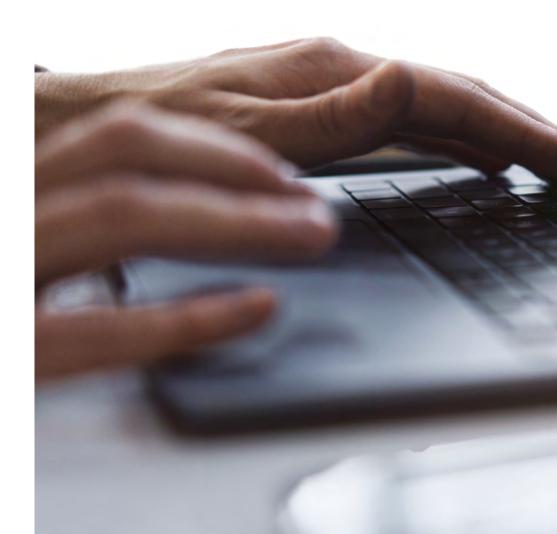
The student: the priority of all TECH programs

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.

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"

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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.

20%

15%

15%

3%

20%

17%

7%

3%

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.

Teaching Staff

True to its philosophy of providing the most comprehensive and up-to-date university programs on the educational market, TECH carries out a rigorous process to select its teaching staff. As a result, this Postgraduate Certificate features renowned specialists in the use of 3D Printers. This has enabled them to design a wide range of teaching content that stands out for its high quality and full applicability to the requirements of the labor market. Students will therefore embark on an immersive academic experience that will considerably broaden their professional horizons.

"
The teaching team for this program has extensive professional experience in the use of 3D Printers"

Management

Mr. Parera Buxeres, Antoni

- CEO and Creative Director at Innou
- Project Manager and Industrial Designer at Play
- Master's Degree in Project Management and Efficient Project Management from the Polytechnic University of Catalonia
- Bachelor of Arts with a specialization in Design from the University of Southampton

Professors

Mr. Tutó Cabedo, Xavier

- Director of Engineering and Design at Industria Digital
- Founder of Kxdesigners
- Master's Degree in Design Research and Management from TFRAF at ISEC
- Bachelor's Degree in Design Engineering from ELISAVA University School

Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

07
Certificate

This Postgraduate Certificate in 3D Printers: Types and Selection guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Postgraduate Certificate issued by TECH Global University.

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

This private qualification will allow you to obtain a diploma for the **Postgraduate Certificate in 3D Printers: Types and Selection** 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 3D Printers: Types and Selection**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

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tech global university

Mr./Ms. _____, with identification document _____ has successfully passed and obtained the title of:

Postgraduate Certificate in 3D Printers: Types and Selection

This is a private qualification of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.   Unique TECH Code: AFWORD23S   techtitute.com/certificates

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*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.

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and Selection