

# Postgraduate Certificate

## Textiles for Industrial Sectors



## Postgraduate Certificate Textiles for Industrial Sectors

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/engineering/postgraduate-certificate/textiles-industrial-sectors](http://www.techtute.com/us/engineering/postgraduate-certificate/textiles-industrial-sectors)

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# 01

# Introduction

The industrial sector requires technical textile materials to improve the quality, efficiency and sustainability of its processes. In this context, engineers specialized in the design and development of technical textiles play a crucial role in the innovation and improvement of this sector. For this reason, this program was created in response to the current needs of the sector, offering high quality education that allows engineers to learn about trends in production and markets in the construction sector. This program is developed in a 100% online format and uses the efficient Relearning method, which allows graduates to access the program from any place and at any time, and adapt their formation to their personal and professional needs.







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*A 100% online modality that will adapt to your personal and professional possibilities with the support of a teaching team that will guarantee your education"*

Technical textile materials have become an essential solution for improving the quality, efficiency and sustainability of industrial processes. Engineers specialized in the design and development of technical textiles can contribute to the development of innovative and efficient materials for various industrial applications.

According to a report by MarketsandMarkets, the global textile market is expected to continue to expand at an annual growth rate of 4.4%. This number demonstrates the importance and potential of the technical textiles sector in today's industrial market. In addition, engineers involved in the design and development of technical textiles for industrial sectors are in great demand today, as their work can contribute to improving the quality, efficiency and sustainability of industrial processes.

In this perspective, this degree is presented as a unique opportunity for engineers who wish to specialize in this field and develop their professional career in a constantly evolving market. This program is designed to provide in-depth knowledge of thermoplastics and carbon fibers for the aeronautical and aerospace sectors, as well as a global analysis of the textile market in the automotive sector.

This is a program developed in a 100% online format and taught under the Relearning method, designed to facilitate continuous learning and the development of practical skills that allow engineers to improve their performance in the workplace. This is why TECH offers a unique program for engineers who wish to specialize in this sector and advance their professional careers in a constantly evolving market.

This **Postgraduate Certificate in Textiles for Industrial Sectors** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Development of case studies presented by experts in Textile Engineering
- ◆ The graphic, schematic, and practical contents with which they are created, provide 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
- ◆ 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



*Stand out in a sector that demands highly qualified engineers for the development of projects with composite materials"*

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*You are in front of an academic option that gives you the opportunity to access whenever you want to this course syllabus, without classes with fixed schedules. Enroll now”*

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

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

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*Thanks to the knowledge that TECH will provide you with, you will be able to conduct a global analysis of the automotive textile sector.*

*The multimedia lessons will take you more dynamically into the structures of nonwoven fabrics used in the construction industry.*



# 02

# Objectives

Engineers involved in the design and development of technical textile materials for the healthcare sector are in great need today, as their work can contribute to improving the quality and efficiency of the industrial sector. Therefore, the purpose of this program is focused on providing the professional with the most comprehensive knowledge related to innovations in protective fabrics in the healthcare field so that they can achieve even their most challenging career goals. This way, TECH has designed a degree that allows the professional to implement the most cutting-edge tools in composite materials in just 6 weeks of 100% online learning.





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*You will successfully develop projects to improve technological prospects in the construction sector”*



## General Objectives

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- ◆ Classify the different types of fibers according to their nature
- ◆ Determine the main physical characteristics of textiles
- ◆ Acquire technical skills to recognize the quality of textiles
- ◆ Establish scientific and technical criteria for the selection of suitable materials for the development of textile articles in the fashion sector
- ◆ Identify and apply the sources of inspiration and the most innovative trends in the textile area
- ◆ Generate a transversal vision of textile structures with a multisectorial vision of its applications





### Specific Objectives

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- ◆ Analyze the methodology for the use of textiles as reinforcements
- ◆ Deepen the techniques for the development of technical textiles
- ◆ Determine applications to the aeronautics sector
- ◆ Investigate applications for the automotive sector
- ◆ Examine innovations and new trends in technical textiles

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*TECH's objective is to provide you with first class training that will position you as a specialist in Textiles for Industrial Sectors"*

# 03

## Course Management

In recent years there has been a notable increase in the demand for technical textile materials in the healthcare sector. In order to meet this need, TECH has developed an educational program that teaches engineers about the latest materials and trends in medicine using textiles. This way, it has selected a multidisciplinary team of renowned engineers with an exceptional professional track record. This way, the graduates will be able to deepen in the structural applications of mesh in construction and in the architecture of fabrics, from the hand of the most experienced experts in the Textile Engineering sector. All of this is presented in a flexible and 100% online program, which allows students to access the content from anywhere, anytime.







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*A team of experts has designed a cutting-edge curriculum for you to succeed in the Textile Industry. Don't hesitate and take the opportunity to reach your career goals"*



## Management



### Dr. González López, Laura

- ◆ Expert in Textile and Paper Engineering
- ◆ Textile Innovation Production Manager at *Waste Prevention SL*
- ◆ Pattern and garment maker oriented to the automotive sector
- ◆ Researcher in the Tectex group
- ◆ Lecturer in undergraduate and postgraduate university studies
- ◆ D. in Textile and Paper Engineering from the Polytechnic University of Catalonia
- ◆ Graduate in Political Science and Administration from the Autonomous University of Barcelona
- ◆ PROFESSIONAL MASTER'S DEGREE in Textile and Paper Engineering

## Professors

### Ms. Ruiz Caballero, Ainhoa

- ◆ Specialist in the sports textile industry
- ◆ Commercial team leader of technical textile products for extreme sports at McTrek Retail GmbH Aachen
- ◆ Technician specialized in textile products Hightech for high mountain at McTrek Outdoor Sports GmbH Aachen
- ◆ Degree in Political Science and Law from the Polytechnic University of Catalonia.
- ◆ Master's Degree in European Union by the European Institute of Bilbao

### Mr. Martínez Estrada, Marc

- ◆ Engineer specialized in textile processes and technologies
- ◆ Product Engineer at Firstvision Technologies SL
- ◆ Researcher at RFEMC group
- ◆ Lecturer in undergraduate and postgraduate university studies related to Engineering.
- ◆ Graduate in Industrial Technologies Engineering from the Polytechnic University of Catalonia.
- ◆ Master's Degree in Industrial Engineering



04

# Structure and Content

The renowned experts in Textile Engineering selected by TECH have meticulously designed this program. They have brought their years of experience and expertise to ensure a complete and high quality education for the students. The degree consists of 150 hours of audiovisual content in different formats, which allows for an effective and gradual integration of knowledge for the engineer. In addition, it is taught in a fully online and flexible format, which means that students will be able to access the content from any device with an internet connection and have access to the virtual campus 24 hours a day.





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*A fully online course of study that allows you to combine your professional life with your personal and academic life"*

**Module 1.** Development of textile applications for different industries.  
Multisectorial approach

- 1.1. Textiles in the construction sector
  - 1.1.1. Fiber-reinforced cements
  - 1.1.2. Fiberglass applications in construction
  - 1.1.3. The uses of synthetic fibers and ceramics in construction
- 1.2. Use of textiles in architecture and construction
  - 1.2.1. Cements reinforced with textile structures
  - 1.2.2. Applications of mesh structures in construction
  - 1.2.3. Textile architecture and tensile structures. Tensile materials
- 1.3. Nonwoven structures used in the construction industry
  - 1.3.1. Use of nonwoven fabrics for construction purposes  
Methodology and technique
  - 1.3.2. The incorporation of nonwoven fabrics in construction. Limitations and issues
  - 1.3.3. Applications of nonwoven fabrics intended for construction and public works
- 1.4. Composite materials: High Potential as Reinforcements for architecture and construction
  - 1.4.1. Composed materials at a global level. Situation and outlook
  - 1.4.2. Types of composed materials. Definition and Classification
  - 1.4.3. Composed materials destined for construction  
Specific Applications
- 1.5. The construction sector, link with the textile sector  
News and trends
  - 1.5.1. Trends in production and markets
  - 1.5.2. Technological advances in the sector and in the implementation of 4.0 industry
  - 1.5.3. Prospects for improvement in the sector
    - 1.5.3.1. Solutions to the climate crisis, new needs and requirements
- 1.6. Development of textiles for the aeronautics and aerospace sector
  - 1.6.1. Global analysis of the aeronautical and aerospace sector
    - 1.6.1.1. The market for textiles in the aeronautical and aerospace sector
  - 1.6.2. Application of composed materials in the aeronautical and aerospace sector
  - 1.6.3. Thermoplastics and carbon fibers for the aeronautical and aerospace sector







- 1.7. Development of textiles for the automotive sector
  - 1.7.1. Global analysis of the automotive sector
    - 1.7.1.1. The textile market within the automotive sector
  - 1.7.2. Application of textile materials within the automotive industry
  - 1.7.3. New developments in textile structures and nonwoven fabrics for the automotive sector
- 1.8. Home textiles. Use of textiles in interior design
  - 1.8.1. Global analysis of the interior design industry
    - 1.8.1.1. The textile market within the interior design industry
  - 1.8.2. Indoor and outdoor textile applications
  - 1.8.3. Advanced trends in interior decoration and interior design with textiles
- 1.9. Geotextiles and geomembranes
  - 1.9.1. The geotextile and geomembrane manufacturing industry. Global analysis
    - 1.9.1.1. The textile market within geotextile and geomembrane manufacturing industry
  - 1.9.2. Applications of geomembranes and geotextiles
  - 1.9.3. Innovations in the field of geotextiles and geomembranes
- 1.10. Trends in the transversality of the textile sector. New approaches and new markets
  - 1.10.1. Analysis of industrial sectors using textiles
  - 1.10.2. Analysis of textile products with use and application in different industrial sectors. Problems and limitations of the textile sector in this field
  - 1.10.3. Innovations and adaptability of the textile sector to new market requirements and needs

05

# Methodology

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

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





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



## Case Study to contextualize all content

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

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



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



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

### A learning method that is different and innovative

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

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

The case method is the most widely used learning system in the best faculties in the world. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.



## Relearning Methodology

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

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

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

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

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



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

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

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

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

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



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



### Study Material

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

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



### Classes

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

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



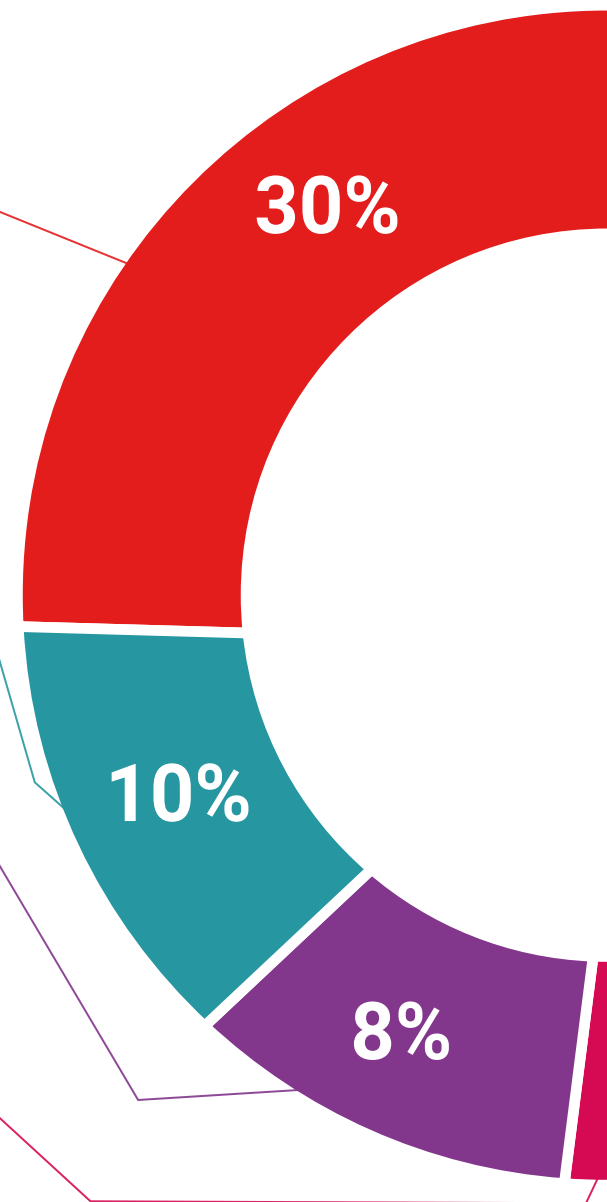
### Practising Skills and Abilities

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



### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





**Case Studies**

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



**Interactive Summaries**

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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



**Testing & Retesting**

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.





06

# Certificate

The Postgraduate Diploma in Textiles for Industrial Sectors 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 Certificate in Textiles for Industrial Sectors** contains the most complete and up-to-date program on the market.

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

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

Title: **Postgraduate Certificate in Textile for Industrial Sectors**

Official N° of Hours: **150 h.**



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

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



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