

# Postgraduate Certificate Science and Design



## Postgraduate Certificate Science and Design

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

Website: [www.techtitute.com/us/design/postgraduate-certificate/science-design](http://www.techtitute.com/us/design/postgraduate-certificate/science-design)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Structure and Content

---

*p. 12*

04

Methodology

---

*p. 16*

05

Certificate

---

*p. 24*

# 01

# Introduction

Science is part of all aspects of life and fashion design cannot be left out. Undoubtedly, there are scientific aspects that must be taken into account when creating new clothing items and, for this reason, TECH has designed an academic program that will be indispensable for improving professional skills in the sector. This way, they will have the opportunity to improve their knowledge of materials, proportions or even sustainability. Fundamental aspects for future professionals.





“

*Know the link between science and design,  
and apply these fundamental issues to  
your daily life, adding quality to your work”*

There are scientific aspects that are very useful for its application to fashion. For this reason, professionals in the sector are increasingly committed to acquiring multidisciplinary skills, which take into account different fields that, although at first glance seem totally unrelated, may actually relate to each other. In this case, for example, this program in Science and Design shows such important issues as arithmetic, geometry, mechanics, materials or the theory of proportion, for example. However, in the 21st century, the commitment to sustainability and environmental protection plays a fundamental role and, therefore, this program also makes a special contribution in this field.

Therefore, fashion design professionals will be able to understand the consequences of planned obsolescence and the environmental impact of design, as well as the contribution of recycling in a field as demanding as this one, which undergoes constant changes to adapt to the evolution of society and new trends.

In short, TECH aims to meet the high specialization objective demanded by fashion designers, who are looking for high quality programs to improve their skills and offer users garments that will become indispensable for their closet. And to achieve this goal, it offers students a cutting-edge program adapted to the latest developments in the sector, with an up-to-date syllabus developed by experienced professionals who are willing to put all their knowledge at the disposal of their students. It should be noted that since it is a 100% online program, students are not conditioned by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their professional and personal life with their academic life.

This **Postgraduate Certificate in Science and Design** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- ◆ Practical cases presented by experts in fashion
- ◆ 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.
- ◆ Special emphasis on innovative methodologies in science and design
- ◆ 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



*There are scientific elements widely linked to fashion, and they are presented in this Postgraduate Certificate so you can delve into a field of great demand"*

“ *TECH is the largest online university and puts a great number of academic resources at your disposal so that you can specialize in a short period of time*”

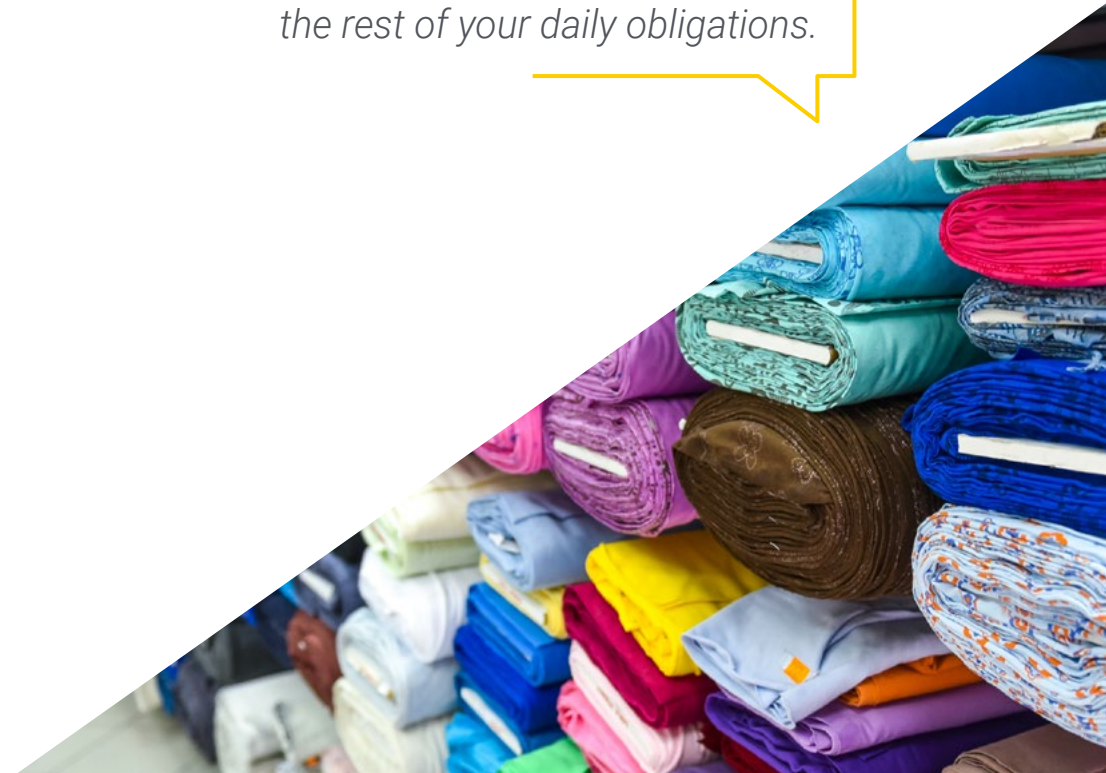
This program's teaching staff includes professionals from the field of Fashion, who bring their work experience to this program, as well as renowned specialists from leading communities and prestigious universities.

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 deliver an immersive learning experience, programmed to prepare for real situations.

This program is designed around Problem-Based Learning, where Communication Management must try to solve the different professional practice situations that arise throughout the program. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*The multitude of case studies in this program will allow you to strengthen your skills in a comfortable way.*

*An entirely online Postgraduate Certificate that will allow you to perfectly combine your studies with the rest of your daily obligations.*



# 02 Objectives

This Postgraduate Certificate in Science and Design is oriented to facilitate professionals' performance in order for them to acquire and learn the main novelties in this field, which will allow them to practice their daily work with the highest quality and professionalism. This way, they will be better prepared to develop successfully in a booming sector, in which new concepts and trends are constantly emerging and must be recognized and applied by professionals.







“

*Enhance your skills with a state-of-the-art program designed to help you achieve professional success”*



## General Objective

---

- ◆ Obtain a detailed knowledge of fashion design that will be relevant to the work of professionals who wish to develop in this current field
- ◆ Be able to design successful fashion projects
- ◆ Apply scientific criteria to fashion design

“*Fashion designers' higher specialization will go a long way in improving their competitiveness and chances of success*”





## Specific Objectives

---


- ◆ Know how to apply scientific method to design
- ◆ Know the most important scientific bases in design
- ◆ Know the basic properties of materials
- ◆ Know the most commonly used quantities in design, their units and the conversions between them
- ◆ Incorporate scientific environmental and sustainability criteria in design

# 03

## Structure and Content

This Postgraduate Certificate's content covers, in a structured way, all the areas of knowledge that fashion professionals need to know in-depth, including the most interesting developments and latest advances in the sector. A high-quality program that will allow students to compete proficiently and competently in a highly competitive industry. To this purpose, the syllabus has been designed by professionals with extensive experience who have captured all their expertise in a program that will be indispensable in professionals' résumés in the 21st century.





“A very well-structured program that will allow you to turn your career around”

## Module 1. Science and Design

- 1.1. The Scientific Method
  - 1.1.1. Analysis and Simulation Methods
  - 1.1.2. Statistical Principles
  - 1.1.3. Applications
- 1.2. Applied Design Sciences
  - 1.2.1. Arithmetic
  - 1.2.2. Algebra
  - 1.2.3. Geometry
- 1.3. Mechanics
  - 1.3.1. Introduction to Mechanics
    - 1.3.1.1. Fundamental Concepts
    - 1.3.1.2. Units and Measurement Systems
    - 1.3.1.3. Introduction to Vector
  - 1.3.2. Statics
    - 1.3.2.1. Forces, Vectors and Systems
    - 1.3.2.2. Particle Equilibrium
  - 1.3.3. The Forces
    - 1.3.3.1. Force Moments
    - 1.3.3.2. Center of Gravity
    - 1.3.3.3. Rigid Body Stability
- 1.4. Matter
  - 1.4.1. Atoms and Elements
    - 1.4.1.1. Atomic Theories
    - 1.4.1.2. Atom Structure: Properties
  - 1.4.2. Matter
    - 1.4.2.1. Aggregation States
    - 1.4.2.2. Characteristics and Properties
    - 1.4.2.3. Changes of Status
  - 1.4.3. Bonds and Reactions
    - 1.4.3.1. Chemical Bonds: Properties
    - 1.4.3.2. Chemical Reactions
- 1.5. Materials
  - 1.5.1. Material Resistance
  - 1.5.2. Fundamental Concepts
  - 1.5.3. Mechanical Material Response
- 1.6. Optics
  - 1.6.1. Principles of Optics
  - 1.6.2. Color Physics
  - 1.6.3. Nature and Properties
  - 1.6.4. Effects of Light on Bodies
- 1.7. Statistics
  - 1.7.1. Statistical Research Process
    - 1.7.1.1. Descriptive Statistics
    - 1.7.1.2. Notion of Inferential Statistics
  - 1.7.2. Statistical Variables
    - 1.7.2.1. Variables: Qualitative and Quantitative
    - 1.7.2.2. Discrete and Continuous Variables
    - 1.7.2.3. Study Units
    - 1.7.2.4. Measuring Scale
    - 1.7.2.5. Notion of Population and Sample
    - 1.7.2.6. Sampling Methods: Probability and Non-Probability
  - 1.7.3. Data Collection and Sorting
  - 1.7.4. Descriptive Treatment of the Observed Values of Quantitative Variables
  - 1.7.5. Frequency Table Construction
    - 1.7.5.1. Absolute and Relative Frequencies
    - 1.7.5.2. Cumulative Frequencies



- 1.7.6. Graph
  - 1.7.6.1. Canes
  - 1.7.6.2. Staggered
  - 1.7.6.3. Histograms
  - 1.7.6.4. Frequency Polygons
  - 1.7.6.5. Warheads
- 1.8. Proportion Theory
  - 1.8.1. Segment Proportioning
  - 1.8.2. Thales' Theorem
  - 1.8.3. Golden Ratio
  - 1.8.4. Gold Number
  - 1.8.5. Silver Number
- 1.9. The Environment
  - 1.9.1. Planned Obsolescence
  - 1.9.2. Design Impact on the Environment
  - 1.9.3. Social Responsibility
- 1.10. Sustainability and Recycling
  - 1.10.1. Sustainability and Recycling
  - 1.10.2. Biomimicry
  - 1.10.3. Biodegradation
  - 1.10.4. New Markets: Green Customers and Users

“ Learn about the simple applications of science to fashion and be more effective in your daily practice”

# 04

# 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.





“

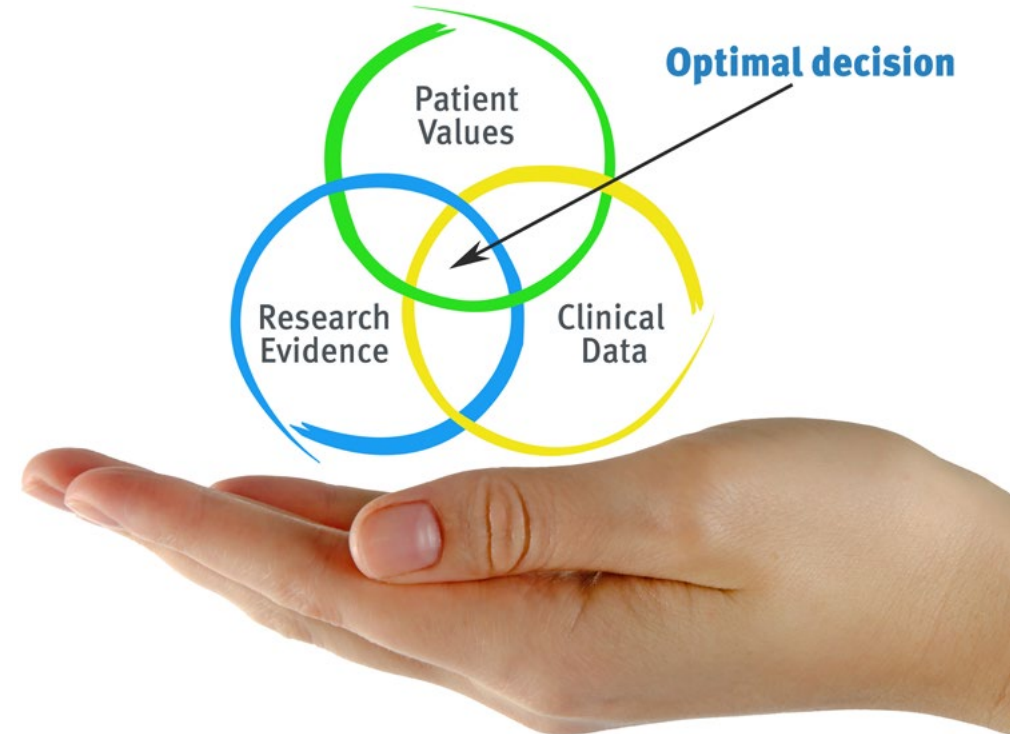
*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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.



*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.*



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

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 we face 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.

With this methodology we have 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, markets, and financial 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 competencies and skills in each thematic 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.



# 05 Certificate

This Postgraduate Certificate in Science and Design guarantees, in addition to the most rigorous and up to date education, access to a Postgraduate Certificate issued by TECH Technological University.





“

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

This **Postgraduate Certificate in Science and Design** contains the most complete and up-to-date educational 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 Science and Design**

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  
development language  
virtual classroom



## Postgraduate Certificate Science and Design

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

# Postgraduate Certificate Science and Design

