Postgraduate Certificate

Graphical Representations of Data in Medical Research and other Advanced Analyses
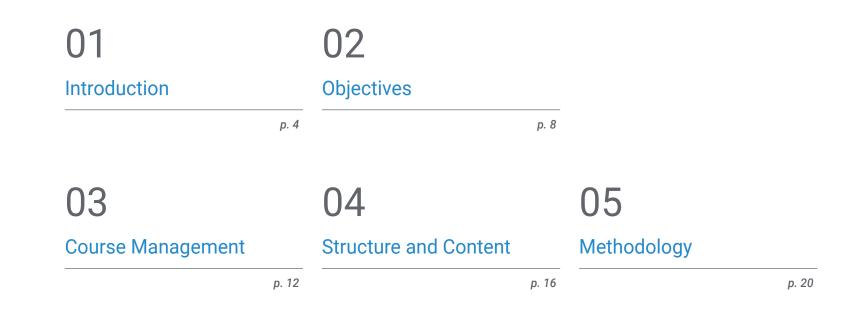
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Postgraduate Certificate
Graphical Representations of Data in Medical Research and other Advanced Analyses

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

Website: www.techtitute.com/us/sports-science/postgraduate-certificate/graphical-representations-data-medical-research-advanced-Analyses

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01

Introduction

Graphical representations are one of the tools that specialists use for the last phase of their research. Thanks to this and to the advances that have been discovered in advanced data Analyses, this representation has made it possible to convert information. In this way, experts are able to disseminate and disseminate their results in a way that is decipherable at a glance. It is a way of empirically"ranslatin"the study into tangible information that, in the first instance, is not. For this reason, companies need specialists who are up to date with the latest developments in this field. TECH offers a 100% online program that delves precisely into graphic representations to educate graduates in Sports Science and other interested professionals to promote the conversion of scientific data from research projects into tangible information in a guaranteed way.

With this Postgraduate Certifiacate you will master Graphical Representations of Data in Health Research and other Advanced Analyses in just 6 week"

In scientific development, it is essential to incorporate tools that speed up, optimize and develop projects exponentially. One of them is graphics, which allows the comparison of data in a simple way and, above all, proposes the conversion of information in a way that is recognizable at a glance. It also helps specialists, since it enables the recognition of ideas in a clear, precise and visual way. For this reason, companies are increasingly calling for experts who have mastered all phases of research and can intervene in the representation of data at analytical levels.

For this reason, TECH has designed a rigorous and specific Diploma in the graphical representation of data in medical research and other advanced Analyses. It is a program that is supported by experienced professionals in Research, who are also in charge of teaching the syllabus. The content and structure of this Diploma have also been designed under the approval of specialists, so that professionals can have a simple and enriching academic experience. Therefore, TECH has incorporated a large amount of audiovisual content in various formats that aim to get the most out of the students and the most out of the time they devote to study.

It is a 100% online program that allows for an adapted follow-up on the part of the students, according to their personal and professional needs. In search of the greatest flexibility for its students, TECH also allows them to download the reference guide, so that, once it has been saved on the student's electronic device, he/she can enjoy it even offline. The aim is to offer a complete, exhaustive and modern academic degree that will instruct the professional through the simulation of real cases and additional material on dimensionality reduction methods, the comparison between PCA, PPCA and KPCA, massive data Analyses and binary models, among other issues. All of this, without travel or fixed schedules and in only 150 hours of study.

This **Postgraduate Certificate in Graphical Representations of Data in Medical Research and other Advanced Analyses** contains the most complete and up-to-date scientific program on the market. The most important features include:

- Development of case studies presented by experts in Medical Research
- 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
- 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

Haven't mastered binary regression models yet? Don't fall behind the update queue, join TECH and get it"

Are you going to miss the opportunity to educate yourself with one of the most modern academic alternatives? TECH Global University will make you deepen your knowledge of dimensionality reduction methods from wherever you want, with no commuting or fixed schedules"

Thanks to the multitude of materials you will have at your disposal, you will have at hand all the knowledge in T-SNE and UMAP to master the reduction of dimensions in graphics.

Get into the Analyses of massive data applied to Sports Research with a degree that will push you to get the most out of it.

The program's teaching staff includes professionals from the 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 immersive 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.

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Objectives

The main objective of this Postgraduate Certificate in Graphical Representations of Data in Medical Research and other Advanced Analyses is to update the knowledge of research tools for graduates in Sports Sciences and other interested professionals. It is a degree developed by experts who have years of experience in the area and who will be in charge of teaching the subject. In this way, specialists will acquire an intensive update that will make them more competitive in the workplace and improve their own procedures when representing and interpreting the results of a study.

If your goal is to master the comparison of PCA, PPCA, KPCA methods, you are in the perfect place to start turning your skills around. TECH offers you everything you need to get there"

General Objectives

- Understand the appropriate approach to a question or problem to be solved
- Asses the state of the art of the problem through literature search
- Assess the feasibility of the potential project
- Study the drafting of a project in accordance with the different calls for proposals
- Examine the search for funding
- Master the necessary data Analyses tools
- Writing scientific articles (*papers*) according to the target magazines
- Generate *posters* relevant to the units covered
- Know the tools for dissemination to the non-specialized public
- Delve into data protection
- Understand the transfer of knowledge generated to industry or the clinic
- Examine the current use of artificial intelligence and massive data Analyses
- Study examples of successful projects

Specific Objectives

◆ Master the tools of computational statistics

◆ Learn to generate graphs for the visual interpretation of data obtained in research project

◆ Obtain in-depth knowledge of dimensionality reduction methods

◆ Delve into the comparison of methods

Delve into computational statistics so that you can act with the latest tools and with confidence in your professional fiel"

03

Course Management

TECH has selected an experienced group of teachers, based on their academic and professional curriculum and the human quality they can offer to the students. This is a choice that aims at the careful development of the contents and the best teaching attention for the students. In this way, the specialists will have at their disposal the advice of experts in the research area and a personalized instruction, which will provide them with possibilities in the labor market. It is a great opportunity for those professionals who wish to learn from the most updated experts and opt for a 100% online university experience.

Join now an academic degree that offers you the possibility to be updated by the best specialists in Researc"

Management

Dr. López-Collazo, Eduardo

- Scientific Deputy Director in the Institute for Health Research the Health Research Institute of La Paz University Hospital
- Head of the Department of Inmune Response and Infectious Diseases at IdiPAZ
- Head of the Department of Inmune Response, Tumors and Immunology at IdiPAZ
- President of the IdiPAZ Research Commission
- Sponsor of the External Scientific Committee of the Murcian Institute of Health Research
- Member of the Scientific Commission of FIDE
- Editor of the international scientific journal Mediators of Inflammation
- Editor of the international scientific journal"rontiers of Immunology
- Coordinator of IdiPAZ Platforms
- Coordinator of Health Research Funds in the areas of Cancer, Infectious Diseases and HIV
- PhD in Nuclear Physics, University of La Habana
- Doctorate in Pharmacy from the Complutense University of Madrid

Professors

Dr. Avendaño, Jose

- Sara Borrell Researcher Foundation for Biomedical Research of the Ramón y Cajal University Hospital (FIBioHRC/IRyCIS)
- Researcher Foundation for Biomedical Research of La Paz University Hospital (FIBHULP/IdiPAZ)
- Researcher HM Hospitals Foundation (FiHM)
- Graduate in Biomedical Sciences from the University of Lleida
- Master's Degree in pharmacological research from the Autonomous University of Madrid
- PhD in Pharmacology and Physiology from the Autonomous University of Madrid

Dr. Pascual Iglesias, Alejandro

- Bioinformatics Platform Coordinator, La Paz Hospital
- Advisor to the COVID-19 Expert Committee of Extremadura
- Researcher in Eduardo López-Collazo's innate immune response research group, Instituto de Investigación Sanitaras University Hospital La Paz
- Researcher in the coronavirus research group of Luis Enjuanes, National Center of Biotechnology CNB-CSIC
- Coordinator of Continuing Education in Bioinformatics, Health Research Institute of the University Hospital La Paz
- Cum Laude Doctor in Molecular Biosciences from the Autonomous University of Madrid
- Degree in Biology Molecular from the University of Salamanca
- Professional Master´s Degree in Cellular and Molecular Physiopathology and Pharmacology from the Universidad of Salamanca

Structure and Content

The content of this Postgraduate Certificate has been designed by a professional team, formed by specialists in Research with the aim of achieving the academic rigor that TECH pursues. A degree that has a multitude of audiovisual content in various formats and that is proposed in a dynamic way to facilitate the study to the graduate and get the most out of it. In this way, students will investigate the keys to the operation of the types of graphs and how to carry out the comparison of methods. In addition, this program integrates the innovative Relearning methodology so that the specialist forgets to invest long hours of memorization and can assimilate the contents in a simple and gradual way.

You have not yet mastered all types of graphics? With TECH you will get all the knowledge you need to keep up with the demands of the secto"

Module 1. Graphical Representations of Data in Health Research and Other Advanced Analyses

1.1.	Types of Graphs
1.2.	Survival Analyses
1.3.	ROC Curves
1.4.	Multivariate Analyses (Types of Multiple Regression)
1.5.	Binary Regression Models
1.6.	Massive Data Analyses
1.7.	Dimensionality Reduction Methods
1.8.	Comparison of Methods: PCA, PPCA and KPCA
1.9.	T-SNE (*t-Distributed Stochastic Neighbor Embedding*)
1.10.	UMAP (*Uniform Manifold Approximation and Projection*)

Enroll now and enjoy a program that will introduce you to the paradigm of representation so that you can master all its forms and graphic keys to perfectio"

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.

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 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.

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)

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.

30%

10%

8%

20%

25%

4%

3%

Case Studies

Students will complete a selection of the best case studies chosen specifically for this situation. 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 Certificate in Graphical Representations of Data in Medical Research and other Advanced Analyses guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Certificate in Graphical Representations of Data in Medical Research and other Advanced Analyses** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Graphical Representations of Data in Medical Research and other Advanced Analyses**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

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

Postgraduate Certificate in Graphical Representations of Data in Medical Researchand other Advanced Analyses

This is a program 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
Rector

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

*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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