Postgraduate Certificate
Software for Statistics

tech technological university

Postgraduate Certificate
Software for Statistics

- » Modality: **online**
- » Duration: **12 weeks**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/pk/engineering/postgraduate-certificate/software-statistics**

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01
Introduction

The use of statistical software has become indispensable in numerous fields, from engineering to medicine to finance. The use of statistical tools enables engineers to perform in-depth analysis of large amounts of data and gain valuable insights into system performance and energy efficiency, resulting in improved quality and increased customer satisfaction. This Postgraduate Certificate is designed to provide professionals with the necessary skills and knowledge to handle statistical software effectively and efficiently. In addition, the program is developed in 100% online format and uses the Relearning methodology, which allows students to study at their own pace and adapt to their busy schedules.

Do you want to specialize in functions, graphics, packages and statistics in SPSS and don't have time to go to an on-site center? TECH makes it possible to train completely online"

Engineers are professionals who handle large amounts of data. Thus, the in-depth handling of the Statistics Software will allow you to perform a deep and detailed analysis of these data, which will enable you to obtain valuable information about system performance, energy efficiency and other important aspects of your work. As a result, more and more companies are looking for engineers with high loop and vectorization skills engineers with high skills in loop handling and vectorization.

This undergraduate program is designed to provide engineers with the skills and knowledge necessary to operate statistical software effectively and efficiently. The course syllabus includes topics such as descriptive statistics, regression analysis, multivariate analysis and time series models, among others. In addition, emphasis is placed on the use of specialized software tools, such as SPSS, for advanced statistical analysis. Students will learn to handle these tools effectively and to interpret the results obtained for application in their field of work.

It is important to note that the program is developed in a 100% online format that allows students to study at their own pace and adapt to their busy schedules. In addition, it is taught under the effective Relearning methodology, which consists of the reiteration of the fundamental concepts throughout the syllabus so that the graduate will integrate solid knowledge without having to make the effort of memorizing.

This **Postgraduate Certificate in Software for Statistics** 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 Applied Statistics
- 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 the self-assessment process can be carried out to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection

A program with which you will acquire a comprehensive mastery of the SPSS environment typical of the best experts"

In the Online Campus you will find 300 hours of diverse content that you can access from wherever and whenever you want, through any device with an internet connection"

Without schedules or on-site classes, you will work on perfecting your skills in a comprehensive way through a degree that adapts to you and your availability.

You will deepen your knowledge of operations with objects and learn how to access their values by means of the indexing system.
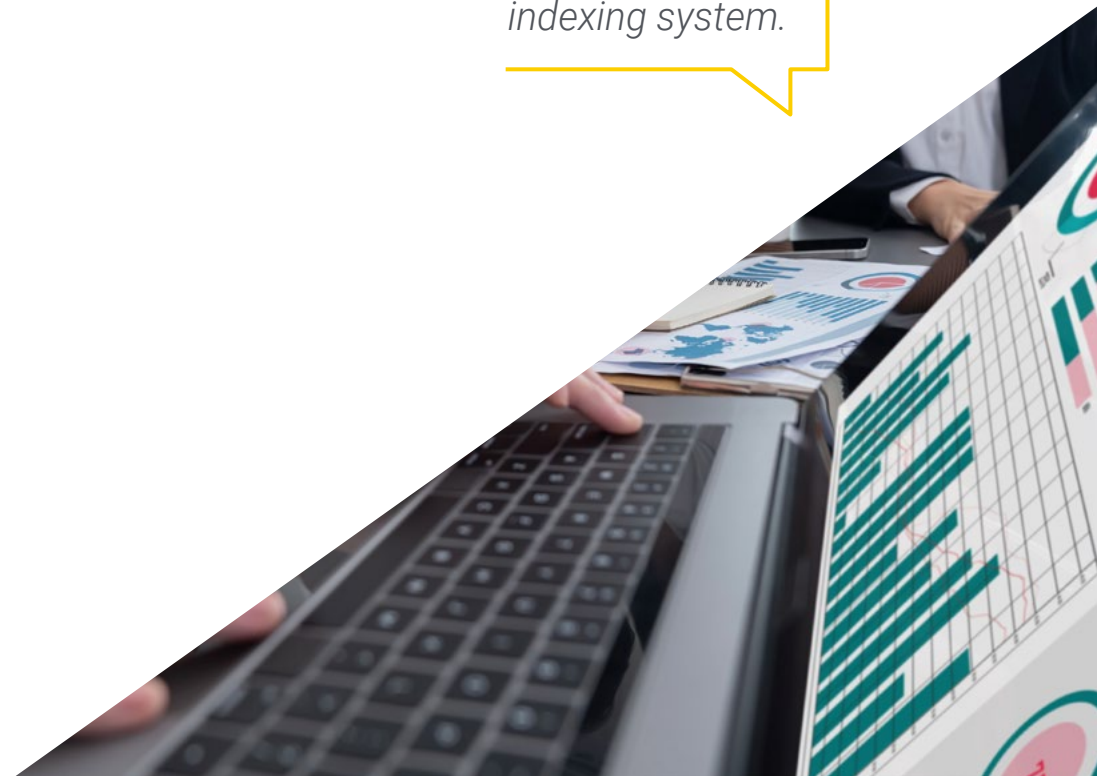
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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. This will be done with the help of an innovative system of interactive videos made by renowned experts.

02
Objectives

Given the importance that statistics has acquired in the current economic environment, it has become an essential tool for the correct development of markets and entities. Aware of this, TECH has launched a program that allows graduates to deepen their knowledge of new developments and specialize in the management of strategies and software. The objective of this program is to provide all the necessary material to achieve this goal, through an innovative and intensive academic experience that will take your talent to the highest level of the industry.

TECH will provide you with the most cutting-edge and complete information, as well as all the materials you need to achieve even your most ambitious goals"

General Objectives

- Provide graduates with the latest and most exhaustive information on Computational Statistics, which will help them specialize in the field and reach the highest level of knowledge

- Provide them with everything necessary to acquire a professional mastery of the main tools used in the field through use cases based on real and frequent situations that arise in the industry

If one of your goals is to learn to master the formulation of graphs in SPSS through the most important and complex parametric functions, look no further and bet on this University Course"

Specific Objectives

- Become familiar with the work environments in SPSS
- Develop statistical programs in SPSS
- Know the different types of SPSS used
- Support reflections and conclusions drawn from statistical data using SPSS
- Know the R environment
- Be able to develop a statistical program in R
- Know the different types of functions used by R
- Use R to help in the reflection and conclusion of statistical data

03
Structure and Content

The creation of the curriculum for this program has been carried out by a team of experts in the area of Engineering, more specifically in Applied Statistics. As a result, TECH has put together a comprehensive and intensive program that covers the information needed to master this discipline in 12 weeks of training. In addition to the very complete syllabus, they have selected hours of diverse additional materials, with which the graduate can work in a personalized way according to his or her level of demand. All this presented in a convenient, 100%-online program with complete accessibility from any device with an Internet connection.

Don't waste time memorizing. Thanks to the use of the Relearning methodology in the development of this program, you will assist to an effective, natural and progressive learning"

Module 1. Statistical Software I

1.1.   Introduction to the SPSS Environment
    1.1.1.   How SPSS Works
    1.1.2.   Creating, Listing and Removing Objects in Memory

1.2.   Consoles in SPSS
    1.2.1.   Console Environments in SPSS
    1.2.2.   Main Controls

1.3.   Script Mode in SPSS
    1.3.1.   Script Environments
    1.3.2.   Main Commands

1.4.   Objects in SPSS
    1.4.1.   Objects
    1.4.2.   Reading Data From a File
    1.4.1.   Saving Data
    1.4.4.   Generating Data

1.5.   Execution Flow Control Structures
    1.5.1.   Conditional Structures
    1.5.2.   Repetitive/Iterative Structures
    1.5.3.   Vectors and Arrays

1.6.   Operations with Objects
    1.6.1.   Creation of Objects
    1.6.2.   Converting Objects
    1.6.3.   Operators
    1.6.4.   How to Access the Values of an Object: the Indexing System
    1.6.5.   Accessing an Object's Values with Names
    1.6.6.   The Data Editor
    1.6.7.   Simple Arithmetic Functions
    1.6.8.   Calculations With Arrays

1.7.   SPSS Functions
    1.7.1.   Loops and Vectorization
    1.7.2.   Creating Your Own Functions

1.8.   Graphics in SPSS
    1.8.1.   Handling Graphics
        1.8.1.1. Opening Multiple Graphics Devices
        1.8.1.2. Graph Layouts
    1.8.2.   Graphical Functions
    1.8.3.   Graph Parameters

1.9.   SPSS Packages
    1.9.1.   SPSS Libraries
    1.9.2.   SPSS Packages

1.10.   SPSS Statistics
    1.10.1.   A Simple Example of Analysis of Variance
    1.10.2.   Formulas
    1.10.3.   Generic Functions

Module 2. Statistical Software II

2.1.   Introduction to the R Environment
    2.1.1.   How R Works
    2.1.2.   Creating, Listing and Removing Objects in Memory

2.2.   Console in R
    2.2.1.   Console Environment in R
    2.2.2.   Main Controls

2.3.   Script Mode in R
    2.3.1.   Console Environment in R
    2.3.2.   Main Commands

2.4.   Objects in R
    2.2.1.   Objects
    2.2.2.   Reading Data From a File
    2.2.3.   Saving Data
    2.2.4.   Generating Data

2.5.   Execution Flow Control Structures
    2.5.1.   Conditional Structures
    2.5.2.   Repetitive/Iterative Structures
    2.5.3.   Vectors and Arrays

You will be able to implement in your professional practice the most innovative and technical IT strategies for the development of state-of-the-art statistical software of the highest quality level"

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.

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.

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. 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.

30%

10%

8%

20%

25%

4%

3%
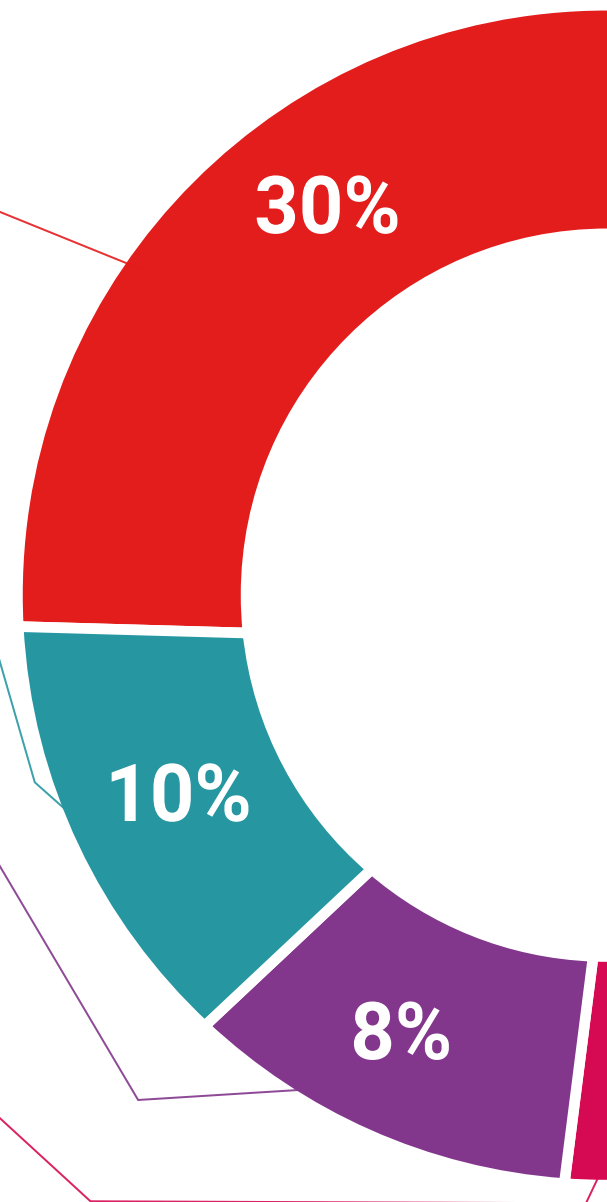
Case Studies

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

The Postgraduate Certificate in Software for Statistics guarantees students, 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 Software for Statistics** 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 certificate 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 Software for Statistics**

Official Nº of hours: **300 h.**

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Awards the following
CERTIFICATE
to

Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE
in
Software for Statistics

This is a qualification awarded by this University, equivalent to 300 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
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

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

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