

Postgraduate Certificate Sample Designs





Postgraduate Certificate Sample Designs

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

Website: www.techtitute.com/us/engineering/postgraduate-certificate/sample-designs

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

Sampling designs are a fundamental technique used to collect data from a population and draw accurate and meaningful conclusions. Well thought out and executed, they can provide accurate, reliable and cost-effective results in a short period of time. Because of this, engineers who master sampling designs can design effective experiments and obtain quality data to make informed decisions. For this reason, TECH has designed a degree that allows students to maximize their knowledge on aspects such as Simple Random Sampling, Simultaneous Estimation of Variables or Sampling Designs, among others. All this, thanks to a 100% online modality and with the most dynamic and practical multimedia materials available in the academic market.





“

Take advantage of the opportunity and acquire new skills on Sample Designs in a precise way and in a 100% online modality”

Engineers who master sampling designs can play an important role in managing quality and reducing company costs. By using proper sampling techniques, they can identify and correct problems in the production process before they affect product quality and increase costs. In addition, advanced knowledge in this area can help identify and eliminate waste and inefficiencies in procedures, increasing profitability and competitiveness in the marketplace.

For this reason, TECH has designed a Postgraduate Certificate in Sample Design with which it seeks to provide students with the necessary skills to perform their work as specialists, with maximum efficiency and quality in their work. Thus, throughout this program, aspects such as Simple Random Sampling, Probability Sampling Applications or Indirect Estimation Methods will be addressed.

All this, thanks to a convenient 100% online mode that allows students to organize their schedules and studies, combining them with their other day-to-day work and interests. In addition, this degree has the most complete theoretical and practical materials on the market, which facilitates the student's study process and allows them to achieve their objectives quickly and efficiently.

This **Postgraduate Certificate in Sample Design** 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 Sample Design
- ◆ The graphic, schematic and eminently practical contents of the book provide sporting and practical information on those 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



Become an expert in Indirect Estimation Methods Applications in only 6 weeks and with total freedom of organization"

“

Exceed your expectations with a complete and innovative program on one of the most promising areas of Computational Statistics”

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.

Delve into the essentials of Probability Sampling Applications, from the comfort of your home, 24 hours a day.

Access all the content about Sample Designs from any device with an internet connection and at the times that best suit you.



02

Objectives

The objective of this Postgraduate Certificate in Sample Design is that the student acquires an accurate update of their knowledge and skills in this area. An update that will allow students to work with the highest quality and efficiency in their work. All this, thanks to TECH and a 100% online modality that gives total freedom of organization and schedules to the student.





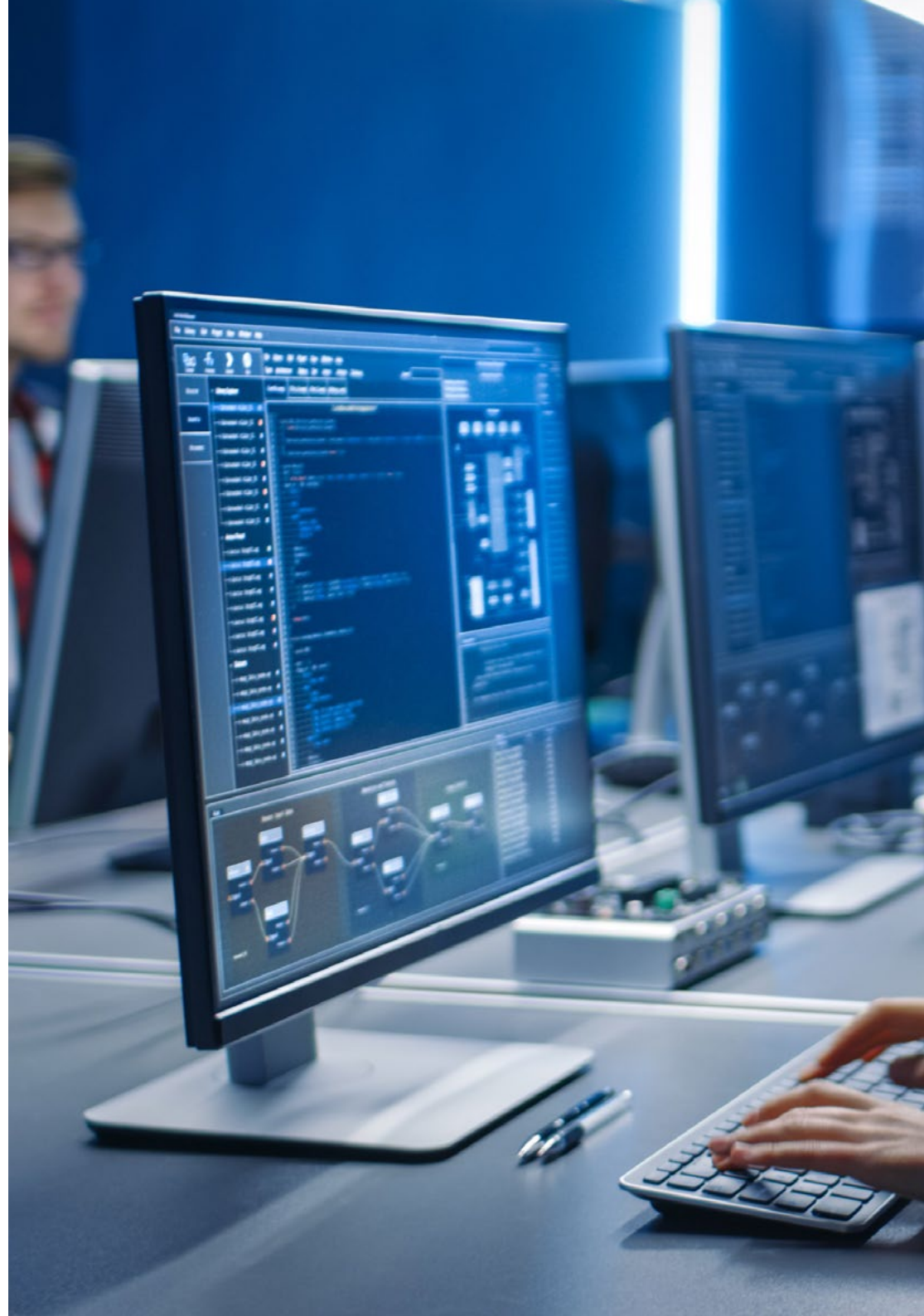
“

It delves into aspects such as Stratified Random Sampling or Systematic Sampling, without the need for travel and with total freedom of organization”



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





Specific Objectives

- ◆ Introduction to basic sampling plans
- ◆ Acquire the conceptual and practical fundamentals to conduct the various sampling procedures presented
- ◆ Acquire the ability to apply the most appropriate method in each practical case

“

Exceed your most demanding goals thanks to an innovative and practical program with the most complete multimedia materials on Sample Design"

03

Structure and Content

The content and structure of this curriculum have been designed by the prestigious professionals that make up TECH's team of experts in Computational Statistics. These specialists have used their extensive experience and state-of-the-art knowledge to create practical and completely up-to-date content. All this, based on the most efficient pedagogical methodology, TECH Relearning.

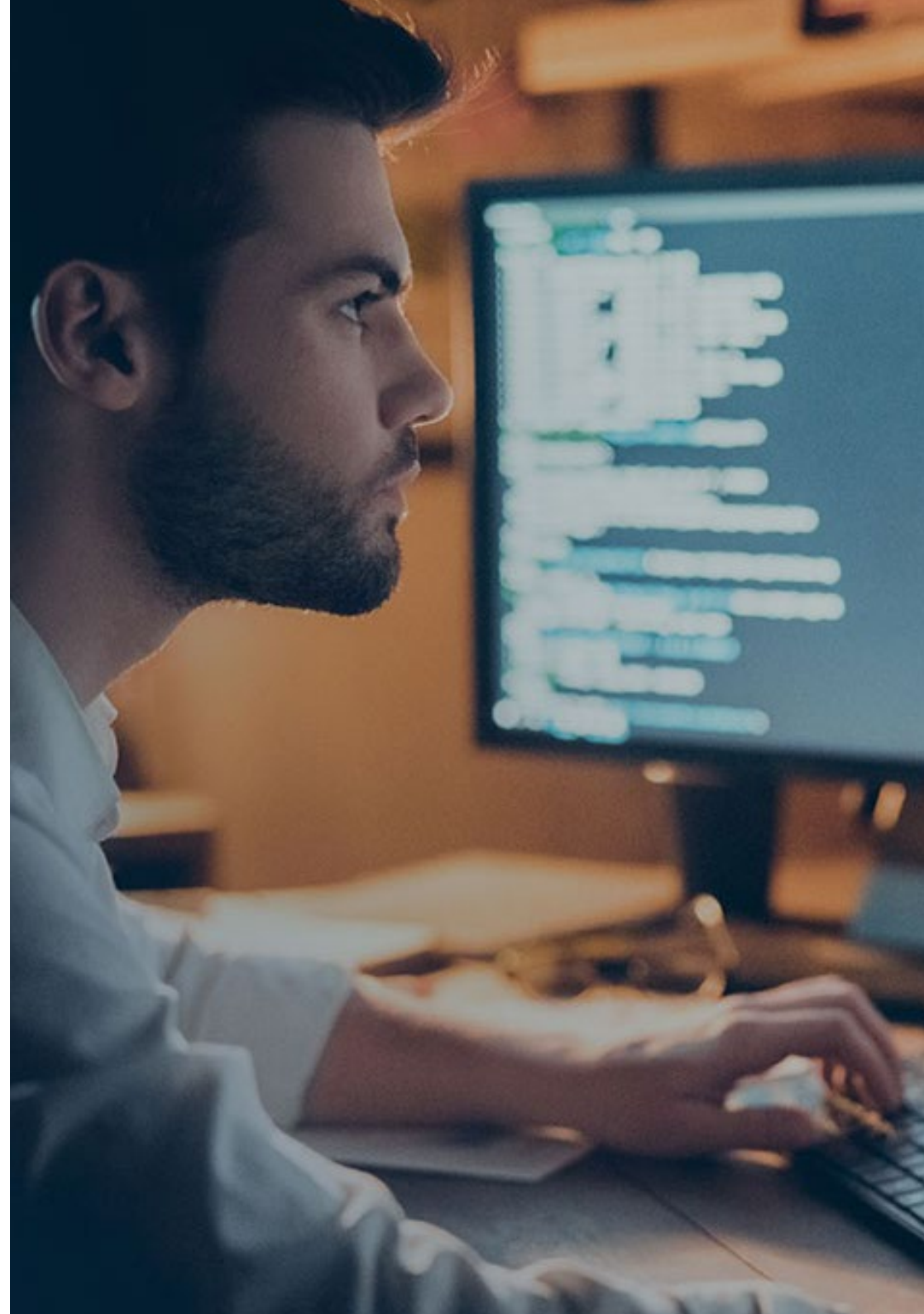


“

Expand your knowledge of Sample Design, thanks to the most innovative teaching materials and a wide variety of additional content available on the Online Campus”

Module 1. Sampling Designs

- 1.1. General Considerations on Sampling
 - 1.1.1. Introduction
 - 1.1.2. Historical Background
 - 1.1.3. Concept of Population, Frame and Sample
 - 1.1.4. Advantages and Disadvantages of Sampling
 - 1.1.5. Stages in a Sampling Process
 - 1.1.6. Sampling Applications
 - 1.1.7. Types of Sampling
 - 1.1.8. Sampling Designs
- 1.2. Simple Random Sampling
 - 1.2.1. Introduction
 - 1.2.2. Definition of Sample Design m.a.s. (N, n), m.a.s.R and Associated Parameters
 - 1.2.3. Estimation of Population Parameters
 - 1.2.4. Determining Sample Sizes (without Replenishment)
 - 1.2.5. Determining Sample Sizes (with Replenishment)
 - 1.2.6. Comparison between Simple Random Sampling without and with Replacement
 - 1.2.7. Estimating Subpopulations
- 1.3. Probability Sampling
 - 1.3.1. Introduction
 - 1.3.2. Sampling Design or Procedure
 - 1.3.4. Statistics, Estimators and Properties
 - 1.3.5. Estimator Distribution in Sampling
 - 1.3.6. Selecting Units without and with Replenishment. Equal Probabilities
 - 1.3.7. Simultaneous Variable Estimation
- 1.4. Probability Sampling Applications
 - 1.4.1. Main Applications
 - 1.4.2. Examples:





- 1.5. Stratified Random Sampling
 - 1.5.1. Introduction
 - 1.5.2. Definition and Characteristics
 - 1.5.3. Estimators under M.A.E(n)
 - 1.5.4. Bindings
 - 1.5.5. Determining Sample Size
 - 1.5.6. Other M.A.E. Aspects
- 1.6. Stratified Random Sampling Applications
 - 1.6.1. Main Applications
 - 1.6.2. Examples:
- 1.7. Systematic Sampling
 - 1.7.1. Introduction
 - 1.7.2. Estimates in Systematic Sampling
 - 1.7.3. Variance Decomposition in Systematic Sampling
 - 1.7.4. Efficiency of Systematic Sampling Compared to m.a.s
 - 1.7.5. Variance Estimation: Replicate or Interpenetrating Samples
- 1.8. Systematic Sampling Applications
 - 1.8.1. Main Applications
 - 1.8.2. Examples:
- 1.9. Indirect Estimation Methods
 - 1.9.1. Ratio Methods
 - 1.9.2. Regression Methods
- 1.10. Indirect Estimation Methods Applications
 - 1.10.1. Main Applications
 - 1.10.2. Examples:

“ Thanks to TECH Relearning, you will be able to acquire new knowledge in a precise and natural way, without spending too much time studying”

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 method of skills and knowledge development. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

“

At TECH, you will experience a way of learning 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 prepare 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 prepared 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 education, 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 adapted in 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 field. 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 assess and re-assess 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 Sample Designs 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 paperwork”

This program will allow you to obtain your **Postgraduate Certificate in Sample Designs** 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 Sample Designs**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*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.



Postgraduate Certificate Sample Designs

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

Postgraduate Certificate Sample Designs