Postgraduate Certificate

Data and Information Management and Manipulation in Data Science

tech global university

Postgraduate Certificate
Data and Information Management and Manipulation in Data Science

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

Website: **www.techtitute.com/us/information-technology/postgraduate-certificate/data-information-management-manipulation-data-science**

Index

01
Introduction

Data science combines multiple fields, including statistics, scientific methods, artificial intelligence and data analysis, to general useful value from data. This program will help computer engineers specialize in data management, focusing on its typology and life cycle. To this end, a didactic methodology combining theory and practical exercises is guaranteed to facilitate the learning process.

Identify the statistical and probability skills you need for data management"

For computer engineers, this Postgraduate Certificate in Data and Information Management and Manipulation in Data Science is an excellent opportunity to learn about the different techniques, technologies and tools that are capable of analyzing, synthesizing and extracting the knowledge hidden in data.

As the program progresses, specialized knowledge for data management will be established, including typology and life cycle. This will be achieved by means of a practical approach and available resources, such as real cases and updated information.

This program is available in a completely online format, making it easy to adapt to student schedules. It also has a teaching staff specialized in the field and provides valuable knowledge to the module that makes up the Postgraduate Certificate.

This **Postgraduate Certificate in Data and Information Management and Manipulation in Data Science** contains the most complete and up-to-date academic program on the market.

The most important features of the program include:

- Practical cases studies are presented by experts in Engineering in data analysis
- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and 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 assignments
- Access to content from any fixed or portable device with an Internet connection

Determine the best practices for data management according to typology and use"

Ensure security and availability: Information availability, integrity and confidentiality"

Establish the conditions that must be met and replicated to optimize data utilization and quality"

Build your career in a sector that demands high-level professionals"

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

The 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 immersive training programmed to train in real situations.

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

Objectives

This Postgraduate Certificate offers specialized knowledge in data management and manipulation by means of different statistical and probability techniques. In this way, and in real environments, students will be able to unify information and make appropriate decisions to improve the departments they are in charge of. To that end, TECH has established the following general and specific objectives:

Establish data access and reuse policies knowing the structure and useful life of the data"

General Objectives

• Analyze the benefits of applying data analytic techniques in every company department

• Develop the basis for understanding the needs and applications of each department

• Generate specialized knowledge to select the right tool

• Propose techniques and objectives in order to be as productive as possible according to the department

Follow these objectives and you will achieve recognition from your peers for performing critical and impeccable work"
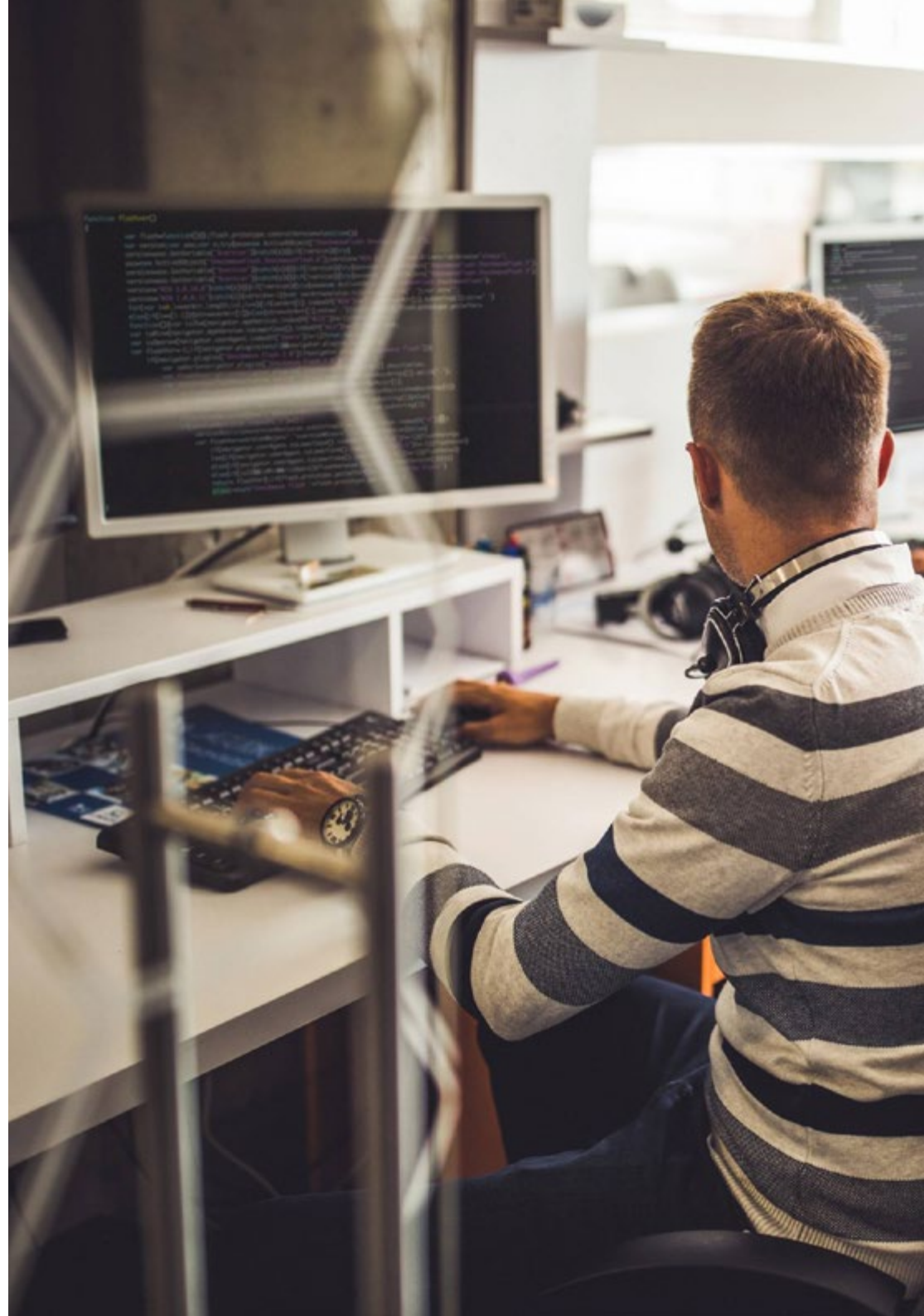
Specific Objectives

- Perform data analyses
- Unify diverse data: Achieving consistency of information
- Produce relevant, effective information to aid decision-making
- Determine the best practices for data management according to typology and use
- Establish data access and reuse policies
- Ensure security and availability: information availability, integrity and confidentiality
- Examine data management tools using programming languages

03
Course Management

The teaching staff on this Postgraduate Certificate in Data and Information Management and Manipulation in Data Science has the necessary experience to guarantee student learning. They will be in charge of presenting the real and practical cases that will help exemplify the contents taught.

"
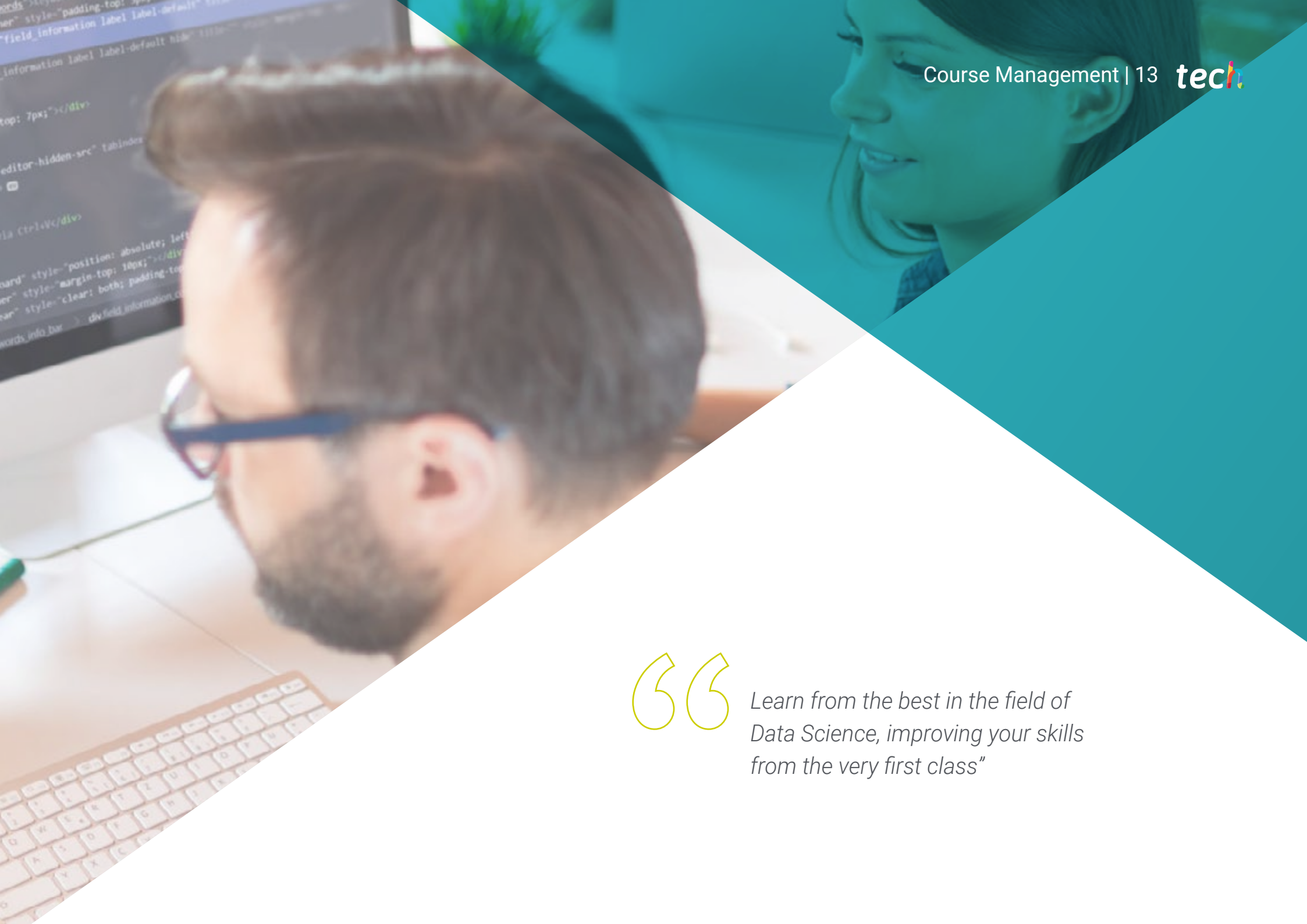
Learn from the best in the field of Data Science, improving your skills from the very first class"

International Guest Director

Dr. Tom Flowerdew is an internationally prominent personality in the field of **data science.** He has served as **Vice President** of **Data Science** at **MasterCard** in **London.** In this role, he has been responsible for the preparation, operation and strategy of a consolidated team in this area, with the mission to support a portfolio of **innovative products in payments,** fight against **money laundering (AML)** and analyze **cryptocurrency** use cases.

He has also been **Director** of **Data Science** in **Cyber Intelligence Solutions,** also at **MasterCard,** where he has led the integration of data to support revolutionary **cryptocurrency-based** products. In fact, his ability to handle complex **data** and develop **advanced solutions** has been instrumental to the success of multiple projects in the **cybersecurity** and **finance** space.

Similarly, for the company **Featurespace,** he has held several crucial roles, including **Head** of **Standardized Product Delivery,** in **Cambridge,** leading a team and a transformation project that has reduced delivery time and effort by more than 75%. In addition, as **Head** of **Delivery, U.S.** headquarters, he has managed all of the company's **North American** delivery functions, significantly improving operational efficiency and strengthening **customer** relationships.

Additionally, Doctor Tom Flowerdew has demonstrated his ability to build and lead high-performing teams throughout his career, most notably in his role as **Data Scientist,** both in **Atlanta,** where he has recruited and managed a group of experts in the field, and in **Cambridge.** In this way, his focus on innovation and **problem solving** has left an indelible mark on the organizations where he has worked, establishing himself as an **influential leader** in the field of **data science.**

Dr. Flowerdew, Tom

- Vice President of Data Science at MasterCard, London, United Kingdom
- Director of Data Science, Cyber Intelligence Solutions, MasterCard, London
- Head of Standardized Product Delivery at Featurespace, Cambridge
- Delivery Manager for United States, at Featurespace, Cambridge
- Data Scientist at Featurespace, Atlanta, Georgia, United States
- Data Scientist at Featurespace, Cambridge
- Research Fellow in Statistics and Operations Research at the University of Lancaster
- Ph.D. in Operations Research from Lancaster University
- B.S. in Systems Engineering from BAE Systems
- B.Sc. in Mathematics from the University of York

Thanks to TECH, you will be able to learn with the best professionals in the world"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO in AI Shephers GmbH
- Doctorate in Psychology from the University of CastillaLa
- PhD in Economics, Business and Finance from the Camilo José Cela University. Outstanding Award in her PhD
- PhD in Psychology, University of Castilla La Mancha
- Master's Degree in Advanced Information Technologies from the University of Castilla la Mancha
- Master MBA+E (Master's Degree in Business Administration and Organisational Engineering) from the University of Castilla la Mancha.
- Associate lecturer, teaching undergraduate and master's degrees in Computer Engineering at the University of Castilla la Mancha.
- Professor of the Master in Big Data and Data Science at the International University of Valencia.
- Lecturer of the Master's Degree in Industry 4.0 and the Master's Degree in Industrial Design and Product Development.
- Member of the SMILe Research Group of the University of Castilla la Mancha.

Professors

Ms. Fernández Meléndez, Galina

- Data Analyst in ADN Mobile Solution
- ETL processes, data mining, data analysis and visualization, establishment of KPI's, Dashboard design and implementation, management control R development and SQL management, among others
- Pattern determination, predictive modeling, machine learning
- Bachelor's degree in Business Administration Bicentenaria de Aragua-Caracas University
- Diploma in Planning and Public Finance Venezuelan School School of Planning- School of Finance
- Professional Master's Degree in Data Analysis and Business Intelligence. University of Oviedo
- MBA in Business Administration and Management (Escuela De Negocios Europea De Barcelona)
- Master in Big Data and Business Intelligence (Escuela de Negocios Europea de Barcelona)

An excellent teaching staff for professionals who want to improve in their career"

04
Structure and Content

The Postgraduate Certificate in Data and Information Management and Manipulation in Data Science will help students gain an in-depth understanding of statistics and probability that will enable them to add value to the data they obtain from their company department. Thus will the objectives of the program to train professional, integral and prestigious engineers be fulfilled.
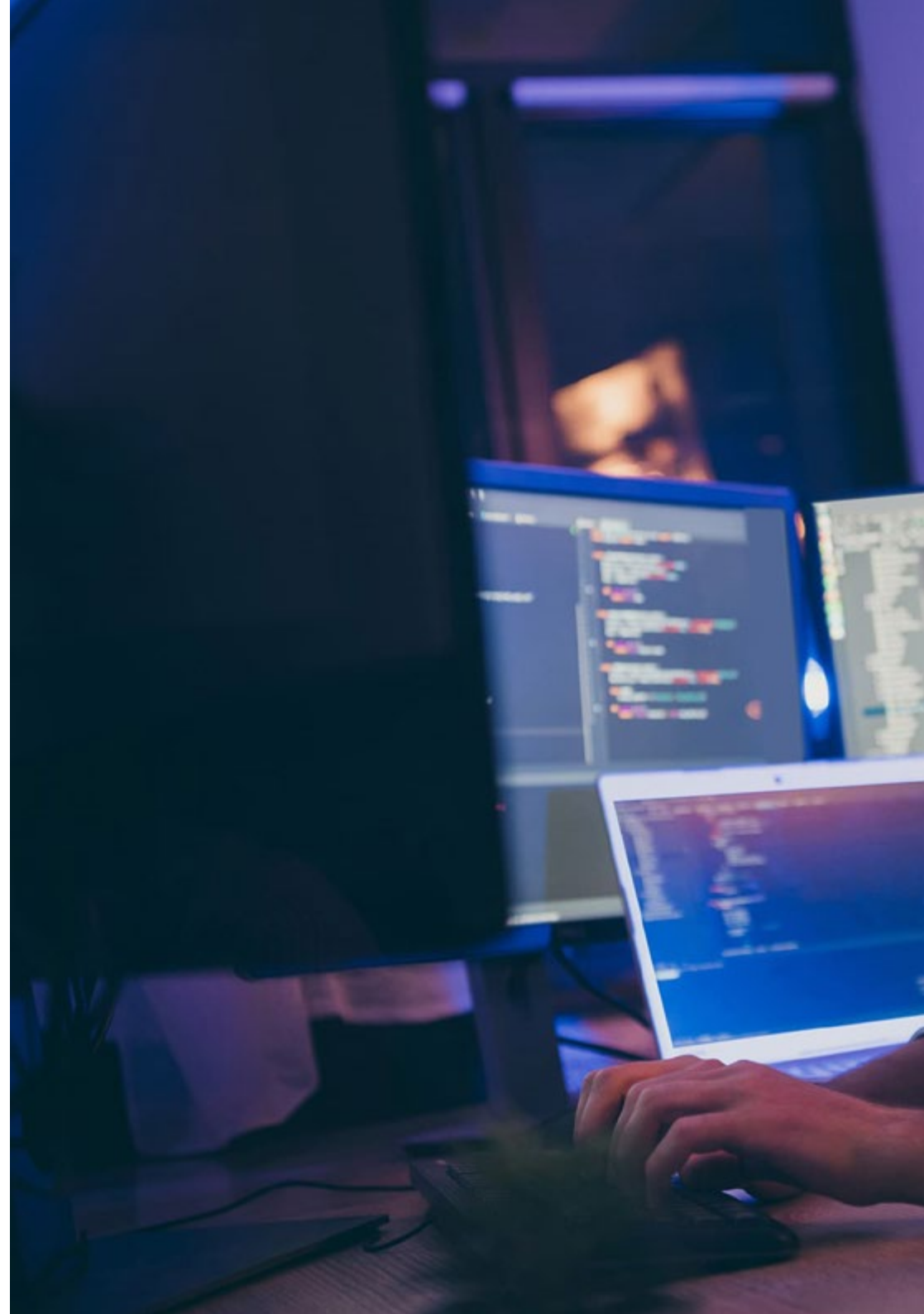
It's time to make a positive change in your work environment. Identify the tools you need to add value to your data"

Module 1. Data Management, Data Manipulation and Information Management for Data Science

1.1. Statistics: Variables, Indexes and Ratios
    1.1.1. Statistics
    1.1.2. Statistical Dimensions
    1.1.3. Variables, Indexes and Ratios
1.2. Type of Data
    1.2.1. Qualitative
    1.2.2. Quantitative
    1.2.3. Characterization and Categories
1.3. Data Knowledge from the Measurements
    1.3.1. Centralization Measurements
    1.3.2. Measures of Dispersion
    1.3.3. Correlation
1.4. Data Knowledge from the Graphs
    1.4.1. Visualization According to Type of Data
    1.4.2. Interpretation of Graphic Information
    1.4.3. Customization of graphics with R
1.5. Probability
    1.5.1. Probability
    1.5.2. Function of Probability
    1.5.3. Distributions
1.6. Data Collection
    1.6.1. Methodology of Data Collection
    1.6.2. Data Collection Tools
    1.6.3. Data Collection Channels
1.7. Data Cleaning
    1.7.1. Phases of Data Cleansing
    1.7.2. Data Quality

Train yourself to be a computer engineer on par with the top professionals in the sector and produce relevant information"

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"

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 has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. 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 course, students 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.

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

Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines 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%
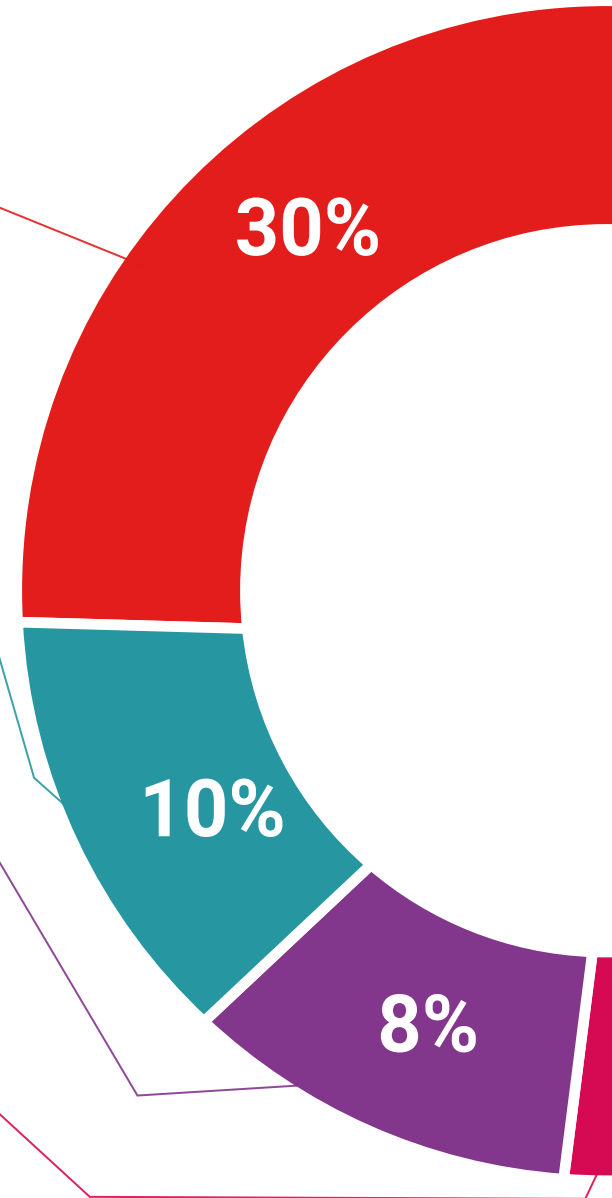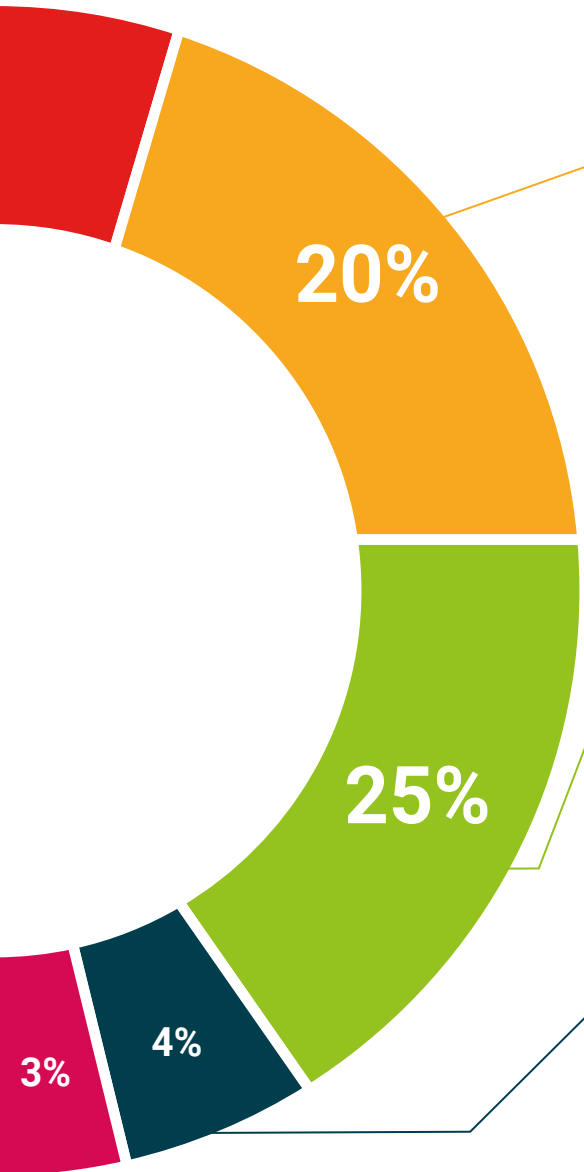
Case Studies

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.

Certificate

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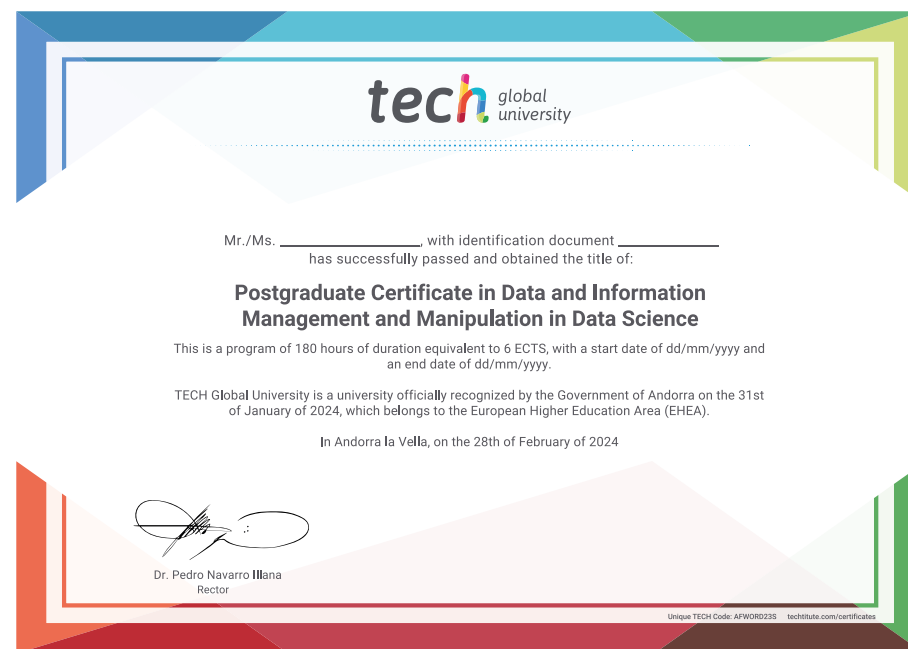
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Data and Information Management and Manipulation in Data Science**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

tech *global university*

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

Postgraduate Certificate in Data and Information Management and Manipulation in Data Science

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

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.

Postgraduate Certificate
Data and Information
Management and
Manipulation in Data
Science

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

Postgraduate Certificate
Data and Information Management and Manipulation in Data Science

tech global university