Postgraduate Diploma
Database Management

tech global university

Postgraduate Diploma

Database Management

- » Modality: **online**
- » Duration: **6 months**
- » Certificate: **TECH Global University**
- » Credits: **18 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/us/information-technology/postgraduate-diploma/postgraduate-diploma-database-management**

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01
Introduction

This Postgraduate Diploma is oriented to achieve a high domain in Database Management, through the latest educational technology 100% Online, in order to update knowledge in a practical and rigorous way, from the hand of industry professionals with wide experience in the field.

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"This Postgraduate Diploma will allow you to update your knowledge on Database Management in a practical way, 100% Online, without renouncing to the maximum academic rigor"

This program is intended for those interested in achieving a higher level of knowledge in Database Management. The main objective is to enable the student to apply in the real world the knowledge acquired in this Postgraduate Diploma, in a work environment that reproduces the conditions that can be found in their future, in a rigorous and realistic way.

This Postgraduate Diploma will prepare students for professional practice of Computer Engineering, thanks to a transversal and versatile training adapted to new technologies and innovations in this field. You will obtain wide knowledge in Database Management, from the hand of professionals in the sector.

The professional should take advantage of the opportunity and take this course in a 100% online format, without having to give up their obligations, and making it easy for them to return to university. Update your knowledge and get your Postgraduate Diploma Certificate to continue growing personally and professionally.

This **Postgraduate Diploma in Database Management** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ Development of 100 simulated scenarios presented by experts in Database Management
- ◆ Its graphic, schematic and practical contents, with which they are created, provide scientific and practical information on Database Management
- ◆ News on latest developments in Database Management
- ◆ Practical exercises where self-assessment can be used to improve learning
- ◆ Interactive learning system based on case method and its application to real practice
- ◆ All of this will be complemented by 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

This program will allow you to enhance your skills and update your knowledge in Database Management"

Take advantage of the latest educational technology to get up to date in Database Management without leaving home.

" Get qualified in Database Management with this intensive program, from the comfort of your own home"

Learn about the latest techniques in Database Management from experts in the field.

It includes in its teaching staff a team of professionals belonging to the field of Computer Engineering, who pour into this program their work experience, in addition to recognized specialists belonging to reference societies and prestigious universities.

Its multimedia content developed with the latest educational technology will allow the professional a situated and contextual learning, that is, a simulated environment that will provide an immersive learning programmed to prepare for real situations.

The program design focuses on Problem-Based Learning, by means of which the teacher must try to solve the different professional practice situations that arise during the academic year. For this purpose, the professional will be assisted by an innovative system of interactive videos made by recognized experts in information systems with extensive teaching experience.

02
Objectives

The objective of this training is to provide IT professionals with necessary knowledge and skills to perform their activity using the most advanced protocols and techniques of the moment. Through a work approach that is fully adaptable to the student, this Postgraduate Diploma will progressively lead them to acquire skills that will propel them to a higher professional level.

Achieve professional success as a computer engineer with this intensive program, developed by professionals with wide experience in the sector"

General Objectives

- To educate scientifically and technologically, as well as to prepare for professional practice of Computer Engineering, all this with a transversal and versatile academic experience adapted to new technologies and innovations in this field
- To obtain a wide knowledge in computer science field, computer structure and software engineering, including mathematical, statistical and physical basis essential in engineering

Enroll in the best Database Management program on the current university panorama"

Specific Objectives

- To learn the basics of programming in C++ language, including classes, variables, conditional expressions, and objects

- To understand abstract data types, linear data structure types, simple and complex hierarchical data structures, and their implementation in C++

- To understand the operation of advanced data structures other than the usual ones

- To know theory and practice related to use of priority mounds and queues

- To learn how *Hash* tables work as abstract data types and functions

- To understand graph theory, as well as advanced graph algorithms and concepts

- To learn different applications and purposes of database systems, as well as their operation and architecture

- To understand the relational model, from its structure and operations to extended relational algebra

- To learn in depth what SQL databases are, how they work, the definition of data and creation of queries from the most basic to the most advanced and complex

- To learn how to design databases using the entity-relationship model, how to create diagrams and characteristics of extended E-R model

- To deepen into relational databases design, analyzing different normal forms and decomposition algorithms

- To build a foundation for understanding the operation of NoSQL databases, as well as to introduce the Mongo DB database

- To introduce different database systems currently available on the market

- To learn the use of XML and databases for the Web

- To understand advanced database operation such as parallel and distributed databases

- To know the importance of indexing and association in database systems

- To understand the transactional processing operation and retrieval systems

- To acquire knowledge related to non-relational databases and data mining

03
Structure and Content

The structure of the contents has been designed by a team of computer engineering professionals, aware of the current relevance of education to deepen in this area of knowledge, in order to humanistically enrich the student and raise the level of knowledge in Database Management by means of the latest educational technologies available.

This Postgraduate Diploma in Database Management contains the most complete and updated of learning program on the market"

Module 1. Data Structure

1.1.   Introduction to C ++ Programming
    1.1.1.   Classes, Constructors, Methods and Attributes
    1.1.2.   Variables
    1.1.3.   Conditional Expressions and Loops
    1.1.4.   Objects

1.2.   Abstract Data Types (ADT)
    1.2.1.   Types of Data
    1.2.2.   Basic Structures and TADs
    1.2.3.   Vectors and Arrays

1.3.   Linear data Structures
    1.3.1.   TAD List.Definition
    1.3.2.   Linked and Doubly Linked Lists
    1.3.3.   Sorted Lists
    1.3.4.   Lists in C++
    1.3.5.   TAD Stack
    1.3.6.   TAD Queue
    1.3.7.   Stack and Queue in C++

1.4.   Hierarchical Data Structures
    1.4.1.   TAD Tree
    1.4.2.   Paths
    1.4.3.   N-Ary Trees
    1.4.4.   Binary Trees
    1.4.5.   Binary Search Trees

1.5.   Hierarchical Data Structures: Complex Trees
    1.5.1.   Perfectly Balanced or Minimum Height Trees
    1.5.2.   Multipath Trees
    1.5.3.   Bibliographical References

1.6.   Priority Mounds and Queue
    1.6.1.   TAD Mounds
    1.6.2.   TAD Priority Queue

1.7.   Hash Tables
    1.7.1.   TAD Hash Table
    1.7.2.   Hash Functions
    1.7.3.   Hash Function in Hash Tables
    1.7.4.   Redispersion
    1.7.5.   Open Hash Tables

1.8.   Graphs
    1.8.1.   TAD Graph
    1.8.2.   Types of Graphs
    1.8.3.   Graphical Representation and Basic Operations
    1.8.4.   Graph Design

1.9.   Algorithms and Advanced Graph Concepts
    1.9.1.   Problems about Graphs
    1.9.2.   Path Algorithms
    1.9.3.   Search or Path Algorithms
    1.9.4.   Other Algorithms

1.10.   Other Data Structures
    1.10.1.   Sets
    1.10.2.   Parallel Arrays
    1.10.3.   Symbol Tables
    1.10.4.   Tries

Module 2. Databases.

2.1.   Applications and Purposes of Database Systems
    2.1.1.   Applications of the Different Database Systems
    2.1.2.   Purpose of the Different Database Systems
    2.1.3.   Data overview

2.2.   Database and Architecture
    2.2.1.   Relational Database
    2.2.2.   Database Design
    2.2.3.   Object-Based and Semi-Structured Databases
    2.2.4.   Data Storage and Queries
    2.2.5.   Transaction Management
    2.2.6.   Data Mining and Analysis
    2.2.7.   Database Architecture

Module 3. Advanced Databases

A unique, key, and decisive educational experience to boost your professional development"

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 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.

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 Postgraduate Diploma in based Date: Management guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Global University.

Successfully complete this program and receive your Certificate without having to travel or fill out laborious paperwork"

This program will allow you to obtain your **Postgraduate Diploma in Database Management** 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.
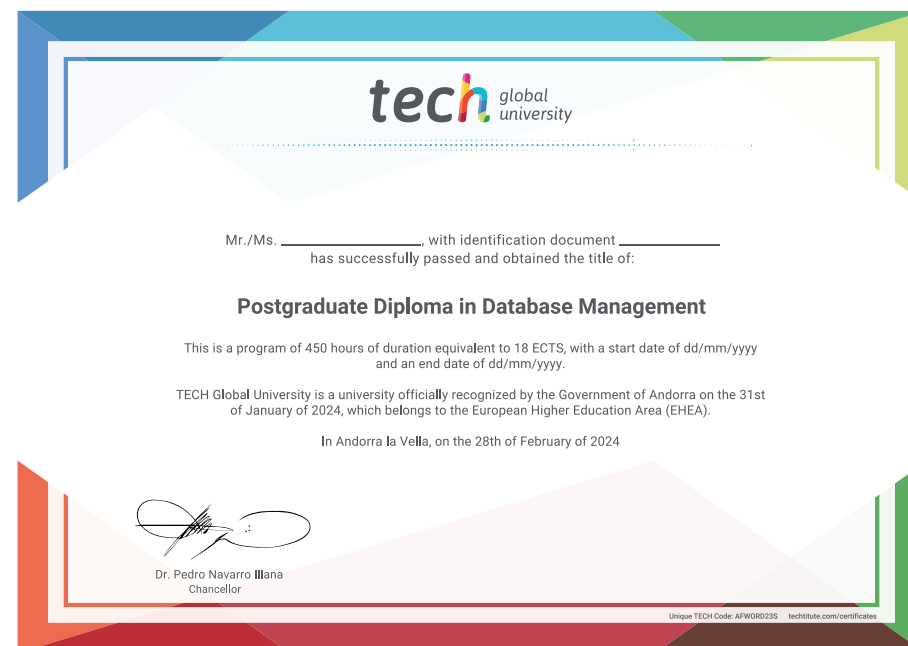
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Database Management**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**

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

Postgraduate Diploma in Database Management

This is a program of 450 hours of duration equivalent to 18 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
Chancellor

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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