Postgraduate Diploma
Back-End Development

tech *technological university*

tech technological university

Postgraduate Diploma
Back-End Development

- » Modality: **online**
- » Duration: **6 months**
- » Certificate: **TECH Technological University**
- » Dedication: **16h/week**
- » Schedule: **at your own pace**
- » Exams: **online**

Website: **www.techtitute.com/pk/information-technology/postgraduate-diploma/postgraduate-diploma-back-end-development**

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01
Introduction

All the different components that make up a website are important for it to offer a good image, information and usability for users. It is usual to pay a lot of importance to all the aspects of the website that are visible, such as images or design, but there are other elements of +vital importance for everything to work optimally and that are not visible to the naked eye. The Back End is that invisible but fundamental part in every web project, and it is vitally important to give it all the importance it deserves. Therefore, this program teaches the basics of the language to be able to adapt to new technologies easily.

Thanks to this complete Postgraduate Diploma you will be able to develop any type of application with JavaScript"

Within web development, the Back end is in charge of all the processes necessary for the website to function correctly. These processes or functions are not visible, but they are very important in the proper functioning of a website. In this program the actions controlled by the Back end are collected, such as the connection with the database or the communication with the hosting server.

A website or application not only has to be visually appealing, well-structured and with quality content. Other aspects are equally important such as loading speed, security or access to searches, so the Back end development is very important. With this educational program you will learn to master the most used languages in web development such as CSS, Angular, ReactJS, HTML, Java and many others.

A 100% online Postgraduate Diploma that provides the student with the ease of being able to study it comfortably, wherever and whenever they want. All you need is a device with internet access to take your career one step further. A modality according to the current time with all the guarantees to position the computer engineer in a highly demanded sector.

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

◆ Case studies presented by experts in Full-Stack Front-End Programming

◆ 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 for experts and individual reflection work

◆ Content that is accessible from any fixed or portable device with an Internet connection

Develop specialized knowledge on the most advanced tools and methodologies to build any web solution"

Develops the basics of NodeJS, advanced language utilities, event-driven programming, file system access or data streams"

Generate specialized knowledge to correctly choose the most appropriate type of database for your applications.

Specialize in JavaScript, the programming language used in every website in the world.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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 education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02
Objectives

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

This program will allow you to enhance your skills and update your knowledge in JavaScript, NodeJS and Full Stack"

General Objectives

- Generate specialized knowledge about the JavaScript language
- Be able to develop any type of application with JavaScript
- Determine how NodeJS works, its installation and configuration
- Discover the language's full potential and advanced features
- Apply best practices to the language
- Assess the acquired skills
- Analyze the use of databases in the development of applications
- Determine the different database systems in use today
- Identify why to use one system or another
- Examine the loading and accessing process in each of the leading database types in your field

You will be able to determine why to use a database in application development and select from the available types that exist based on your needs"

Specific Objectives

Module 1. JavaScript Language Applied to Full Stack Developer

- Establish the basic and complex types offered by JavaScript
- Analyze the different ways of programming with the language and make a correct use in each situation
- Update knowledge to the latest versions
- Discover functional programming
- Examine asynchronous programming and its characteristics

Module 2. Programming in NodeJs Language

- Generate specialized knowledge about JavaScript types and their operators
- Analyze the best ways to program with the language
- Update knowledge to the latest versions
- Explore functional programming
- Develop asynchronous programming and its motivation
- Acquire the ability to build an application with NodeJSIndex

Module 3. Databases for Full Stack Developers

- Determine why to use a database in application development
- Examine the types of databases available and their differences
- Develop a clear idea of what to use each type of database for
- Establish how to connect to and load/extract data from different database types
- Analyze the use of database in current development paradigms

03
Course Management

This Postgraduate Diploma has a highly qualified team with extensive experience in the sector, which will offer the best tools for students to develop their skills during the program. In this way, students have the guarantees they need to specialise at an international level in a booming sector that will catapult them to professional success. In our commitment to offer elite education for all, TECH counts with renowned professionals so that the student acquires a solid knowledge in Javascript language applied to Full Stack Developer, programming in NodeJS language and databases.

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

Management

Mr. Olalla Bonal, Martín

- Senior Blockchain Practice Manager at EY
- Blockchain Client Technical Specialist for IBM
- Director of Architecture for Blocknitive
- Non-Relational Distributed Databases Team Coordinator for wedoIT (IBM Subsidiary)
- Infrastructure Architect at Bankia
- Head of Layout Department at T-Systems
- Department Coordinator for Bing Data Spain S.L

Professors

Mr. Gómez Rodríguez, Antonio

- Principal Cloud Solutions Engineer for Oracle
- Co-organizer of Málaga Developer Meetup
- Specialist Consultant for Sopra Group and Everis
- Team Leader at System Dynamics
- Software Developer at SGO Software
- Master's Degree in E-Business from La Salle Business School
- Postgraduate Degree in Information Technologies and Systems, Catalan Institute of Technology
- Degree in Telecommunications Engineering from the Polytechnic University of Catalonia

Mr. Calzada Martínez, Jesús

- Senior Software Engineer at Devo
- Desarrollador Full Stack en Blocknitive
- Front-End Manager in Infinia
- Full-Stack Developer at Resem
- Java Developer at Hitec
- Graduate in Computer Engineering from the Complutense University of Madrid

04
Structure and Content

The structure of the contents has been designed by a team of Computer Engineering professionals, aware of the relevance of current education to delve into this field of knowledge, in order to humanistically enrich the student and raise the level of knowledge in Back-End Development through the latest educational technologies available.
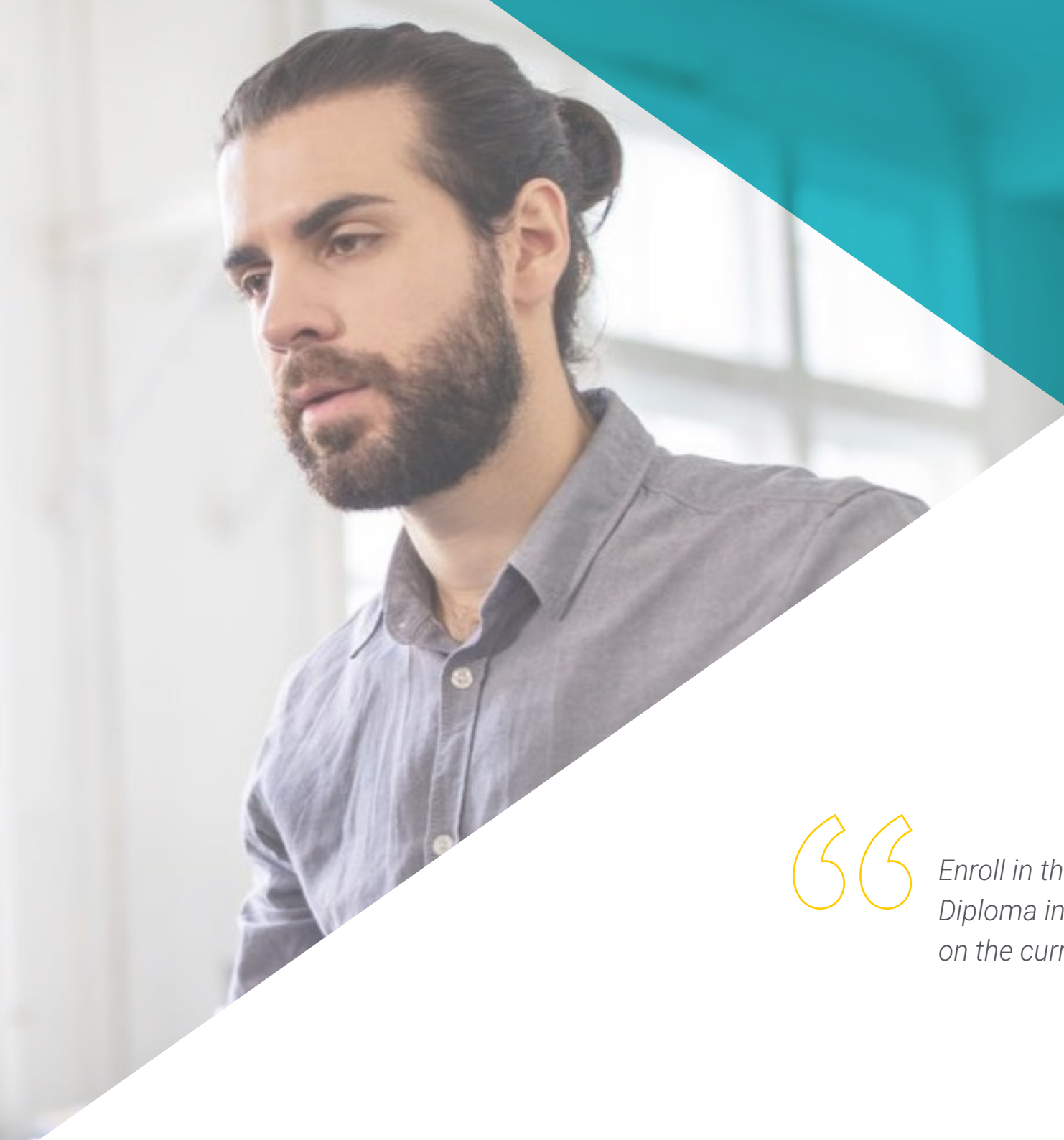
Enroll in the best Postgraduate Diploma in Back-End Development on the current university scene"

Module 1. Javascript Language Applied to Full-Stack Developer

1.1.   Primitive Types and Operators
    1.1.1.   JavaScript Language
    1.1.2.   Numbers and Their Operators
    1.1.3.   Text Strings and Their Operators
    1.1.4.   Boolean Values
    1.1.5.   Conversion Between Types

1.2.   Flow Controllers and Structure
    1.2.1.   Expressions and Statements
    1.2.2.   Variables and Constants
    1.2.3.   If Statement
    1.2.4.   For, While Statements

1.3.   Functions
    1.3.1.   Functions
    1.3.2.   Parameters
    1.3.3.   Functions as Parameters
    1.3.4.   Scope of Variables
    1.3.5.   Nested Scopes
    1.3.6.   Hoisting
    1.3.7.   Closures
    1.3.8.   Recursion

1.4.   Data Structures: Objects
    1.4.1.   Object Type
    1.4.2.   Creation of Objects
    1.4.3.   Accessing the Values of an Object
    1.4.4.   Adding or Deleting Properties
    1.4.5.   Nested Objects
    1.4.6.   Destructuring Objects
    1.4.7.   Object Type Methods
    1.4.8.   Spread Operator
    1.4.9.   Immutability

1.5.   Data Structures: Array
    1.5.1.   Data Structure. Array
    1.5.2.   Array. Typology
    1.5.3.   Nested Arrays
    1.5.4.   Methods of an Array

1.6.   OOP: Prototype and Classes
    1.6.1.   OOP: Object Oriented Programming
    1.6.2.   Prototypes
    1.6.3.   Classes
    1.6.4.   Private Data
    1.6.5.   Subclasses
    1.6.6.   Call and Apply

1.7.   JavaScript Types
    1.7.1.   Set
    1.7.2.   WeakSet
    1.7.3.   Map
    1.7.4.   WeakMap
    1.7.5.   Common Expressions

1.8.   JavaScript Utilities
    1.8.1.   Date
    1.8.2.   Math
    1.8.3.   Symbol
    1.8.4.   JSON

1.9.   JavaScript in the Browser
    1.9.1.   Inclusion of JavaScript in a Web
    1.9.2.   DOM
    1.9.3.   Events
    1.9.4.   Browser Storage

An ambitious program that equips you with as many options as possible within the current spectrum of market-leading database systems"

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 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%
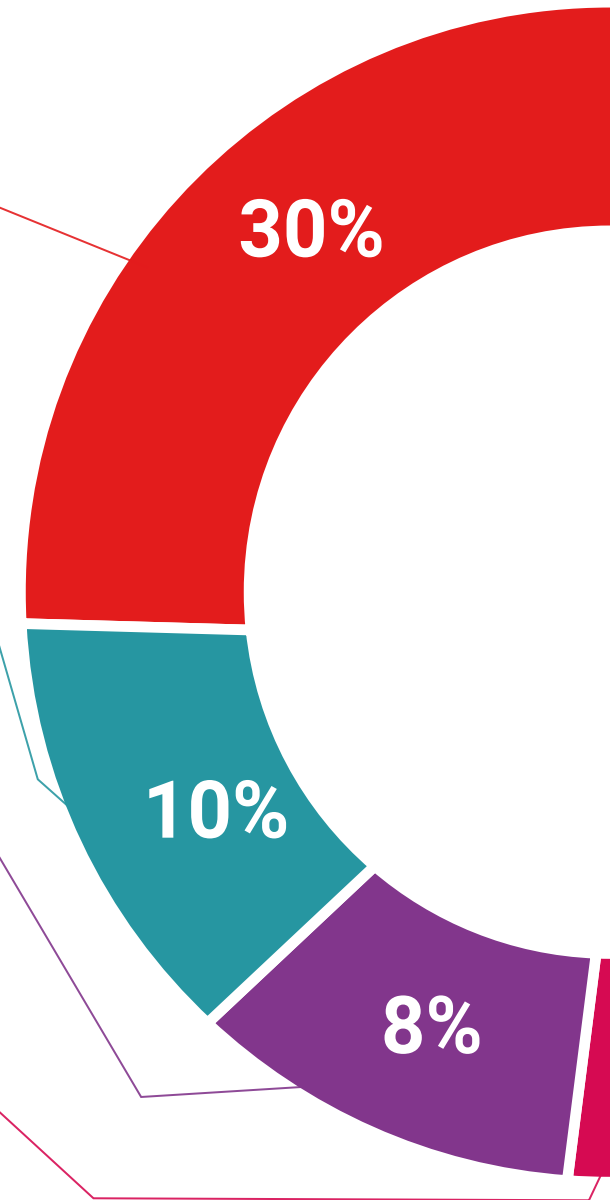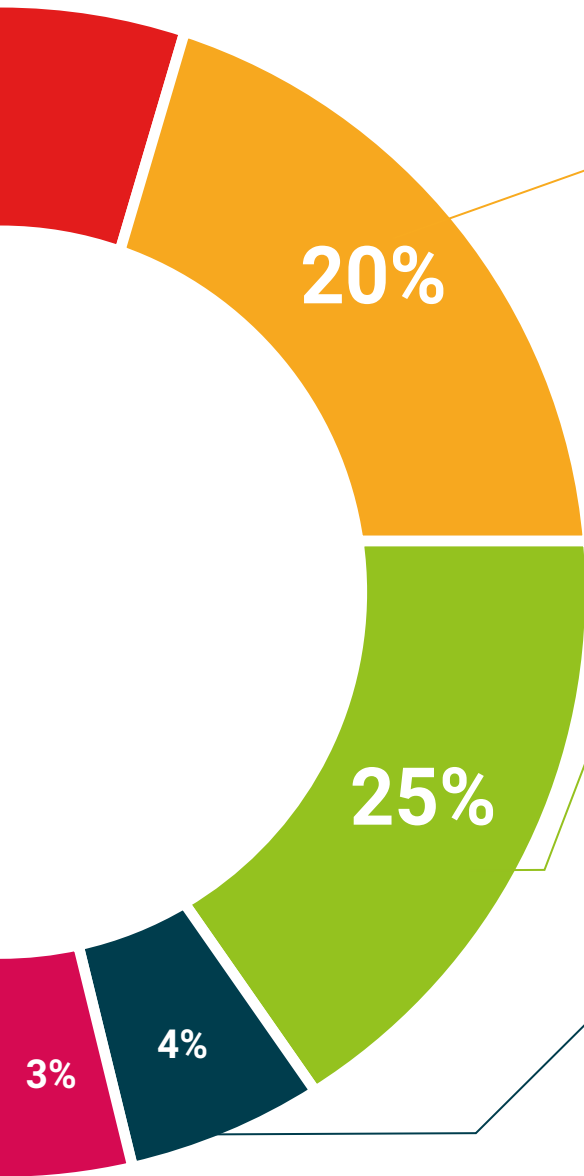
Case Studies

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.

06

Certificate

The Postgraduate Diploma in Back-End Development guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Back-End Development** 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 Diploma** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Diploma in Back-End Development**

Official Nº of hours: **450 h.**

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

POSTGRADUATE DIPLOMA
in

Back-End Development

This is a qualification awarded by this University, equivalent to 450 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

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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