Postgraduate Certificate

Web Application Development

tech technological university

tech technological university

Postgraduate Certificate
Web Application Development

- Modality: **online**
- Duration: **2 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/pk/information-technology/postgraduate-certificate/web-application-development

Index

01

Introduction

With this complete program, the student will learn to assimilate the process of creating web content through HTML markup language, as well as to understand the basic, medium and advanced concepts of PHP language for the implementation of server-side applications.

This Postgraduate Certificate is the best investment you can make when selecting a refresher program in the field of Web Application Development. We offer you quality and free access to content"

This comprehensive program in Web Application Development will allow professionals in the IT industry to deepen their understanding and learn about the processes of management and monitoring of quality and secure *software* that meets the predefined requirements.

During these months of specialization, the student will learn how to use the DOM programming interface for HTML and XML documents, in order to modify their structure, style and content. In addition, throughout these months of training you will learn the Model View Controller View (MVC) *software* architecture that separates an application's data, user interface, and control logic into three distinct components.

With this program, the student will have access to the most advanced teaching resources and will have the opportunity to study a program that brings together the most in-depth knowledge in the field. A group of highly scientifically qualified professors with extensive international experience will provide students with the most complete and up to date information on the latest advances and techniques in *Software* and Computer Systems Engineering.

The syllabus covers the main current topics in *Software* and Computer Systems Engineering in such a way that whoever masters them will be prepared to work in this field. Therefore, it is not just another certificate in your backpack, but a real learning tool to approach the topics of the specialty in a modern, objective way and with the ability to make a judgment based on today's most cutting-edge information.

It should be noted that since this is a 100% online Postgraduate Certificate, the student is not conditioned by fixed schedules or the need to move to another physical location, but can access the contents at any time of the day, balancing their work or personal life with their academic life.

This **Postgraduate Certificate in Web Application Development** contains the most complete and up to date educational program on the market. The most important features include:

- The development of case studies presented by experts in Web Application Development
- 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
- Special emphasis on innovative methodologies Web Application Development
- 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

Learn to design, evaluate and manage software engineering projects thanks to this high quality program"

Specialize in computer systems with the help of professionals with extensive experience in the sector"

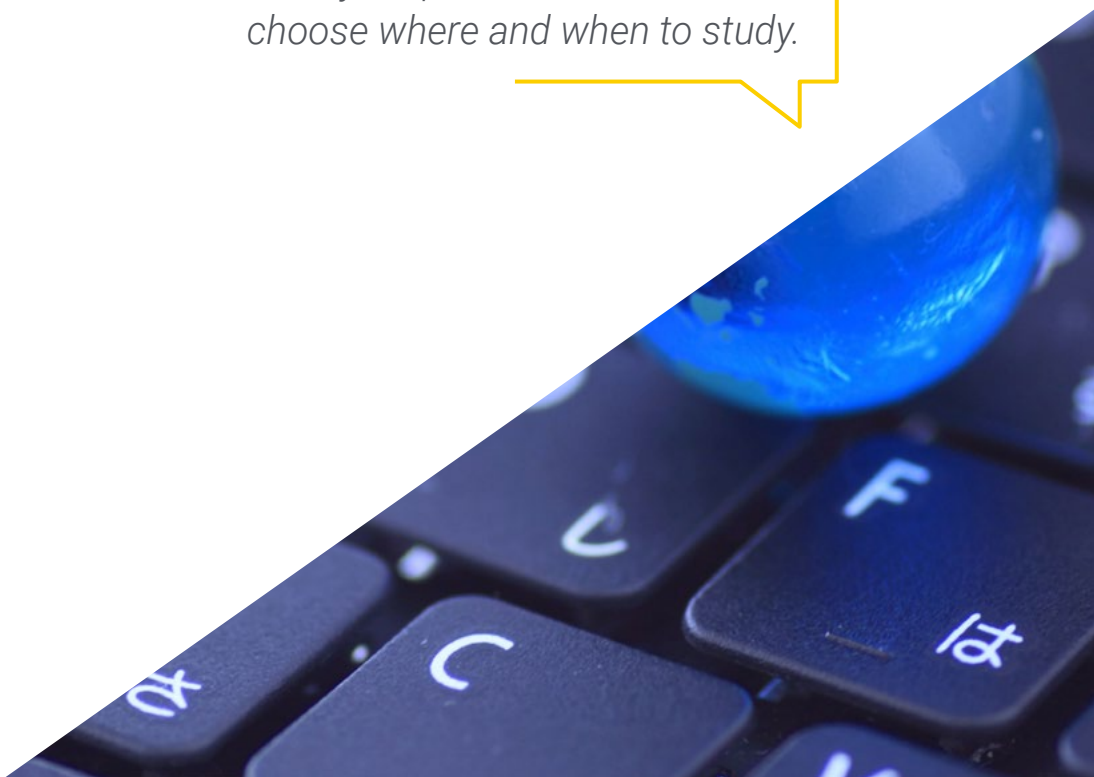
This program comes with the best educational material, providing you with a contextual approach that will facilitate your learning.

This 100% online Postgraduate Certificate will allow you to combine your studies with your professional work. You choose where and when to study.

The program includes in its teaching staff professionals from the field Web Application Development, who contribute the experience of their work to this 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 learning programmed to learn in real situations.

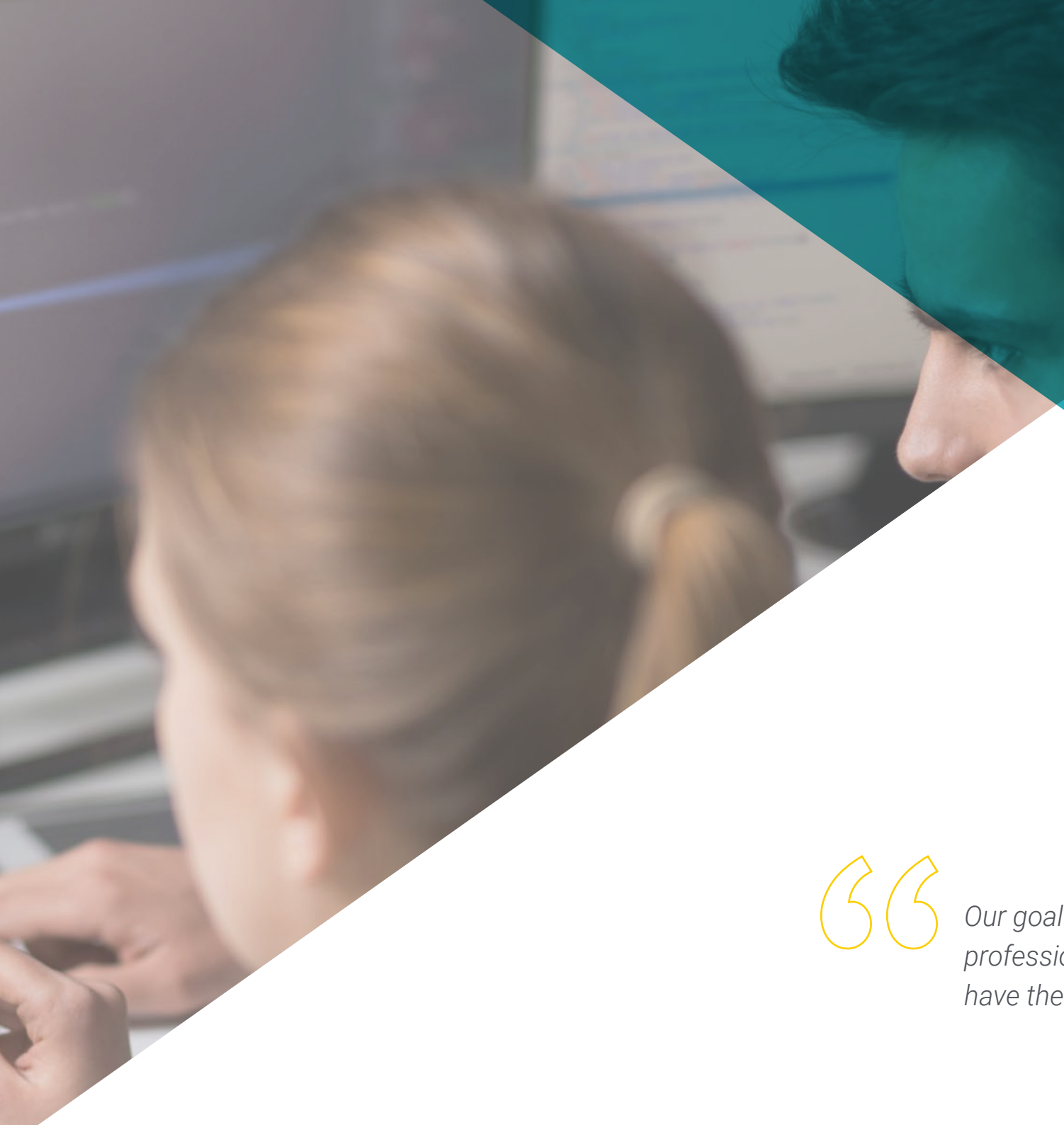
This program is designed around Problem Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system developed by renowned and experienced experts for Web Application Development.



02

Objectives

The Postgraduate Certificate in Web Application Development is oriented to facilitate the performance of the professionals so that they acquire knowledge of the main developments in this field, which will allow them to practice their profession with the highest quality and professionalism.

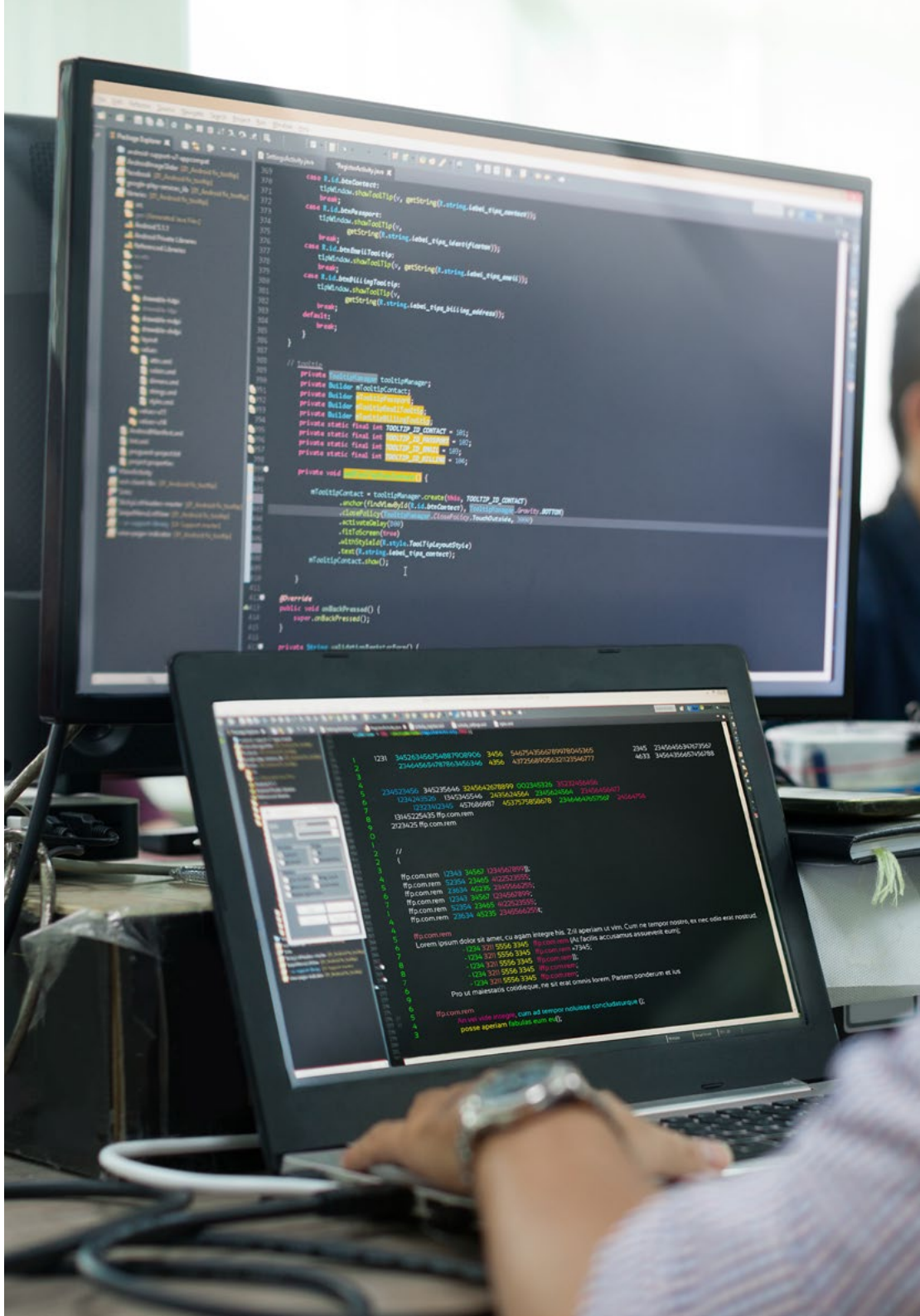


Our goal is for you to become the best professional in your sector and for this we have the best methodology and content"

General Objectives

- Acquire new knowledge in *Software* and Computer Systems Engineering
- Acquire new skills in terms of new technologies and the latest *software* developments
- Process the data generated in *Software* and Computer Systems Engineering activities

Join us and we will help you achieve professional excellence"



Specific Objectives

- Understand the process of creating web content through HTML markup language
- Understand the procedures and techniques to improve the appearance of a document written in HTML
- Know the evolution of the Javascript language
- Acquire the necessary knowledge for the development of web client-side applications
- Develop applications with complex structures, by using the different procedures, functions and objects that integrate JavaScript
- Learn how to use the DOM programming interface for HTML and XML documents to modify their structure, style and content
- Understand the use of event-based flow and *listeners*, as well as the use of modern *toolkit* and alignment systems
- Know the concept of web usability, its advantages, principles, methods and techniques to make a web site usable by the user
- Establish knowledge of web accessibility, its importance in current digital platforms, methodologies, norms, standards and determine compliance
- Understand the basic, intermediate and advanced concepts of the PHP language for the implementation of server-side applications
- Acquire the necessary knowledge for data ducativo, relationships, keys and normalizations
- Understand the construction of the logical data model, the specification of tables, columns, keys and dependencies, as well as the knowledge necessary for the physical handling of data, file types, access modes and file organization
- Learn how to integrate applications developed in PHP with MariaDB and MySQL databases
- Master customer interaction processes using: *Forms*, cookies and session management
- Understand the Model View Controller View (MVC) *software architecture* that separates an application's data, user interface, and control logic into three distinct components
- Acquire the skills for the use of web services using XML, SOA and REST

03

Structure and Content

The structure of the contents has been designed by the best professionals in the sector, with extensive experience and recognized prestige in the profession, and aware of the benefits that the latest educational technology can bring to higher education.

We have the most complete and up to date programme on the market. We strive for excellence and for you to achieve it too”

Module 1. Web-Client Computing

1.1. Introduction to HTML
- 1.1.1. Structure of the Document
- 1.1.2. Color
- 1.1.3. Text:
- 1.1.4. Hypertext Links
- 1.1.5. Images
- 1.1.6. Lists
- 1.1.7. Tables
- 1.1.8. *Frames*
- 1.1.9. Forms.
- 1.1.10. Specific Elements for Mobile Technologies
- 1.1.11. Obsolete Elements

1.2. Cascading Style Sheets (CSS)
- 1.2.1. Elements and Structure of a Cascading Style Sheet
  - 1.2.1.1. Creation of Style Sheets
  - 1.2.1.2. Application of Styles Selectors
  - 1.2.1.3. Style Inheritance and Cascading
  - 1.2.1.4. Page Formatting Using Styles
  - 1.2.1.5. Page Structuring Using Styles. The Box Model
- 1.2.2. Style Design for different Devices
- 1.2.3. Types of Style Sheets: Static and Dynamic Pseudoclasses
- 1.2.4. Best Practices in the Use of Style Sheets

1.3. Introduction and History of JavaScript
- 1.3.1. Introduction
- 1.3.2. History of JavaScript
- 1.3.3. Development Environment to be Used

1.4. Basic Notions of Web Programming
- 1.4.1. Basic JavaScript Syntax
- 1.4.2. Primitive Data Types and Operators
- 1.4.3. Variables and Areas
- 1.4.4. Text Strings and *Template Literals*
- 1.4.5. Numbers and Booleans
- 1.4.6. Comparisons

1.5. Complex JavaScript Structures
- 1.5.1. Vectors or *Arrays* and Objects
- 1.5.2. Sets
- 1.5.3. Maps
- 1.5.4. Disjunctive
- 1.5.5. Loops

1.6. Functions and Objects
- 1.6.1. Function Definition and Invocation
- 1.6.2. Arguments
- 1.6.3. Arrow Functions
- 1.6.4. *Callback* Functions
- 1.6.5. Higher Order Functions
- 1.6.6. Literal Objects
- 1.6.7. The *This* Object
- 1.6.8. Objects as Namespaces: the*Maths* and *Date* Objects

1.7. The Document Object Model (DOM)
- 1.7.1. What is DOM?
- 1.7.2. A Bit of History
- 1.7.3. Navigation and Element Retrieval
- 1.7.4. A Virtual DOM with JSDOM
- 1.7.5. *Query Selectors*
- 1.7.6. Navigation using Properties
- 1.7.7. Assigning Attributes to Elements
- 1.7.8. Creation and Modification of Nodes
- 1.7.9. Updated Styling of the DOM Elements

1.8. Modern Web Development
- 1.8.1. Event-Driven Flow and *Listeners*
- 1.8.2. Modern Web *Toolkits* and Alignment Systems
- 1.8.3. Strict JavaScript Mode
- 1.8.4. More about Functions
- 1.8.5. Asynchronous Promises and Functions
- 1.8.6. *Closures*
- 1.8.7. Functional Programming
- 1.8.8. POO in JavaScript

1.9. Web Usability
- 1.9.1. Introduction to Usability
- 1.9.2. Definition of Usability
- 1.9.3. Importance of User-Centered Web Design
- 1.9.4. Differences Between Accessibility and Usability
- 1.9.5. Advantages and Problems in Combining Accessibility and Usability
- 1.9.6. Advantages and Difficulties in the Implementation of Usable Websites
- 1.9.7. Usability Methods
- 1.9.8. User Requirements Analysis
- 1.9.9. Conceptual Design Principles. User-Oriented Prototyping
- 1.9.10. Guidelines for the Creation of Usable Web Sites
  - 1.9.10.1. Usability Guidelines of Jakob Nielsen
  - 1.9.10.2. Usability Guidelines of Bruce Tognazzini
- 1.9.11. Usability Evaluation

1.10. Web Accessibility
- 1.10.1. Introduction
- 1.10.2. Definition of Web-Accessibility
- 1.10.3. Types of Disabilities
  - 1.10.3.1. Temporary or Permanent Disabilities
  - 1.10.3.2. Visual Impairment
  - 1.10.3.3. Hearing Impairment
  - 1.10.3.4. Motor Impairment
  - 1.10.3.5. Neurological or Cognitive Disabilities
  - 1.10.3.6. Difficulties Arising from Aging
  - 1.10.3.7. Limitations Arising from the Environment
  - 1.10.3.8. Barriers Preventing Access to the Web
- 1.10.4. Technical Aids and Support Products to Overcome Barriers
  - 1.10.4.1. Aids for the Blind
  - 1.10.4.2. Aids for Persons with Low Vision
  - 1.10.4.3. Aids for People with Color Blindness
  - 1.10.4.4. Aids for the Hearing Impaired
  - 1.10.4.5. Aids for the Motor Impaired
  - 1.10.4.6. Aids for the and Neurological Impaired
- 1.10.5. Advantages and Difficulties in the Implementation of Web Accessibility
- 1.10.6. Web Accessibility Regulations and Standards
- 1.10.7. Web Accessibility Regulatory Bodies
- 1.10.8. Comparison of Standards and Regulations
- 1.10.9. Guidelines for Compliance with Regulations and Standards
  - 1.10.9.1. Description of the Main Guidelines (Images, links, videos, etc.)
  - 1.10.9.2. Guidelines for Accessible Navigation
    - 1.10.9.2.1. Perceptibility
    - 1.10.9.2.2. Operability
    - 1.10.9.2.3. Comprehensibility
    - 1.10.9.2.4. Robustness
- 1.10.10. Description of the Web Accessibility Compliance Process
- 1.10.11. Compliance Levels
- 1.10.12. Compliance Criteria
- 1.10.13. Compliance Requirements
- 1.10.14. Web Site Accessibility Evaluation Methodology

Module 2. Web Server Computing

2.1. Introduction to Server-Side Programming: PHP
- 2.1.1. Server-Side Programming Basics
- 2.1.2. Basic PHP Syntax
- 2.1.3. HTML Content Generation with PHP
- 2.1.4. Development and Testing Environments: XAMPP

2.2. Advanced PHP
- 2.2.1. Control Structures with PHP
- 2.2.2. PHP Functions
- 2.2.3. *Array* Handling in PHP
- 2.2.4. String Handling with PHP
- 2.2.5. Object Orientation in PHP

2.3. Data Models
- 2.3.1. Concept of Data. Life Cycle of Data
- 2.3.2. Types of Data
  - 2.3.2.1. Basic
  - 2.3.2.2. Records
  - 2.3.2.3. Dynamics

2.4. Relational Model
- 2.4.1. Description
- 2.4.2. Entities and Types of Entities
- 2.4.3. Data Elements. Attributes
- 2.4.4. Relationships: Types, Subtypes, Cardinality
- 2.4.5. Keys Types of Keys
- 2.4.6. Normalization. Normal Shapes

2.5. Construction of the Logical Data Model
- 2.5.1. Specification of Tables
- 2.5.2. Definition of Columns
- 2.5.3. Key Specification
- 2.5.4. Conversion to Normal Shapes. Dependency

2.6. The Physical Data Model. Data Files
- 2.6.1. Description of Data Files
- 2.6.2. Types of Files
- 2.6.3. Access Modes
- 2.6.4. File Organization

2.7. Database Access from PHP
- 2.7.1. Introduction to MariaDB
- 2.7.2. Working with a MariaDB Database: the SQL Language
- 2.7.3. Accessing the MariaDB Database from PHP
- 2.7.4. Introduction to MySQL
- 2.7.5. Working with a MySQL Database: The SQL Language
- 2.7.6. Accessing MySQL Database from PHP

2.8. Client Interaction from PHP
- 2.8.1. PHP Forms
- 2.8.2. *Cookies*
- 2.8.3. Session Management

2.9. Web Application Architecture
- 2.9.1. The Controller View Model Pattern
- 2.9.2. Controller
- 2.9.3. Models
- 2.9.4. View

2.10. Introduction to Web Services
- 2.10.1. Introduction to XML
- 2.10.2. Service-Oriented Architecture (SOA): Web Services
- 2.10.3. Creation of SOAP and REST Web Services
- 2.10.4. The SOAP Protocol
- 2.10.5. The REST Protocol

A comprehensive and multidisciplinary educational program that will allow you to excel in your career, following the latest advances in the field of Web Application 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

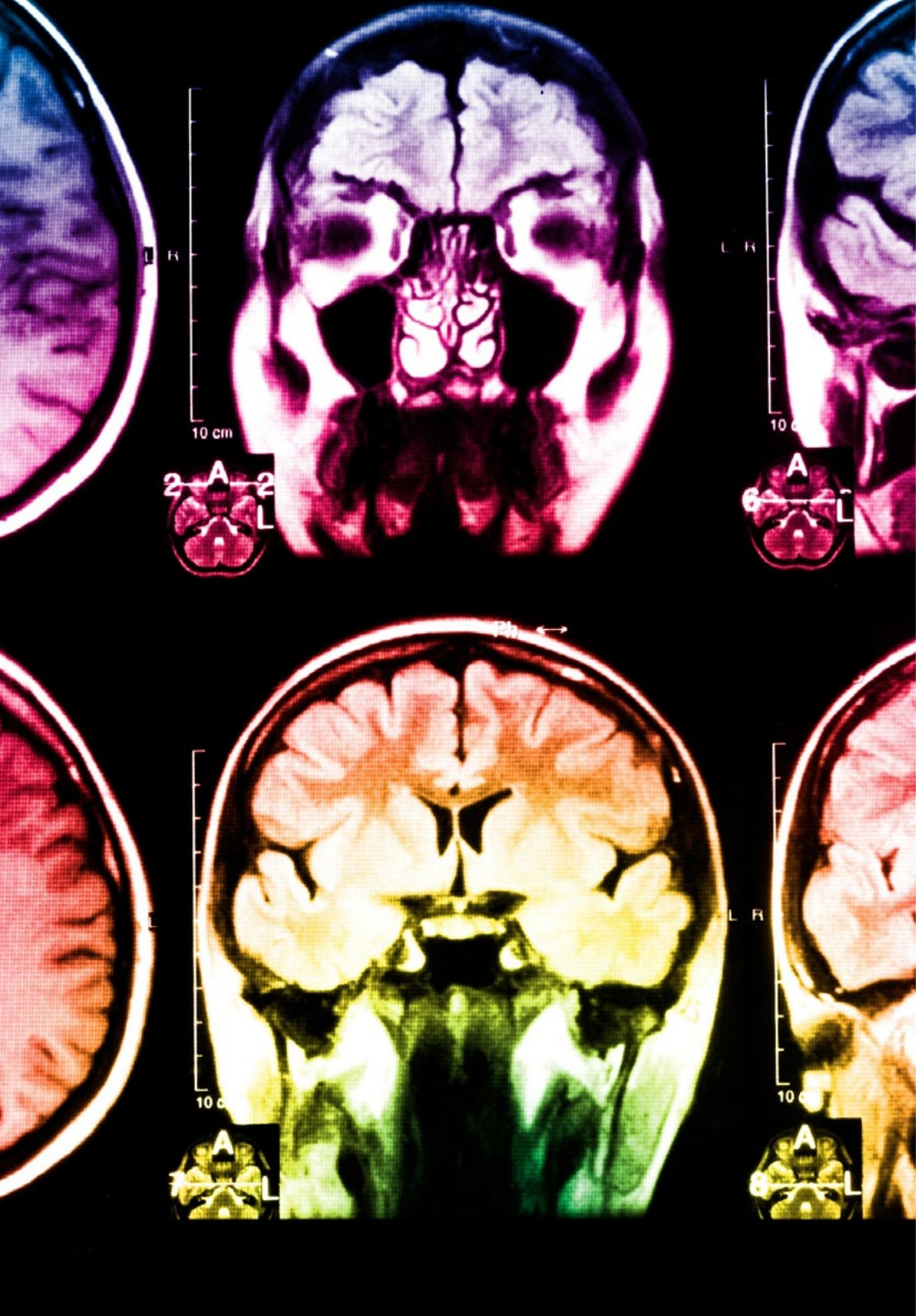
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.



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.

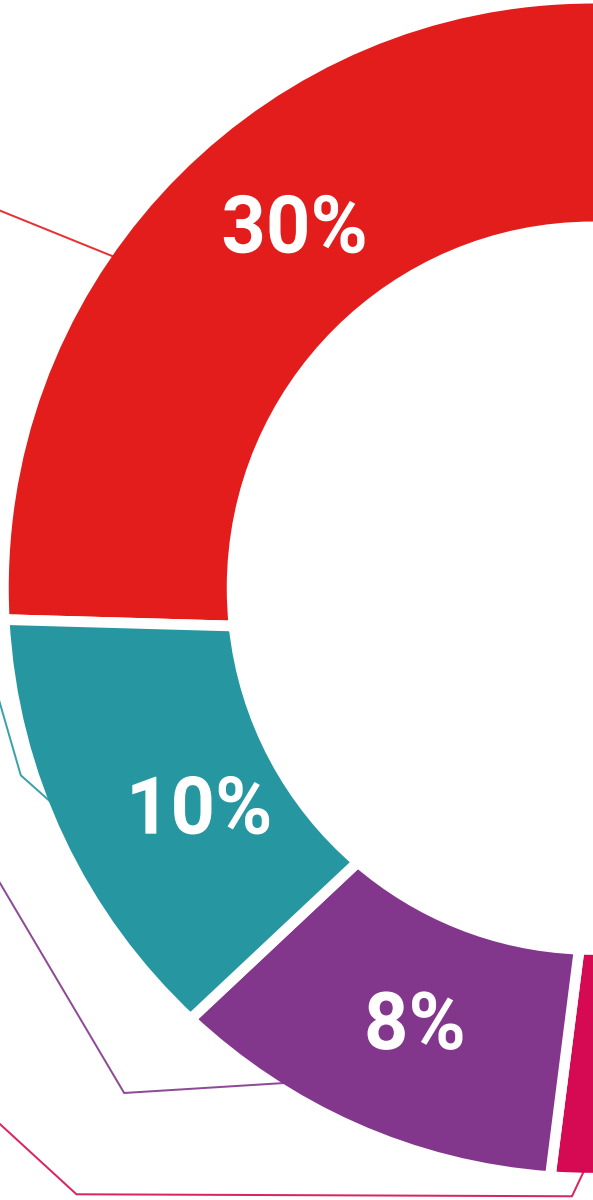
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

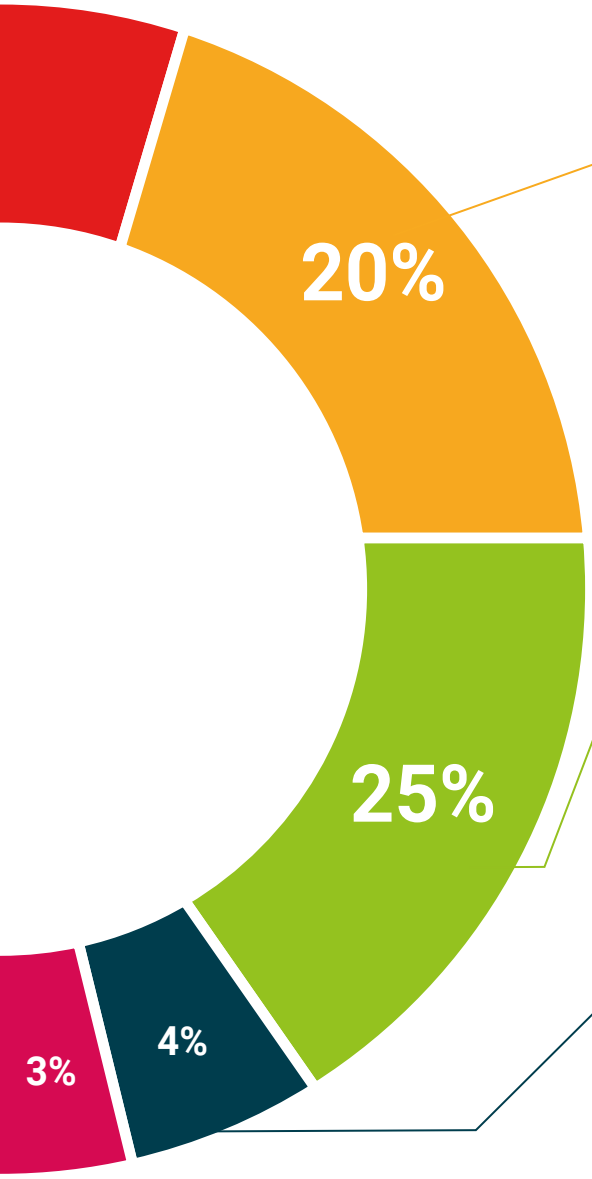
Practising Skills and Abilities

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.





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 Web Application Development 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 Web Application 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 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 Web Application Development**

Official Nº of hours: **300 h.**


tech technological university

Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Web Application Development

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.

tech technological university

Postgraduate Certificate
Web Application Development

- Modality: **online**
- Duration: **2 months**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Postgraduate Certificate

Web Application Development

tech technological university