

Postgraduate Certificate

Advanced Mobile and Responsive
Design in Front-End Development



Postgraduate Certificate Advanced Mobile and Responsive Design in Front-End Development

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

Website: www.techtute.com/us/information-technology/postgraduate-certificate/advanced-mobile-responsive-design-front-end-development

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01

Introduction

Advanced Mobile and Responsive Design in Front-End Development ensures a seamless and consistent user experience across a variety of devices, from smartphones and tablets to desktops. In this way, businesses can extend their reach to a wider audience and improve user retention by providing intuitive and adaptive interfaces. In addition, mobile development and advanced responsive design promote optimized loading speed and accessibility, resulting in increased user satisfaction. In this context, TECH has developed this comprehensive 100% online program, based on the Relearning methodology, a revolutionary learning method that reduces long hours of study and memorization.



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Thanks to this 100% online Postgraduate Certificate, you will acquire skills to create highly functional and adaptable applications and websites for a wide range of devices, from smartphones to computers”

Advanced Mobile and Responsive Design in Front-End Development enables a seamless and consistent user experience on mobile devices, tablets and computers, which significantly extends the reach and accessibility of an application or website. In addition, by dynamically adapting to different screen sizes and devices, loading speed is optimized and performance is improved, contributing to better user retention and higher conversion.

This is how this Postgraduate Certificate was created, which will offer an exhaustive training to master the complexities of mobile application design and development. With a special focus on Progressive Web Apps (PWAs), computer scientists will acquire skills to optimize performance, accessibility and user experience on mobile devices. In addition, they will master advanced media queries techniques, as well as specialized frameworks and tools for responsive design.

The curriculum will also focus on the development of PWAs, providing professionals with the necessary skills to create progressive web applications that behave like native apps on various devices and platforms. Emphasis will also be placed on ensuring accessibility at all stages of development, ensuring that apps are usable by a wide range of users.

Finally, the incorporation of adaptive navigation and design patterns will be addressed, as well as the exploration of native application frameworks. This will enable graduates to understand and use advanced tools and techniques for mobile application development, preparing them to face the challenges in the field of mobile development and frontend design.

In this sense, TECH has implemented a 100% online and totally flexible academic program, to the point that students will only need an electronic device with an Internet connection to access all the teaching materials.

At the same time, students will be able to benefit from the revolutionary Relearning methodology, which consists of the reiteration of fundamental concepts for an optimal and organic assimilation of content.

This **Postgraduate Certificate in Advanced Mobile and Responsive Design in Front-End Development** contains the most complete and up-to-date educational program on the market. The most important features include:

- ♦ The development of practical cases presented by experts in Advanced Mobile and Responsive Design in Front-End 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 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
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



With the Advanced Mobile and Responsive Design in Front-End Development you will not only boost the usability and functionality of a website, but also strengthen the online presence and competitiveness in the digital marketplace”

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You will develop native application frameworks, using the best practices and tools available to create high quality mobile applications and optimal performance. Enroll now!”

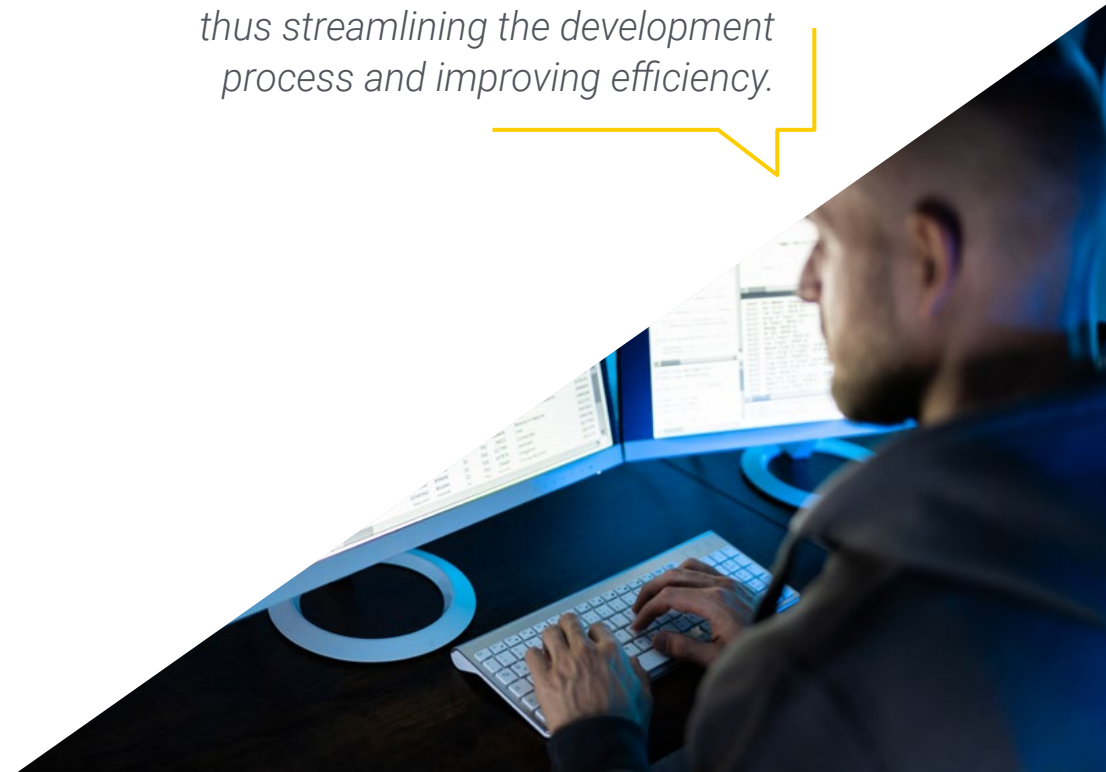
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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 education programmed to prepare for 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 course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

You will optimize applications for mobile devices, focusing on improving performance, accessibility and user experience, with a particular emphasis on Progressive Web Apps (PWAs).

You will become familiar with the use of specialized frameworks and tools that facilitate responsive design, thus streamlining the development process and improving efficiency.



02 Objectives

The objectives of this Postgraduate Certificate are multiple and ambitious, aimed at providing professionals with a deep and practical understanding of the key technologies and concepts in the design and development of mobile applications and responsive websites. In addition, computer scientists will be trained to optimize performance, accessibility and user experience on mobile devices, with a special focus on Progressive Web Apps (PWAs). You will also delve into advanced media queries techniques and the use of frameworks and tools for responsive design.



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You will implement advanced media queries techniques, use specialized frameworks and tools, and create accessible and navigable mobile applications with adaptive design patterns”



General Objective

- ◆ Develop skills to optimize applications for mobile devices, improving performance, accessibility and user experience, with a special focus on Progressive Web Apps



The fundamental objective will be to equip you with the skills and knowledge necessary to successfully meet the challenges and demands of a constantly evolving technology sector”





Specific Objectives

- ◆ Implement advanced media queries techniques
- ◆ Use frameworks and tools for responsive design
- ◆ Develop Progressive Web Apps (PWA)
- ◆ Ensure accessibility in mobile applications
- ◆ Incorporate adaptive navigation and design patterns
- ◆ Explore development with native application frameworks



03

Course Management

The faculty are highly qualified and experienced professionals in the field of technology and web design. With extensive hands-on experience in mobile application development and responsive design, these mentors are committed to providing graduates with high-quality training that is relevant to today's technology landscape. And, in addition to their experience, they are aware of the latest trends and advances in the industry, allowing them to impart up-to-date and practical knowledge in areas such as Progressive Web Apps (PWAs), advanced media queries techniques and the use of specialized frameworks and tools.





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The pedagogical approach will focus on fostering critical thinking, problem solving and teamwork, preparing you to face the challenges of mobile application development and front-end design”

Management



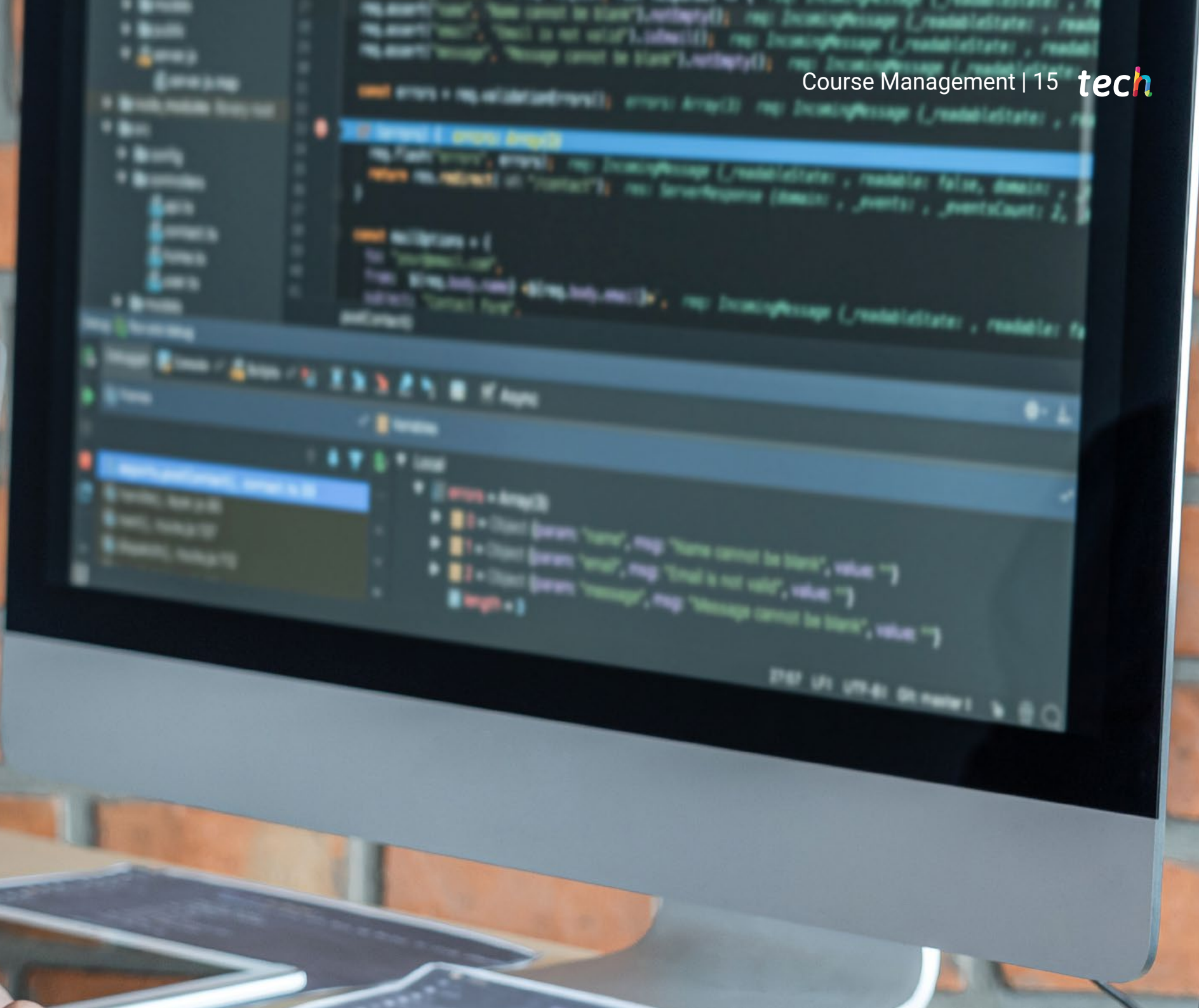
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- ♦ Software Developer at Serquo
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- ♦ Degree in Computer Engineering from the Autonomous University of Madrid
- ♦ Superior Degree in Network Computer Systems Administration



04

Structure and Content

This academic program will cover a variety of content, designed to provide a comprehensive understanding of the key technologies and methodologies in mobile application development and responsive design. Therefore, computer scientists will acquire skills in the implementation of advanced media queries and the use of specialized frameworks and tools for responsive design. In addition, crucial aspects such as accessibility in mobile applications, the incorporation of adaptive navigation and design patterns, as well as development with native application frameworks will be addressed, preparing graduates to create innovative and highly functional solutions.

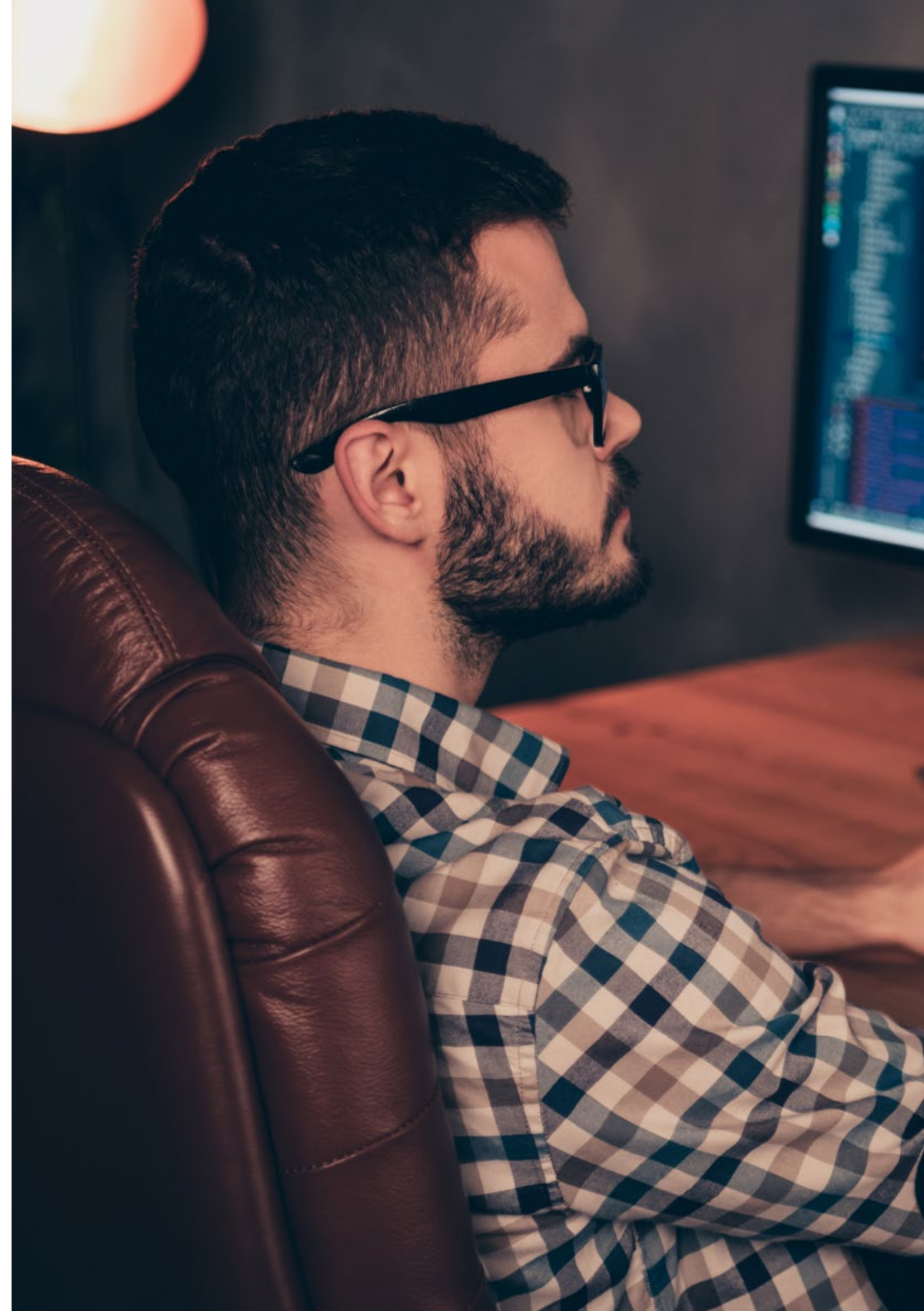


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You will master advanced mobile optimization techniques, with a special focus on Progressive Web Apps (PWAs), which combine the accessibility of web pages with the functionality of mobile applications”

Module 1. Advanced Mobile and Responsive Design in Front-End Development

- 1.1. Responsive Design in Front-End Web Development
 - 1.1.1. Advanced Media Query Techniques
 - 1.1.2. Relative Units and Fluid Design
 - 1.1.3. Responsive Image and Vector Strategies
- 1.2. Frameworks and Tools for Responsive Design in Front-End Web Development
 - 1.2.1. Bootstrap, Foundation and Tailwind CSS for Responsive Design
 - 1.2.2. Adaptive Design and Prototyping Tools
 - 1.2.3. Automation and Testing of Responsive Designs
- 1.3. Performance on Mobile Devices
 - 1.3.1. Load and Performance Optimization on Mobile Devices
 - 1.3.2. Efficient Content Delivery Strategies
 - 1.3.3. Performance Analysis and Monitoring on Real Devices
- 1.4. PWA and Mobile Experience
 - 1.4.1. Development of Progressive Web Apps for an Optimal Mobile Experience
 - 1.4.2. Integration with Native Device Features
 - 1.4.3. Engagement and Re-Engagement Strategies
- 1.5. Mobile Accessibility
 - 1.5.1. Mobile Accessibility Best Practices and Standards
 - 1.5.2. Testing and Validation of Accessibility on Mobile Devices
 - 1.5.3. Inclusive Design for Mobile Applications
- 1.6. Navigation and Mobile Design Patterns
 - 1.6.1. Adaptive Navigation Patterns for Mobiles
 - 1.6.2. Design of Intuitive User Interfaces
 - 1.6.3. Usability and User Experiences in Mobile Contexts
- 1.7. Mobile Development Frameworks
 - 1.7.1. React Native and Vue Native for Native Applications with JavaScript
 - 1.7.2. Comparison with Native Solutions and Webviews
 - 1.7.3. Applications and Best Practices





- 1.8. Emerging Mobile Technologies
 - 1.8.1. 5G and Its Impact on Mobile Web Development
 - 1.8.2. Augmented Reality (AR) and Virtual Reality (VR) in Mobile Contexts
 - 1.8.3. Integration of Sensors and Specific Hardware
- 1.9. Mobile Testing and Debugging
 - 1.9.1. Tools and Environments for Mobile Testing
 - 1.9.2. Simulators, Emulators and Testing on Real Devices
 - 1.9.3. Debugging Strategies for Mobile Applications
- 1.10. Future of Mobile Development
 - 1.10.1. Emerging Trends and the Future of Mobile Development
 - 1.10.2. Cross-Platform Development and the Future of Native Technologies
 - 1.10.3. Adapting and Responding to Changes in User Behavior

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By focusing on mobile development and advanced responsive design on the frontend, you will not only improve the user experience, but also reinforce the brand, building trust and loyalty among users”

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.



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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.



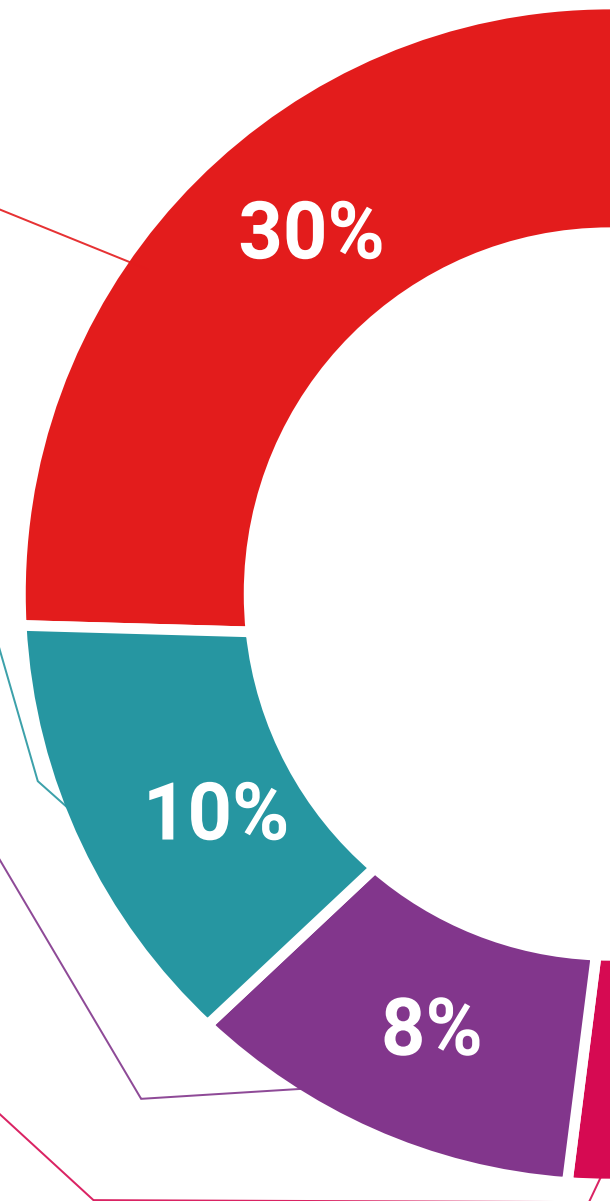
Practising Skills and Abilities

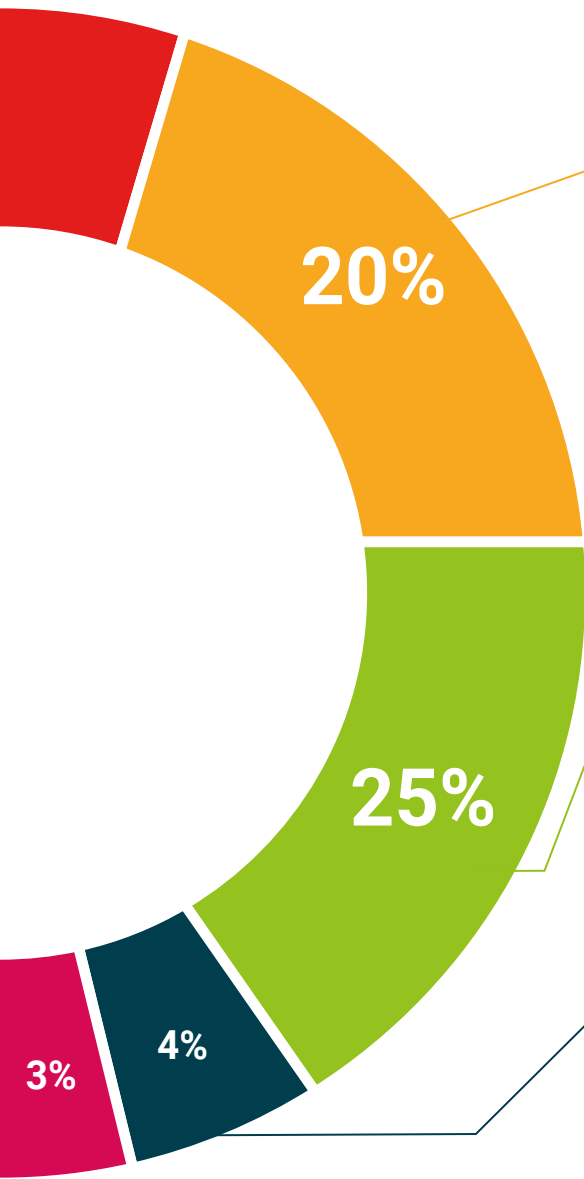
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



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.



06 Certificate

The Postgraduate Certificate in Advanced Mobile and Responsive Design in Front-End Development guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.



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Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”

This private qualification will allow you to obtain a **Postgraduate Certificate in Advanced Mobile and Responsive Design in Front-End Development** 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** private qualification, 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 Advanced Mobile and Responsive Design in Front-End Development**

Modality: **online**

Duration: **6 months**

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.



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