

# Postgraduate Certificate Frameworks Used in Application Development



## Postgraduate Certificate Frameworks Used in Application Development

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

Website: [www.techtute.com/us/information-technology/postgraduate-certificate/frameworks-used-application-development](http://www.techtute.com/us/information-technology/postgraduate-certificate/frameworks-used-application-development)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

---

*p. 28*

# 01

# Introduction

There is an infinite number of Frameworks for each platform. Each of them streamlines development, since much of the code needed to cover the functionality of a project is already bundled in a package that can be reused. The Android platform also offers a variety of tools to streamline your work as an app developer. It is not easy to find professionals who know the Android programming language, architectures and user interfaces. That is why this program has been designed, with a 100% online methodology and a duration of 6 weeks, to provide the interested party with all the knowledge to boost their career with a specialized profile.



“

*With this Postgraduate Certificate you will deepen in the key aspects of Customer Experience to develop Android applications so that they have greater entry into the market"*

Because they are often built, tested and optimized by several experienced software engineers and programmers, software frameworks are versatile, robust and efficient. Today many companies need solutions for different mobile platforms. Native development can be complicated, as each platform requires a different language, environment and tools.

Frameworks can be a problem for tight budgets or small teams, where knowledge may be more limited. For these cases it is advisable to evaluate the different types of existing frameworks, something that you will learn in this program, to reduce considerably the costs of time and money for the customer or supplier.

A 100% online Postgraduate Certificate 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 times with all the guarantees to position the engineer in a highly demanded sector.

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

- ◆ Practical cases presented by experts in Android Application Development
- ◆ The graphic, schematic, and practical contents with which they are created, provide 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



*Stand out in a booming sector with enormous potential and become a part of the global change based on excellence"*

“

*You will gain autonomy when developing an application for Android devices, from design to production"*


The program's teaching staff includes professionals from the sector who contribute their work experience 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 knowledge 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 student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*A 100% online program where in 6 weeks you will be able to implement libraries with Graddl and set up Frameworks to connect to an API.*

*It addresses Clean Code and the use of Development Patterns to make your code more readable, reusable and extendable without complication.*



```
1 'use strict';
2
3 let response = require('libs/response');
4 let validationResult = response.error.validation;
5
6 let ismagic = require('libs/ismagic');
7
8 let FileModel = require('db/models/file_model');
9 let errorHandler = require('core/error').ErrorHandler;
10 let ResultError = require('core/error').ResultError;
11
12 function validationResultResult(error)
13 {
14   for (let errorMessage in error.errors)
15   {
16     let validationResult = error.errors[errorMessage];
17     if (validationResult.kind === 'unique')
18     {
19       return new ResultError(errorMessage);
20     }
21   }
22
23   let errorHandler = validationResult.properties;
24   return (errorHandler) ? new ResultError(errorMessage, errorHandler) : validationResult;
25 }
26
27
28 class File
29 {
30   static create(ownerId, ownerId, name, path
31
32
```

# 02 Objectives

The design of the Postgraduate Certificate will allow the student to acquire the necessary skills to be updated in the Frameworks. The knowledge acquired in the development of the points of the syllabus will drive the professional from a global perspective, with full capacity to achieve the proposed goals. You will be fully empowered in an ever-changing field of information technology.







“

*The objective of TECH is to provide students with all the necessary tools to become a frameworks professional”*



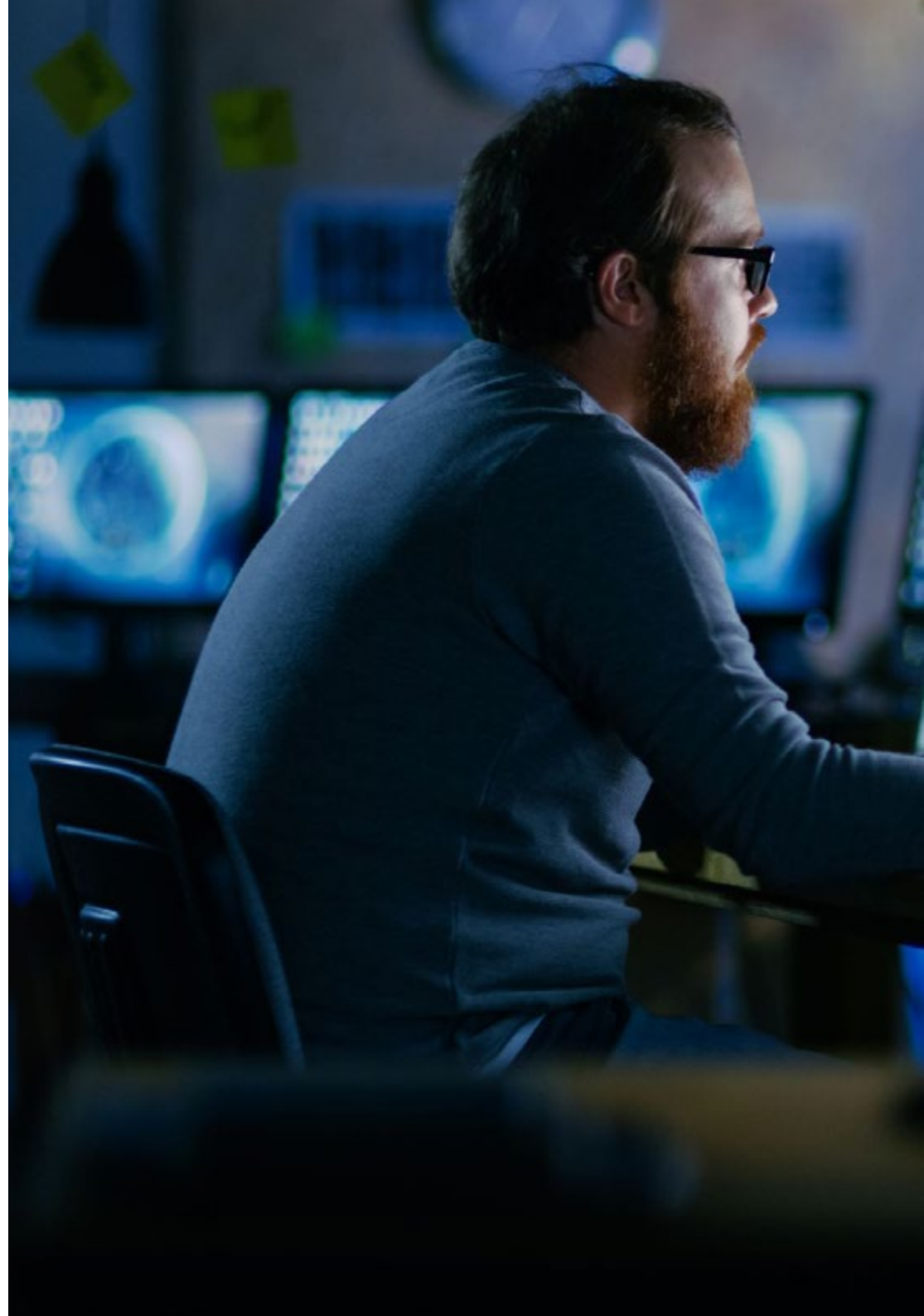
## General Objectives

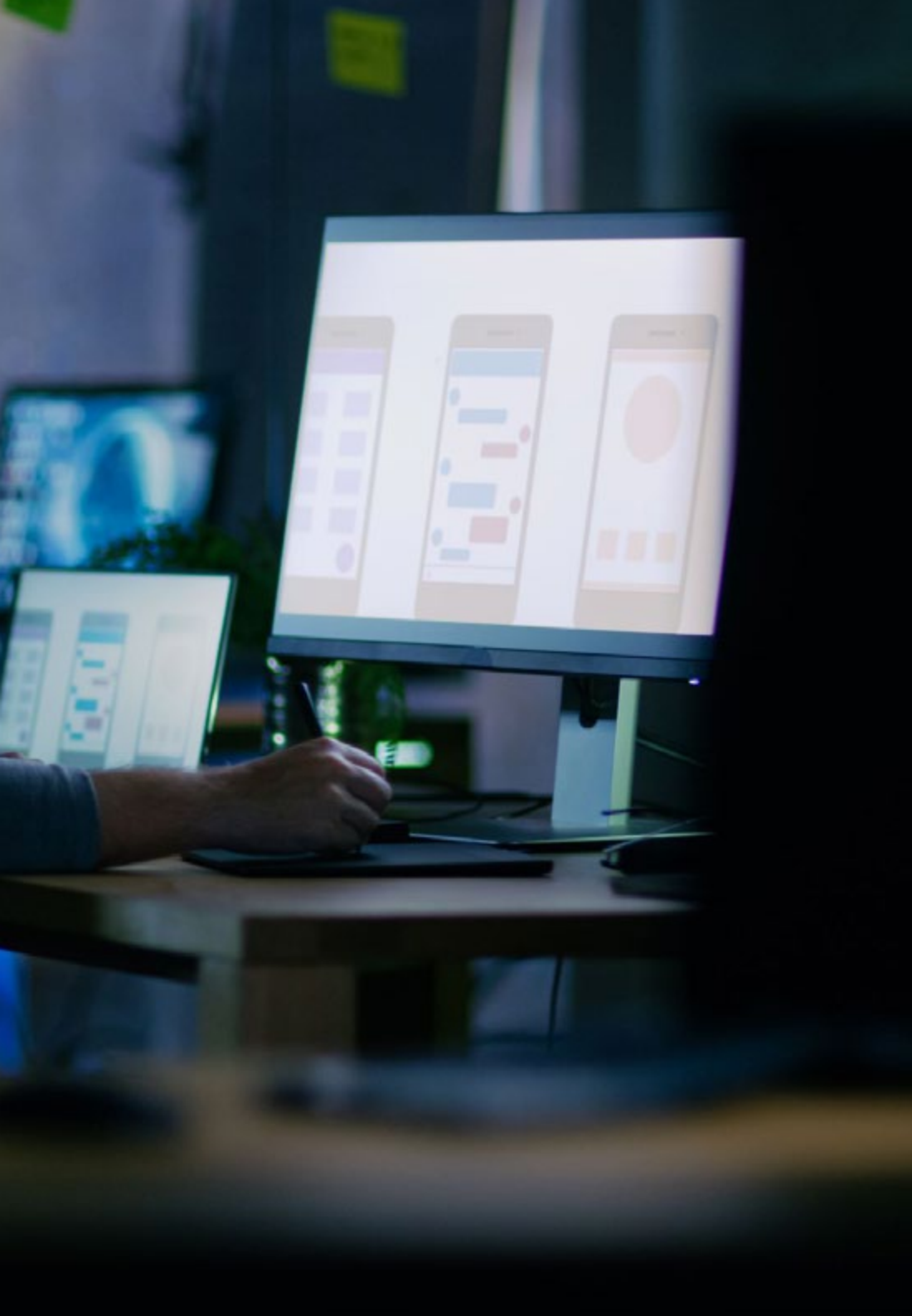
---

- ◆ Examine the most commonly used frameworks
- ◆ Analyze the differences between the different development frameworks, strengths and weaknesses
- ◆ Manage libraries with Gradle
- ◆ Develop key concepts about MVVM and architectures
- ◆ Specify the values of the clean code



*This will be a key qualification to configure homogeneous, clean and reusable codes"*





## Specific Objectives

---

- ◆ Analyze the Android Core Framework
- ◆ Develop other frameworks used for Android application development
- ◆ Implement libraries with Gradle
- ◆ Set up the frameworks to connect to an API
- ◆ Generate specialized knowledge on architectures like MVP
- ◆ Clarify the pros and cons of MVP and MVV

# 03

# Course Management

TECH has experts in Android programming and application developers in its commitment to offer an elite education for all. Therefore, this Postgraduate Certificate brings together highly qualified professionals with extensive experience in development and programming. In this way, the student will be able to choose the appropriate framework for each case, as well as to configure a complete program in a single programming language.



```
if (is_array($application_members))  
    $serial_application_members = serialize($application_members);  
}  
  
if ($application_presentation_file) {  
    //check_file($application_presentation_file, 'application_presentation_file');  
  
    foreach ($application_presentation_file as $file) {  
        $mimetype = $media->mimetype($file['name']);  
        $doctype = $media->doctype($file['name']);  
        $ext = strtolower(substr(strrchr($file['name'], '.'), 1));  
  
        $file_name = $row['application_code'] . $ext;  
  
        move_uploaded_file($file['tmp_name'], $file_name);  
  
        $sql = "INSERT INTO  
                ". $table . "  
                (
```

“

Acquire the knowledge and skills you need to make a multi-platform application with the same code”

## International Guest Director

Colin Lee is a **successful mobile application developer**, specializing in **native Android code**, whose influence extends internationally. The Postgraduate Diploma is an **authority in the Twin Cities area and in the handling of Kotlin**. One of his most recent contributions was to demonstrate, in live code, how to **quickly build a browser** using the aforementioned programming language and Mozilla's open source browser components for Android.

In addition, his applications have been linked to globally significant companies. For example, he was in charge of **creating digital solutions for Pearson**, one of the largest international publishers. He also developed a low-level Android video recorder for the startup Flipgrid, later acquired by Microsoft.

He also built a successful Android VPN for a large client in the **consulting world**. In turn, he is the creator of a freight management tool implemented by the transnational **Amazon** to facilitate the work of its contracted truckers. On the other hand, he has helped build the **mobile versions of the Firefox browser** for Mozilla.

Today, he performs work as a contractor, including **code reviews and security checks**. His impact on mobile application development and his experience over the years make him a leading figure in the global technology arena.



## Mr. Lee, Colin

---

- Director at ColinTheShots LLC
- Android Software Engineer for Specto Inc.
- Senior Android Engineer for Mozilla
- Software Development Engineer for Amazon
- Mobile Application Engineer for Flipgrid
- Software Configuration Specialist for Pearson VUE
- Bachelor's Degree from the University of Florida

“

*Thanks to TECH you will be able to learn with the best professionals in the world”*

## Management



### Mr. Olalla Bonal, Martín

- ◆ Current Blockchain Technical Specialist at IBM SPGI
- ◆ Digital Electronics Technician
- ◆ Blockchain Architect
- ◆ Infrastructure Architect in Banking
- ◆ Hyperledger Fabric training to companies
- ◆ Business-oriented companies Blockchain training
- ◆ Project management and implementation of solutions
- ◆ More than 25 years of experience in the IT world

## Professors

### Mr. Noguera Rodríguez, Pablo

- ◆ Native App Developer (iOS & Android)- Starman Aviation (Aviaze App)
- ◆ Native App Developer (iOS) - Stef (Mtrack App)
- ◆ Native App Developer (iOS & Android) - Bitnovo (Bitnovo App)
- ◆ Expert Java Developer: JSE, JEE and Android - Ilabora Formación
- ◆ Android Applications Programming - EOI - Madrid

### Mr. Marcano Van Grieken, Alejandro Antonio

- ◆ Product Manager - Vikua, Remote (Jira, SCRUM, Figma, Slack, Notion)
- ◆ Backend Developer - InnovativeGX
- ◆ Systems Engineering Degree, Metropolitan University of Caracas, Venezuela
- ◆ Master in Cybersecurity, University of León Online





# 04

## Structure and Content

The syllabus has been designed based on the requirements of the frameworks applied to the specifics of application development on Android operating systems, following the requirements proposed by the teaching team of this Postgraduate Certificate. A syllabus has therefore been established whose sections that provides broad perspective of the implementation of functionalities and the development of a complete program in a programming language. From the beginning of the module, the student will expand their knowledge, obtaining a 100% online qualification thanks to the Relearning methodology that allows rapid learning and memorization of concepts and practices.

```
ate({password})}
```

```
style={styles.button} onPress={this.handleLogin}>
```

```
={{ color: "#fff", fontWeight: "500" }}>Sign In</Text>
```

```
</TouchableOpacity>
```

```
</TouchableOpacity style={{alignSelf: "center", marginTop: 32}}>
```

```
<Text style={{color: "#414959", fontSize: 13}}>
```

```
New to SocialApp? <Text style={{ fontWeight: "500", color: "#E9446
```

```
("Register")>Sign Up</Text>
```

```
</Text>
```

```
</TouchableOpacity>
```

```
</View>
```

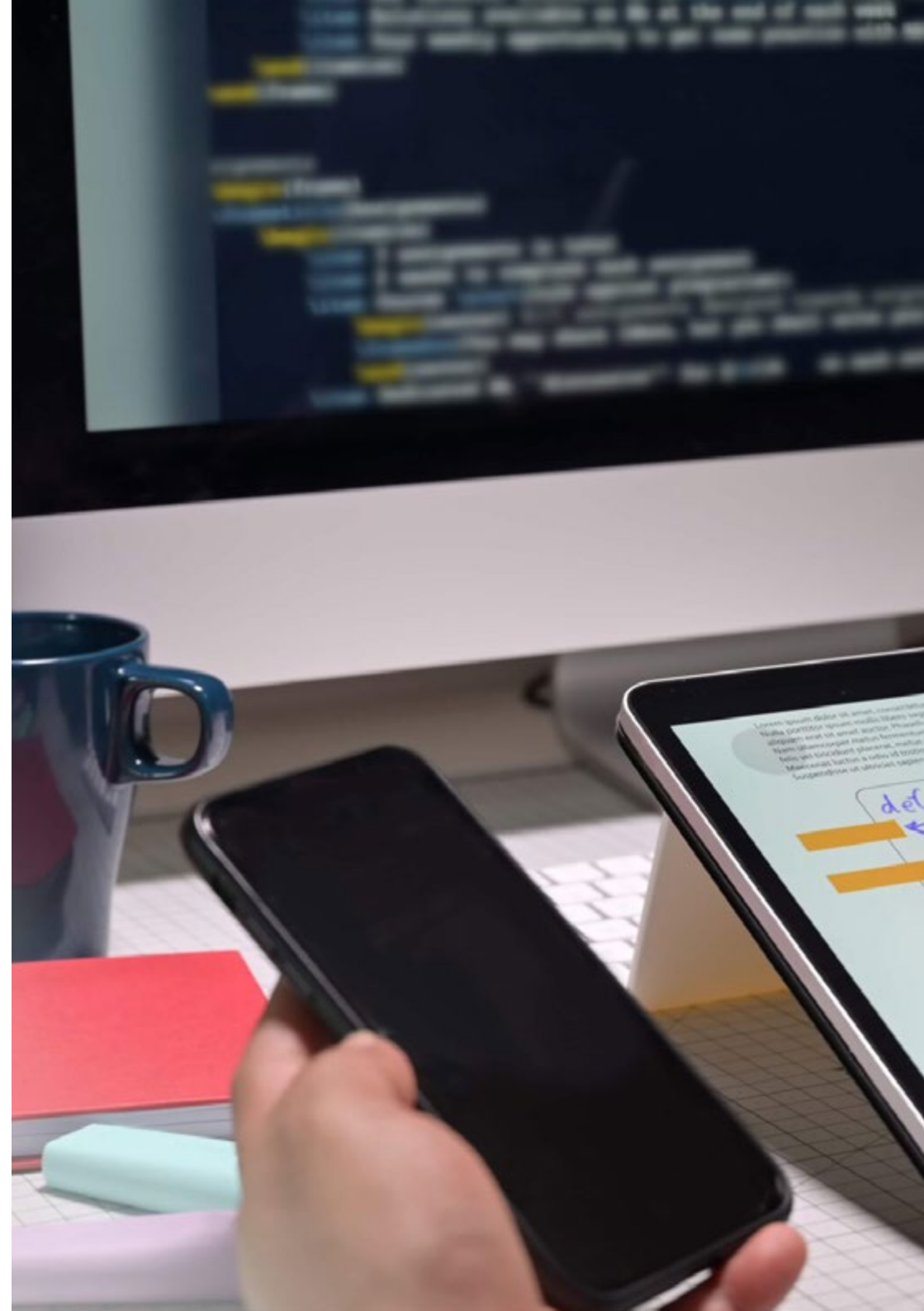
```
...A" }} onPress={() => this.props.n...
```

“

*A curriculum that features React Native, the Framework developed by the Facebook giant"*

## Module 1. Frameworks Used in Android Application Development

- 1.1. Frameworks in Android Application Development
  - 1.1.1. Frameworks in Android Application Development
  - 1.1.2. Frameworks Types
  - 1.1.3. Selecting Project Frameworks
- 1.2. Android Framework Implementation
  - 1.2.1. Android Core Frameworks for Java/Kotlin
  - 1.2.2. Jetpack Compose
  - 1.2.3. Frameworks in Other Languages
- 1.3. Library Management Systems in Development
  - 1.3.1. Gradle
  - 1.3.2. Automation with Gradle
  - 1.3.3. Maven Development Tool
- 1.4. Clean Code
  - 1.4.1. Ordered Code
  - 1.4.2. Code Preparation in Android Applications
  - 1.4.3. Bikeshedding and Prioritization
- 1.5. Android Development Patterns
  - 1.5.1. Pattern Categories
  - 1.5.2. Differences between Patterns
  - 1.5.3. Factory, Observer and Singleton
- 1.6. MVP Model, View and Presenter
  - 1.6.1. MVC: Model, View and Controller
  - 1.6.2. Model, View and Presenter
  - 1.6.3. Practical Example: Pokemon Battle





- 1.7. MVVM: Model, View and View Model
  - 1.7.1 MVC vs. MVVM
  - 1.7.2 Model, View and View Model
  - 1.7.3 Practical Example: Pokemon Battle II
- 1.8. Most Used Frameworks and Libraries in Android
  - 1.8.1 API Interaction Libraries
  - 1.8.2 Data Conversion Libraries
  - 1.8.3 Firebase and Firebase Analytics
- 1.9. Android's Visual Framework
  - 1.9.1 Life Cycle of an Android Application
  - 1.9.2 XML View Design
  - 1.9.3 Design of Elements and Animations in XML
- 1.10. Android Frameworks in Other Languages
  - 1.10.1 React Native
  - 1.10.2 Flutter
  - 1.10.3 Ionic

“

*A program designed to speed up work in app development"*

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

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

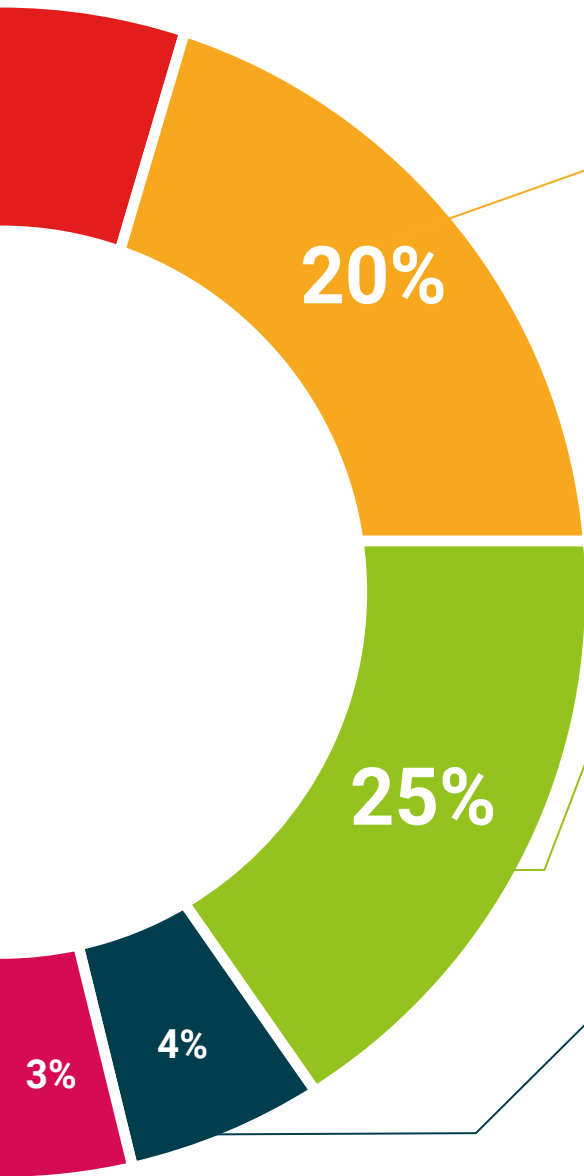
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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 Frameworks Used in Application Development developers 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 Frameworks Used in Application 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** 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 Frameworks Used in Application Development**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**





future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development lang  
virtual classroom



## Postgraduate Certificate Frameworks Used in Application Development

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

# Postgraduate Certificate Frameworks Used in Application Development

