Postgraduate Diploma

Android Application Development Tools

tech *technological university*

tech technological university

Postgraduate Diploma
Android Application
Development Tools

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

Website: **www.techtitute.com/in/information-technology/postgraduate-diploma/postgraduate-diploma-android-application-development-tools**

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01
Introduction

At present, the Android Mobile Application Development sector is experiencing staggering growth. Labor market reports confirm the growing demand for expert profiles in the design of mobile applications, valuing the complete experience in the lifecycle of development, deployment and monetization of applications. That is why it is necessary to create these up-to-date programs, to provide the professional with all the knowledge about native tools and procedures, architectures and interfaces within this operating system. A totally online program with the Relearning methodology, which facilitates learning and makes the process much more dynamic.

"Studying an up-to-date program with such specific characteristics will make your performance stand out and help you reach the professional goal you desire. TECH makes it possible"

Since the beginning of computer systems, the need for communication between the user and the system itself has been one of the fundamental elements. Most Android applications have an interface that facilitates fluid communication between the user and the android application. This operating system offers different presentation elements, so it is essential to have specialized knowledge to discern the advantages and disadvantages of each of them when considering the design.

Similarly, the great diversity of screen types and mobile models requires specialized knowledge of the design phase to carry out an extensible technical architecture that allows maximum reuse of the visual elements. Even more so when new user interaction mechanisms such as touch screens and others begin to appear. This program addresses the knowledge for user communication with the system, as well as the techniques to generate style libraries and reusable elements in different applications. Especially with regard to the use of themes and designs applied for virtual and augmented reality in Android.

In this sense, the different types of interfaces and layouts available in the operating system will be examined from a strictly technological point of view. Clean code and the use of development patterns to create more readable, reusable and extensible code will also be addressed. Analyze frameworks designed to be used with certain architectures, thus making all the code as homogeneous and clean as possible.

Finally, with this Postgraduate Diploma the professional will delve into Android Enterprise Tools and their efficiency in the company, to achieve the proposed objectives with the greatest expected success. To this end, students have the best content selected exhaustively by the team of specialists at their disposal. Sharing their experiences online, for 6 months, through a modern virtual campus and the most avant-garde methodology.

This **Postgraduate Diploma in Android Application Development Tools** 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

Become an expert in the use of development patterns and clean code so you can design more readable, reusable code and extend it without complications"

In order to keep up with market demands, the professional must be qualified. That's why TECH brings this 100% online program dedicated to exploring everything about Android Application Development Tools. Enroll now"
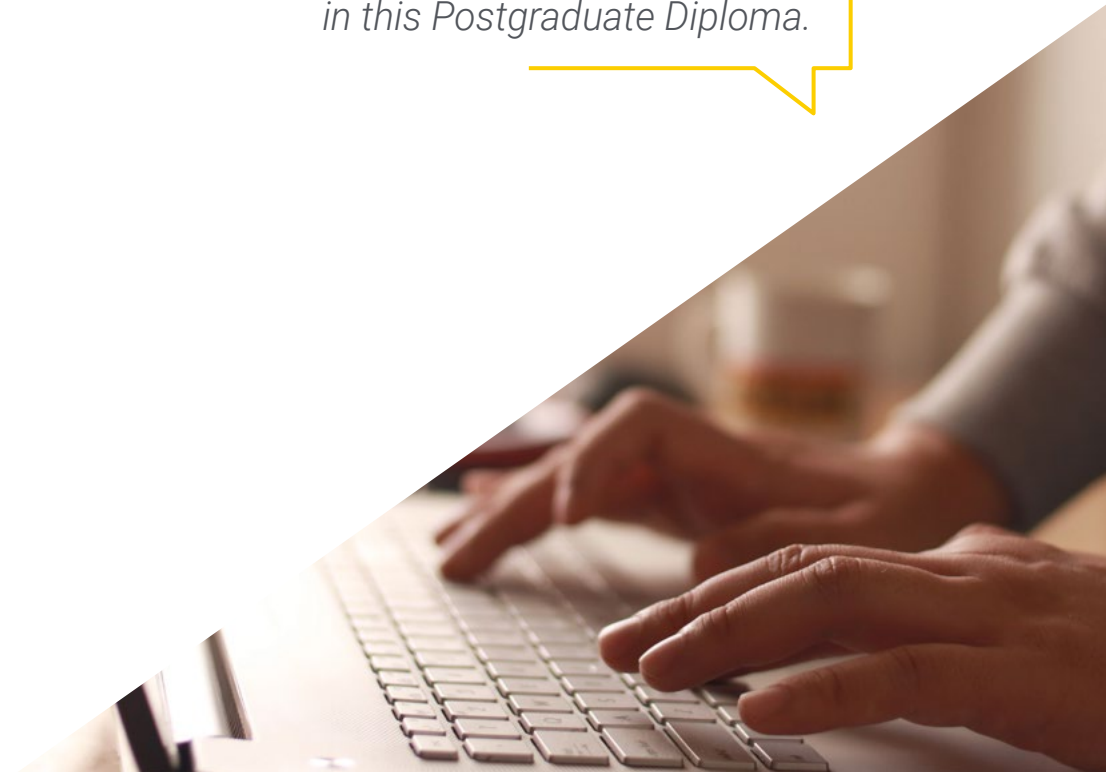
With this program you will learn the techniques to generate style libraries and reusable elements in different applications.

Learn how to use themes and designs applied to Virtual and Augmented Reality in Android, in this Postgraduate Diploma.

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.

02
Objectives

The continuous advances in the industry and technology, force the professional in this field to stay up to date to stay abreast of the needs and be at the forefront of the concepts and styles that are handled in Android Application Development Tools, this program teaches all the tools and fundamentals that are necessary to develop in this career and provide effective solutions in the professional environment. Addressing Android Enterprise Tools and their efficiency in the company.

"*With this program, you can apply the benefits of Android devices in a variety of uses. Banking platforms, security, drones and for the management of daily activities*"

General Objectives

- Determine the structural elements of an Android system
- Establish how to create styles and themes including Virtual Reality through Layouts
- Analyze the differences between the different development frameworks, strengths and weaknesses
- Demonstrate the advantages of these devices for security and preventing cybercrime
- Develop a methodology for optimal data management on the device
- Analyze use cases for Android devices on the market

Specific Objectives

Module 1. Frameworks Used in Android Application Development

- 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 as MVP
- Clarify the pros and cons of MVP and MVVM

Module 2. Interfaces and Layouts in Android Application Development

- Introduce the view lifecycle model in Android
- Examining the most important attributes of a visual design (Layouts)
- Analyze available Layout designs
- Create a reusable Layout design
- Determine how to use alternative resources
- Identify the differences in the use of these components compared to other programming systems
- Establish the potential and use of the AndroidManifest.xml file

Module 3. Android Device Tools

- Compile the most advanced tools in day-to-day management
- Evaluate Android device control tools
- Demonstrate the advantages of using Android in drones
- Specify the functionalities of CRM tools
- Demonstrate the benefits of Android devices on banking platforms
- Analyze the possibilities of IoT and Android platforms
- Examine process efficiency tools in Android

The most advanced tools for business and commercial management with Android"

03

Course Management

Outstanding professionals in the field of new technologies, solution architecture and digital infrastructure, experts in Android programming and application developers lead this Postgraduate Diploma. They are committed to optimizing the student learning experience, who seek the contribution they need for their professional success in this program. Therefore, they advise and guide the students throughout the process with TECH's exclusive virtual platform.

A team of specialist teachers will accompany you on your professional journey. Supported by discussion forums, meeting rooms, private chats and a community of specialists"

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

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Structure and Content

This Postgraduate Diploma covers the knowledge, mastery and management of Application Development Tools, showing the professional everything about Frameworks, library management systems, automation processes, interfaces and Layouts. As well as the management of different devices and tools that are trending in the market. All this and more deployed in a syllabus consisting of 3 modules, which has been detailed in the content of this program. With the presentation of practical cases based on real problems and diversity of theoretical and audiovisual formats. The methodology implemented provides flexibility and convenience to the student, being able to graduate in a few months.

Specialize yourself in an agile and dynamic way with a 100% online methodology. With exclusive content designed by experts for you"

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 Frameworks Core 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: Pokémon 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: Pokémon 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

Module 2. Interfaces and *Layouts* in Android Application Development

2.1. Android Interface Lifecycle
- 2.1.1 Android Lifecycle
- 2.1.2 Process-Activity Relationship
- 2.1.3 Application State Persistence
- 2.1.4 Clean Architecture Applied to Android

2.2. Views in Android Application Development (Views)
- 2.2.1 Clean Architecture Presentation Layer
- 2.2.2 Recycler View
- 2.2.3 Adapter View

2.3. Designs in Android Application Development (Layouts)
- 2.3.1 Layouts in Android
- 2.3.2 Constraint Layout
- 2.3.3 Creating Layouts Using Android Studio Layout Editor

2.4. Animations in Android Application Development (Animations)
- 2.4.1 Icons and Images
- 2.4.2 Transitions
- 2.4.3 Difference between Property Animation and View Animation

2.5. Activities and Intentions in Android Application Development (Activity and Intentions)
- 2.5.1 Explicit and Implicit Intentions
- 2.5.2 Action Bar
- 2.5.3 Communication between Activities

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 goalt 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.

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06
Certificate

The Postgraduate Diploma in Android Application Development Tools guarantees students, in addition to the most rigorous and up-to-date education, access to a qualification 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 Android Application Development Tools** 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 Android Application Development Tools**

Official Nº of Hours: **450 h.**

tech technological university

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

POSTGRADUATE DIPLOMA
in
Android Application Development Tools

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

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.

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