

# IBM iOS and Android Mobile App Developer Professional Training

Sr #	Sub Modules	Skills
1	<b>Introduction to Mobile App Development</b>	
	An all-around understanding of the mobile app landscape and the components of an app, including front end, back end, data management, and hosting	
	The features and limitations of popular mobile app development languages, frameworks, and tools	Code generation Software Development Generative AI
	An understanding of the integrated development environments (IDEs) and tools used for mobile app development, including testing tools and emulators	Software Engineering AI prompts
	How to build a career in mobile app development, having created your own mobile app development career plan	
2	<b>Introduction to Software Engineering</b>	
	Describe software engineering, Software Development Lifecycle (SDLC), and software development tools, technologies and stacks.	
	List different types of programming languages and create basic programming constructs such as loops and conditions using Python.	React (Web Framework) Web Development Front-end Development User Interface JavaScript
	Outline approaches to application architecture and design, patterns, and deployment architectures.	
	Summarize the skills required in software engineering and describe the career options it provides.	
3	<b>Get Started with Android App Development</b>	
	Describe the Android development environment, including major programming languages, frameworks, and tools	Android Mobile applications iOS
	Explain the Android development process and explore the use of Android Studio	Mobile app development frameworks Mobile app development tools
	Apply UI concepts and leverage AI to develop dynamic apps on Android	
	Practice hands-on to build and test a fitness tracker app for Android	
4	<b>Designing User Interfaces and Experiences (UI/UX)</b>	
	Explain design, UI/UX concepts, best practices of visual development, and the key duties and responsibilities of a UI/UX designer.	Software Development Figma (Design Software) Flutter/React Native Front-end Development Mobile Application Development
	Examine web design methodologies like Responsive Web Design (RWD), and Progressive Web Development.	
	Use Figma, the essential concepts of Figma, and its various features.	
	Develop applications and websites with web development frameworks, like Bootstrap.	
	<b>Getting Started with Git and GitHub</b>	
	Describe version control and its place in social and collaborative coding and in DevOps.	Progressive Web Development

5	<p>Explain basic Git concepts such as repositories and branches used for distributed version control and social coding.</p> <p>Create GitHub repositories and branches, and perform pull requests (PRs) and merge operations, to collaborate on a team project.</p> <p>Build your portfolio by creating and sharing an open-source project on GitHub.</p>	<p>Progressive web Development Figma Website Wireframe User Interface design (UI Design) User Experience (UX)</p>
6	<p><b>Introduction to HTML, CSS, &amp; JavaScript</b></p> <p>Describe the Web Application Development Ecosystem and terminology like front-end developer, back-end, server-side, and full stack.</p> <p>Identify the developer tools and integrated development environments (IDEs) used by web developers.</p> <p>Create and structure basic web pages using HTML and style them with CSS.</p> <p>Develop dynamic web pages with interactive features using JavaScript.</p>	<p>Cloud-Based Development Tools Generative AI Applications AI-Driven Design and Marketing Mobile App Support Systems Mobile App Development</p>
7	<p><b>Get Started with iOS App Development</b></p> <p>Describe the iOS environment and the role of Xcode in iOS development</p> <p>Use the iOS Simulator to test and debug iOS applications</p> <p>Describe fundamental Swift programming concepts and explore app development with Swift</p> <p>Apply Swift and SwiftUI programming skills to create basic iOS apps</p>	<p>Distributed Version Control Systems (DVCS) Cloning and forking open source Github Git (Software)</p>
8	<p><b>Flutter and Dart: Developing iOS, Android, and Mobile Apps</b></p> <p>Explain the features and uses of Flutter, along with its components and cross-platform capabilities to create visually appealing apps</p> <p>Analyze Dart programming, its libraries, and the command line to create efficient code for a wide range of functionality</p> <p>Use Flutter widgets to define and control everything on the screen, along with routing to manage navigation between screens</p> <p>Use plugins, manage state, call APIs and add persistence to your app</p>	<p>iOS Applications Software Development Android Apps</p>
9	<p><b>Developing Front-End Apps with React</b></p> <p>Develop interactive user interfaces (UIs) and web applications using JavaScript technologies including React, JSX, and ES6.</p> <p>Build dynamic front-end applications quickly and easily with reusable React components.</p> <p>Employ various React concepts and features, including props, states, hooks, forms, and Redux.</p> <p>Demonstrate your React skills by building several front-end applications such as a shopping cart.</p>	<p>Android Android Studio Android Emulato Android app design Mobile app development</p>
	<p><b>React Native: Developing Android and iOS Apps</b></p> <p>Job-ready skills that employers are looking for by using React Native for mobile app development</p>	

10	How to use the features of React DevTools supported by a good understanding of the key components and concepts of React Native	Software Development Android Apps iOS Apps
	How to apply React Native stylesheets, layouts, events, and props to develop cross-platform mobile apps	React Native Mobile App Development
	Hands-on practice developing apps with Expo, plus testing and publishing apps by applying app debugging and publishing concepts	
11	<b>Mobile App Notifications, Databases, &amp; Publishing</b>	
	Job-ready mobile app back-end services skills employers look for in less than one month	
	How to apply user interface principles to create intuitive, visually appealing mobile apps and integrate notifications to enhance user engagement.	iOS Applications Android Applications Back-end services Firebase
	How to publish your app in marketplaces and implement marketing strategies.	Mobile App Development
	How to enhance mobile apps with databases like SQLite and cloud services like Firebase.	
12	<b>Mobile App Development Capstone Project</b>	
	Create a GitHub repository, develop user stories to guide development tasks, and design UX and UI using Figma for a mobile app.	
	Implement login and registration, develop a home screen with navigation, and a detail screen for item-specific info using Flutter or React Native.	Swift and SwiftUI iOS Xcode
	Implement local storage for data persistence and integrate external APIs to fetch and display real-time data using Flutter or React Native.	iOS Simulators Mobile app development
	Add settings for user customization and notification features to enhance engagement, and explore publishing and marketing strategies for your app.	
13	<b>Generative AI: Elevate your Software Development Career</b>	
	Discuss how to generate code snippets, scripts, and programs using generative AI models	
	Apply techniques for application design and architecture, bug detection, code refactoring, and program optimization using generative AI	Software Architecture Agile and Scrum Computer Programming Tool Software Engineering
	Develop innovative solutions using Gen AI-powered tools and models such as ChatGPT, GitHub CoPilot, Google Gemini, and IBM watsonx Code Assistant	Software Development Lifecycle (SDLC) Python Programming
	Explain challenges and ethical considerations associated with using Generative AI for programming and options for mitigating them	
14	<b>Generative AI: Turbocharge Mobile App Development</b>	
	Understand generative AI concepts for mobile app development	Cascading Style Sheets (CSS)
	Analyze opportunities and challenges in AI-driven app design and marketing	Web Web Development
	Demonstrate proficiency with AI tools like Vertex AI, Dialogflow, and Apple Intelligence	JavaScript

Build a mobile app prototype using generative AI tools