

## Mobile App Development (Elective)

Course # COMP 4051

Credits 6

**Prerequisites and/or Corequisites:** Prerequisites are Object-Oriented Programming and Software Engineering.

### Course Description

Mobile computing devices have become ubiquitous in our communities and influence individuals, organizations, and society from both a technical and social perspectives. The course Mobile App Development provides a broad overview of mobile app development technologies from the process of building a mobile app in Android Studio to real-life projects. Students learn the basics of the Kotlin programming language in the Android back-end part, how to use libraries to build apps with a proper look and several activities, and how to design the front-end part. Students are encouraged to design, implement, and evaluate small-scale software projects in teams of up to three people. This course was designed according to the Meta Android Developer Professional Certificate program taught by Meta staff.

### Course Learning Outcomes

Upon the completion of the course, students will be able to:

- Describe the development of mobile apps on front-end and back-end parts in the context of full stack development
- Differentiate mobile apps technologies such as Google Android, Microsoft Xamarin, Apache Cordova, and Apple iOS
- Develop Kotlin Android apps in Android Studio and install them on virtual devices and/or physical smartphones
- Design the user interface of Kotlin Android apps employing standard elements such as Button, TextView, ImageView, etc.
- Develop back-end part of Kotlin Android apps using standard features of the Kotlin programming language
- Work in teams to solve real-life problems based on the selection of the most appropriate algorithm(s) and the code optimization

### Course Assessments and Grading

Item	Weight
Problem-solving sessions	39 %
Quizzes	26 %
Midterm exam	15 %
Final exam	20 %