

Mobile Applications for Sensing and Control (EEP 523)

Course Description: This course provides students with hands-on experience to develop cutting-edge mobile applications on the Android platform. Emphasizing practical skills, the course enables students to harness the full range of sensors and control features that modern Android devices offer. Throughout the quarter, students will engage with Kotlin, the officially supported language for Android development, to create responsive and efficient applications.

Course Format:

- In Person
- Attendance: Highly encouraged but not mandatory. Real-time Zoom and lecture recordings will be available. All course material will be posted on Canvas.

Teaching Team:

Instructor: Sep Makhsous (ECE 234, sosper30@uw.edu)

Office Hours: By appointment only

Teaching Assistant: TBD

Learning Objectives: By the conclusion of this course, students will be able to:

- Apply Kotlin programming concepts to develop Android mobile applications.
- Construct dynamic user interfaces using Android's rich set of layout managers and view components.
- Utilize Android's extensive sensor and control APIs for building interactive applications.
- Manage user interactions and navigate between different activities in an Android app.

Assignments & Grading:

- 3 Homework Assignments: 50%
- Final Project: 50%
- No late work will be accepted.

Course Schedule:

Week 1: Introduction to Kotlin and Android Mobile Development

Week 2: Setting up Android Studio and Creating Your First Android App

Week 3: Understanding Activities, Fragments, Views, and Layouts

Week 4: Interactive User Interfaces and Event Handling in Android

Week 5: Leveraging Android Sensors and Controls in Your Applications

Week 6: Deep Dive into Android Sensors

Week 7: Sensor Data Processing and Real-time Control

Week 8: Android Developer Interview Preparation

Week 9: Final Project Lab Sessions

Week 10: Final Project Demos