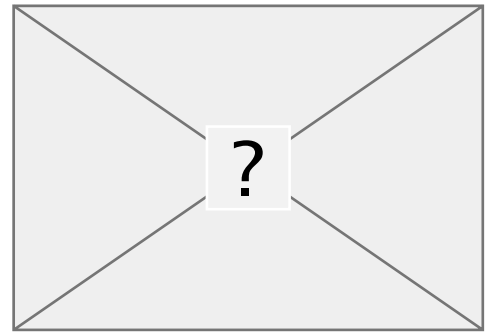# CS 402: Mobile App Development - Spring 2020



## Course Description

A project intensive course on mobile development using Android or iOS platforms. Overview of mobile platforms and their characteristics, mobile interface design and best practices using such technologies as GPS, camera, persistence, and more.

## Objectives

1. Become proficient in the major technologies and paradigms of mobile application development, specifically for Android.

2. Develop experience creating real world mobile applications.

## Requirements

The following items are required for this class:

- Android Studio: http://developer.android.com/sdk/index.html
  - Or, as part of the JetBrains Toolbox (free for students): jetbrains.com/student/
- Github Account: http://www.github.com

## Recommendations

The following are not required but will help in developing mobile applications:

- Free lynda.com Account - Free Boise Public Library card needed (Need Boise mailing address)
- Broad Topic Guide: Android Programming Concepts
- A physical Android tablet or smartphone
- Android Developer Account ($25)

# Schedule

| Section | Date | Description | Assignment Due |
|---|---|---|---|
| | Jan. 14 | Introduction to the Android platform, Android Studio and Kotlin. | |
| | Jan. 16 | Android platform architecture: Overview, Manifest, Intents and Activities Lifecycle, Strings, Interface layouts | |
| Kotlin Basics | Jan. 21 | Intro to Kotlin | |
| | Jan. 23 | Kotlin | HW #1 |
| | Jan. 28 | Intents and Second Activity | |
| Android Basics | Jan. 30 | First Real Android App | |
| | Feb. 4 | Application Architecture | |
| | Feb. 6 | Interface Design, UX, HCI | |
| | Feb. 11 | Second Activity | HW #2 |
| | Feb. 13 | Architecture, Singletons, Observers | Project 1 |
| Mobile Features | Feb. 18 | Web Services | |
| | Feb. 23 | Observer Pattern, EventBus | |
| | Feb. 25 | Fragments | Homework 3 |
| | Feb. 27 | Permissions, Camera | |
| | Mar. 3 | Maps, Locations and GPS | |
| | Mar. 5 | Databases on Android | Project 2 |

| Section | Date | Description | Assignment Due |
|---------|------|-------------|----------------|
| | Mar. 10 | Databases on Android | |
| | Mar. 12 | Revenue with Android | |
| | Mar. 17 | Mobile Game Development | |
| | Mar. 19 | Mobile Game Development | Project 3 |
| | Mar. 24 | Spring Break | |
| | Mar. 26 | Spring Break | |
| | Mar. 31 | Google Play Store | |
| | Apr. 2 | Android Jet Pack | |
| | Apr. 7 | TBD | |
| | Apr. 9 | TBD | |
| | Apr. 14 | TBD | Homework 3 |
| | Apr. 16 | TBD | Project 4 |
| | Apr. 21 | TBD | |
| | Apr. 23 | Workshop | |
| | Apr. 28 | Project Presentations | |
| | Apr. 30 | Project Presentations | |
| | May 5 | No Class | Final Project (Project 5) |

Attendance (5%)     5%

Homework (30%)     5% HW #1          Projects (70%) 10% Project 1

                   5% HW #2                        10% Project 2

                   5% HW #3                        15% Project 3

                                                   20% Project 4

                                                   25% Final Project

## Suggested Readings

**Android Programming Getting Started**
http://developer.android.com/training/index.html

## Links

**Class Git Repository**
Class repository with all assignments, class notes, example code, etc.