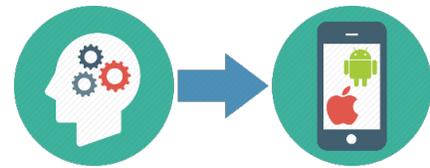


Mobile App Development

CS 4153



Course Syllabus

Last updated: Jan. 13, 2020 02:45 p.m. CT (GMT-6)

Subject to Change!

Instructor: Goutam Mylavarapu

Contact Information:

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I plan to sign into the online classroom nearly every day, and the discussion forum generally is the best place to ask most questions. But, if you need to contact me on an individual basis, your best choice is by email using the address given above. I will do my best to contact you within 24 hours, though sometimes it could be as long as 48 hours or more, especially when communication takes place on a weekend or holiday.

Your emails are important to me! To ensure that I see your email, please make sure to begin the subject line with the course number in square brackets, followed by the message subject; for example:

[CS 4153] Unable to deploy app to iPhone

For those of you located in other than my time zone (Central Time, GMT-6), please be aware that this also may affect the time it takes me to respond to your emails.

Virtual Office Hours: Tue. & Thu. 5:30 – 07:00 p.m. Central Time

I am available via Skype during these office hours, and by appointment at other times. Should something happen to prevent me from being available during office hours on any given date, I will post a notice in the *Announcements* section of the Canvas classroom.

Teaching Assistant: Saptami Biswas

Contact Information:

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Virtual Office Hours: MW 02:00 – 03:00 p.m., F 02:00 – 04:00 p.m. Central Time

Technical Support: OSU Arts & Sciences Outreach Office

Email: casoutreach@okstate.edu

Phone: 1-405-744-5647

Textbooks (required)

None! Freely-available materials will be used to supplement online course materials.

Prerequisites

A good working knowledge of OOP, and either a good working knowledge of Java (e.g., CS 2133) or C++ (e.g., CS 2433).

Canvas Classroom for the Course

We use Canvas for this course, which you can access at <https://canvas.okstate.edu>. Sign in using the O-Key username and password provided to you by OSU. Once you sign in, you will see the Canvas *Dashboard*, which provides you with a list of links for the courses in which you are enrolled. You should see our course listed as *CS-4153-Combined-Spring-2020*. Click on that link to go to the course homepage. Near the left side of that page is a menu of links, with *Home* (the homepage) at the top.

The two primary sections of the *Home* page are:

- *Recent Announcements* (near the top), which provides you with important and time-sensitive updates and comments on class matters. Should something happen to prevent the instructor from being available during his office hours on any given date, he will make an effort to post a notice in this section of the Canvas classroom.
- *Contents* (below *Recent Announcements*), which contains the latest version of this syllabus, assignment descriptions, handouts, reference materials, links to external resources, and so forth.

The *Discussions* link in the left-side menu takes you to the list of course discussion forums. Here, you will find specific, topical discussion prompts posted by the instructor. Please keep your comments clean and civil.

Course Goals

Examine the similarities and differences between mobile computing and traditional computing. Discuss the effects that mobile computing has had and will have on computing and society. Learn to program mobile apps for the iOS platform and devices (iPhone, and iPad) using the Swift programming language and an IDE. Learn to program mobile apps for the Android program using the Kotlin programming language and an IDE. Work individually and in groups to develop mobile apps.

Course Objectives:

By the time you finish this course, you should have learned the following:

- The primary differences between traditional computer programs and mobile apps, and how to address those differences when writing an app.
- Sources of current and upcoming news and trends related to mobile computing, and evaluating your own design and development practices in terms of what you discover there.
- The use of the Xcode IDE (Interactive Development Environment) to develop, test, and debug apps for devices that run the Apple iOS operating system.
- The syntax and semantics of the Swift programming language, as well as several fundamental iOS APIs (Application Program Interfaces) necessary to develop apps.
- Use of the Kotlin programming language and Android Studio to develop Android apps.
- Several fundamental Android APIs necessary to develop apps.
- Working as part of a team to develop apps more effectively and efficiently.

Assignments

The assignments for the course are as follows:

- *Individual programming assignments* (40%) – One small assignment every week and one extensive assignment every two or three weeks.
- *Team programming assignment* (30%)– A single programming assignment during the last 10 weeks of the course. A progress report is due 4 weeks into the assignment; completed app and documentation is due 9 weeks into the assignment; a multimedia presentation of the final app is due at the end of the 10-week assignment period.
- *Discussions* – 10%
- *Examinations* (10% each) – The course includes a mid-semester and final examination.

Due Dates & Late work policy

- *Individual programming assignments* are due by 11:59 PM CT (GMT -6) on the date specified on the assignment handout posted on the Canvas classroom site. They may be turned in late, but they lose a percentage of their graded point values according to the following schedule:
 - Submitted by 11:59 PM of the due date.....0%
 - Submitted by 11:59 PM of the second day following the due date..... 10%
 - Submitted by 11:59 PM of the fourth day following the due date 30%
 - Submitted by 11:59 PM of the seventh day following the due date..... 60%
 - Submitted after 11:59 PM of the seventh day following the due date..... 100%
- *Team programming assignments* are due by the dates and times specified on the assignment handouts posted on the Canvas classroom site. They are worth zero points if turned in late.

- By the due date specified on the *forum discussion assignments*, you are expected to contribute to the discussion in a meaningful and thoughtful way by responding with **at least one comment** to the discussion prompt posted by the instructor **AND** by replying to **at least one comment** posted by a fellow student. Late responses will not be graded.
- Each student will be granted 2 *grace dates* during the semester to counteract late submissions for *individual programming assignments* only. Each grace date applied to a solution you submit “undoes” one late date for the assignment. For example:
 - Submitted by the second day following the due date
→ one grace date makes it as though it was submitted on time.
 - Submitted by the fourth day following the due date
→ one grace date makes it as though it was submitted by the second day following the due date;
→ two grace dates make it as though it was submitted on time.

The instructor will apply grace dates at the end of the semester in such a way to maximize your total points. You are urged to reserve grace dates for the latter part of the semester when there almost certainly will be more demands on your time. Unused grace dates are discarded.

Programming Assignment Submission Logistics

- All programming solutions must be submitted via the Canvas classroom submission page that corresponds to the assignment.
- All files associated with a given programming submission must be zipped into a single file for submission. The zipped files must retain their folder structures and contain all needed assets so that – once opened – they can be built and run by the grader. Solutions that are uncompressed or compressed with a format other than zip will be ignored.

Grading policy:

Grades will be assigned based on point totals as follows:

100% to 90%:	A
90% to 80%:	B
80% to 70%:	C
70% to 60%:	D
60% to 0%:	F

In addition, each student must earn at least half of the points for individual programming assignments to receive a passing grade for the course.

Exam Logistics

Exams must be administered by a proctoring service called Examity. You are responsible for registering to this service at your expense. The exams must be taken on the following dates according to the central time zone:

Mid-Semester exam March 12, 2020
Final Exam..... May 5, 2020

Software/Hardware requirements:

- An Apple Macintosh Computer running macOS Catalina (10.15). iMacs are available for your use in the Stillwater lecture lab, 222 MSCS.
- The XCode 11 IDE for macOS – Register for free at the *Apple Developer* website, <http://developer.apple.com>, where you will click on the *Account* link to create an account or sign in. You then can click on the *Downloads* link and download Xcode for your own, personal Mac.
- Android Studio and Java for Android development toward the end of the semester.
- Optional: any iPod Touch, iPhone, or iPad that is compatible with iOS 12 or 13.
- Other software as specified during the semester.

Collaboration policies:

Individual programming assignments: Discussion of concepts, ideas, and techniques is acceptable. After discussion, each student must write up his/her own solution. Copying another person's work, in part or in whole, is not allowed. Giving another student your work, in part or in whole, is considered cheating as well. If you are unsure whether your collaboration is acceptable, speak with the instructor in advance. Take care that your solutions are not exposed to or by other students.

Team programming assignments: Sharing of work among students on a project team is acceptable. Inter-team discussion of concepts, ideas, and techniques is acceptable, but inter-team sharing of work is not permitted. If you are unsure whether your collaboration is acceptable, speak with the instructor in advance.

Examinations: During an examination period, no communication of any kind about the exam is allowed.

Students who do not comply with the collaboration policies described above will be assigned sanctions in accordance with OSU policy 2-0822 (*Academic Integrity*). Depending on the circumstances of the violation, the sanctions may result in a score of zero on an assignment, a final grade of *F!* for the course, or dismissal from the OSU graduate program. In all instances, the violation will be reported to the appropriate institutional officials.

Disabilities act:

According to the Americans with Disabilities Act, each student with a disability is responsible for notifying the University of his or her disability and to request accommodations. If you think that you have a qualified disability and needs special accommodations, you should notify the instructor and request verification of eligibility for accommodations from the Office of Student Disability Services, 315 Student Union, (405)744-7116. Please advise the instructor of such disability as soon as possible, and contact Student Disability Services, to ensure timely implementation of appropriate accommodations. The instructor of this class will respond when he receives official notice of a disability, but he does not provide retroactive accommodations.

Syllabus attachment:

Other useful information, such as important dates throughout the semester, can be found on the [OSU-Stillwater syllabus attachment](#).