SJSU SAN JOSÉ STATE UNIVERSITY

College of Science · Computer Science

Mobile Device Development

CS 175

Fall 2025 Section 01 In Person 3 Unit(s) 08/20/2025 to 12/08/2025 Modified 08/19/2025

Course Information

Class time	T/Th 16:30 - 17:45
Classroom*	Science Building 311
Instructor	Yan Chen (yan.chen01@sjsu.edu)
Office Hour	T/Th 15:00 - 16:00 on Zoom (https://sjsu.zoom.us/j/81291608336) Or Make an Appointment (https://scheduler.zoom.us/yan-chen-rurbn3/fa25)
Grader	Kyaw Soe Han <kyawsoe.han@sjsu.edu (mailto:kyawsoe.han@sjsu.edu)>

*We will have a "flipped" class: lectures will be pre-recorded and posted on Canvas. The in-person class sessions will include code demos, exercises, and hints for assignments, which will NOT be recorded (except for the first 2 classes).

Course Description and Requisites

Mobile Platform APIs including those for networking, touch, graphics, data, location, and camera. Testing and profiling on devices and emulators/simulators.

Prerequisites: CS 047, and knowledge of Java equivalent to that of CS 046A or CS 049J; Allowed Majors: Computer Science or Forensic Science: Digital Evidence.

Letter Graded

Classroom Protocols

- Do NOT share any course material publicly (on Canvas, GitHub, etc.) without permission, including but not limited to lecture notes, lecture videos, passwords, homework/exam solutions, and class links.
- No late homework questions (within 24 hours before due, excluding follow-ups) via email.
- **Instances of academic dishonesty will not be tolerated**. Your own commitment to learning, as evidenced by your enrollment at San José State University and the University's Academic Integrity Policy (https://www.sjsu.edu/studentconduct/docs/Academic%20Integrity%20Policy%20F15-7.pdf), requires you to be honest in all your academic coursework. Cheating or plagiarism (presenting the work of another as your own, the use of another person's ideas without giving proper credit, or using AI) will result in **a reduction in final course grade** (you will get a warning if it's your first time except for the last assignment and group project; 1 letter grade off every time after) and administrative sanctions by the University.

Program Information

Diversity Statement - At SJSU, it is important to create a safe learning environment where we can explore, learn, and grow together. We strive to build a diverse, equitable, inclusive culture that values, encourages, and supports students from all backgrounds and experiences.

Course Learning Outcomes (CLOs)

- Become familiar with view management and UI layout. The student should understand good principles for UI design in embedded applications and apply those principles to real-world examples.
- Develop mobile applications for android. The student will write applications using the development tools and environment provided by the manufacturer, developing a fundamental understanding of the platform. The student will become familiar with the use of debugging tools and emulators in the development process.
- Gain exposure to peripheral-based development. Modern mobile operating systems allow access to a number of embedded peripherals, such as the accelerometer and GPS. The student will get experience interfacing with these devices by understanding and using manufacturer-supplied APIs.

Course Materials

There is no required textbook for this course. The most comprehensive and up-to-date information (documentation, guide, examples, etc.) can be found on http://developer.android.com/ (http://developer.android.com/). All other materials (lecture notes, homework, etc.) will be posted on Canvas (https://sjsu.instructure.com/courses/1592021). You are responsible for **regularly checking the Canvas course page** for any updates, including its messaging system.

Software/Equipment

- Laptop/Desktop with internet connection that is capable of checking Canvas course page, submitting homework, and installing/running the required software, etc.
- Android Studio (https://developer.android.com/studio) is the official IDE for developing apps on Android devices. It includes emulators for you to run and test your apps. The latest version also includes a

copy of the latest OpenJDK that is officially recommended for Android projects.
- Git (https://git-scm.com/downloads) is a version control system for you to submit your projects. We will use GitHub (https://github.com/) as the remote repository for collecting submissions and sharing the solutions. Please register a GitHub account using your school email (@sjsu.edu).
- Microsoft Office (https://portal.office.com/) is free for students.
- (Optional) An Android phone may be helpful for a better mobile application development experience.

Further Readings (optional)

- Android Programming: The Big Nerd Ranch Guide 4th Edition, Bill Phillips, Brian Hardy https://www.bignerdranch.com/books/android-programming-the-big-nerd-ranch-guide-4th/ (https://www.bignerdranch.com/books/android-programming-the-big-nerd-ranch-guide-4th/)
- The Busy Coder's Guide to Android Development (Mark Murphy) https://commonsware.com/Android (https://commonsware.com/Android)

Course Requirements and Assignments

There will be 4 mini-projects, a final group project, and other class activities for extra credits.

Mini Projects

There will be 4 mini-projects on Android apps throughout the course. Schedule your time well to protect yourself against unexpected problems. Start early so you have time to ask questions if you need help. You can request late submission at least 24 hours before the deadline using the late pass, which can be obtained from taking optional quizzes (more details are below in the corresponding subsection). Otherwise, no late submission will be accepted.

These projects are individual projects. **Presenting code that is similar to another source (other students, Internet, or AI) without citation is considered cheating.** The only exception is the code given in class or exercises (i.e. you can use code given in class without citation).

Final Team Project

There will be a team project (up to 4 people per group) of your choice related to the course. The presentation date will be on the final exam date on **Tuesday, December 16, 15:15 - 17:15 Pacific Time**. More details will be given in class.

Absolutely NO late submission for the final project.

The final project is mandatory as University policy S17-1 states:

> *"Faculty members are required to have a culminating activity for their courses, which can include a final examination, a final research paper or project, a final creative work or performance, a final portfolio of work, or other appropriate assignment."*

Optional: Exercises

Exercises with detailed step-by-step instructions that are related to the topics discussed in class will be assigned on a per topic basis, **locked by passwords that are ONLY given in the lectures**. They can be used as templates/starter code for the mini projects. No late submission will be accepted for the exercises.

Note that only **Exercise 0 is mandatory**, which serves the following purposes:

- Roll call for attendance of the first 2 classes (submitting the exercise indicates your attendance).
- Setting up the environment to get you prepared for future assignments.

Optional: Quizzes

In-class quizzes will be given throughout the course covering the required material discussed. They are 15-minute quizzes that contain T/F, multiple-choice, and matching. Open all material and you can discuss it with other students. Use them as a chance to get to know your classmates.

You can get **up to 2 late passes** (ONLY valid for mini projects!) from taking Quizzes. If you used fewer than 2 late passes throughout the semester, you can get some extra points. Both are based on your **latest overall quiz score**, as shown below:

Overall Quiz Score	Late Pass	Extra Points (used 0 late pass)	Extra Points (used 1 late pass)
> 90.00 %	5-days late pass	3	2
80.00 % - 89.99%	4-days late pass	2.5	1.5
70.00 % - 79.99%	3-days late pass	2	1
60.00 % - 69.99%	2-days late pass	1.5	0.5
50.00 % - 59.99%	1-day late pass	1	0

Although exercises and quizzes are optional, they are highly recommended to practice what you learned in class and to enhance your score. University Policy S16-9 (http://www.sjsu.edu/senate/docs/S16-9.pdf) states that:

> *"Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practice. Other course structures will have equivalent workload expectations as described in the syllabus."*

✔ Grading Information

Criteria

Note that the "weight" is not percentage - they are "points". There will be at least 125 points available, including extra credits from optional exercises/activities. More details will be given in class.

Type	Weight	Topic	Notes
Mini Projects	35	Cumulative	Project 1 (6) + Project 2 (9) + Project 3 (8) + Project 4 (12)
Final Project	65	Cumulative	Documentation (15) + Quality (25) + Popularity (25)
(Optional) Exercises	18	Weekly	9 exercises total, 2 pts each
(Optional) Others	7+	Others	Other class activities, such as quizzes and discussions.

Breakdown

The range also refers to "points", not percentages.

- A+ will be given to the top 1% of students.
- Grades near the borderlines will be rounded up depending on your level and quality of class participation (in class and in the Discussions on Canvas).
- The grade might be curved ONLY if the final grades of the class at the end of the semester are not normal.

Grade	Points	Grade	Points	Grade	Points
A	Above 93.00	B minus	80.00 to 82.99	D plus	66.00 to 69.99
A minus	90.00 to 92.99	C plus	76.00 to 79.99	D	63.00 to 65.99
B plus	86.00 to 89.99	C	73.00 to 75.99	D minus	60.00 to 62.99
B	83.00 to 85.99	C minus	70.00 to 72.99	F	Below 59.99

🏛 University Policies

Per University Policy S16-9 (PDF) (http://www.sjsu.edu/senate/docs/S16-9.pdf), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on the Syllabus Information (https://www.sjsu.edu/curriculum/courses/syllabus-info.php) web page. Make sure to visit this page to review and be aware of these university policies and resources.

Course Schedule

Important Dates

Visit the Fall 2025 Registrar Calendar (https://www.sjsu.edu/registrar/calendar/fall-2025.php) for more details.

Date	Description
Aug. 21, Thursday	First Day of instruction (for this class)
Sep. 16, Tuesday	**Last day to drop without a W grade**
	Last day to add classes via MySJSU
Nov. 2, Sunday	Daylight saving time ends (2 AM -> 1 AM)
Nov. 15, Monday	Last day to late drop/withdraw
Dec. 4, Thursday	Last day of instruction (for this class)
Dec. 8, Monday	All class activities are due except for the presentation (for this class)
Dec. 16, Tuesday	**Presentation (for this class) 15:15 - 17:15 Pacific Time**
Dec. 20, Saturday	Grades (should be) viewable on MySJSU

Lecture Schedule

The course is divided into modules, each corresponding to a distinct application. The schedule below is tentative and subject to change with fair notice.

Module #	Date	App Name	Topics

1	Aug. 21 - Sep. 11	Mortgage Calculator	Setup Environment Android Overview Basic UI Resources Testing & Debugging
2	Oct. 16 - Oct. 23	AccGame	Sensors Customize View
3	Oct. 25 - Nov. 9	My Directory	Fragments & Dialogs List-based Views Action Bar & Menus Navigation Intents
4	Oct. 14 - Nov. 6	My Map	Device File System Shared Preferences SQLite Content Providers Device Location Google Maps SDK Background Tasks Google Places SDK
5	Nov. 13 - Nov. 25	My Service	Localization Services Broadcast Receivers Publish App
6	Dec. 2, Dec. 4, Dec. 16	Final Project	Peer Review 1 Presentation Peer Review 2

A detailed schedule is posted on [Canvas (https://sjsu.instructure.com/courses/1612137/pages/course-materials)](https://sjsu.instructure.com/courses/1612137/pages/course-materials).