



CS441/541 Application Development for Smart Devices

Quarter	Fall 2025
Credit	3 credits
Instructor	Kwang Lee, Ph.D.
Meeting Days/Time	Online, must login in Canvas Tue, Thru 07:25pm ~ 08:40pm (EST) Kwang Lee, Ph.D.
Office Hours	Mon 10:00am ~ 12:00pm (EST)
Instructor Phone	571-275-0959
Instructor E-mail	kblee@Odu.Edu (Best Contact Point) For all Email contacts please make sure THE Email Subject Is: CS441/541- blahblah

COURSE DESCRIPTION

Project-oriented coverage of the principles of application design and development for Android platform smart devices. Topics include user interface; input methods; data handling; network techniques; localization and sensing. This class is about designing and writing real small-medium mobile applications and user interface systems. By the end of the semester, you are expected to have created an innovative and robust mobile application. There will be programming assignments, approximately one every 2-3 weeks.

Prerequisites: A grade of C or better in CS 330 or CS 382

Meeting Times and Delivery Method

This is a synchronous Zooming class. The class session will be streamed live via Zoom. Attendance is optional. Recordings will be available.

Course Objectives

Students completing this course should be able to:

- By the end of the semester, the student will have created an innovative and robust mobile application.

Topics Covered

- a. Learn how to build mobile apps.
- b. Understand User Interface design
- c. Learn how to design, build and/or maintain mobile applications for either Android platform or Apple's iOS
- d. Study mobile app architecture and infrastructure
- e. Learn information access and menu structure
- f. Be able to understand the software development process and lifecycle to business operations
- g. Be able to know how to conduct usability testing method and evaluation about the mobile app

REQUIRED COURSE MATERIALS

Primary Textbooks:

- Mobile App Development for iOS and Android, Jakob Iversen and Michael Eierma, 3rd, Prospect Press, ISBN: 978-1943153909
- Mobile Interaction Design, Matt Jones and Gary Marsden, John Wiley & Sons, ISBN: 978-0470090893

Secondary Textbooks:

- Android Boot Camp for Developers Using Java: A Guide to Creating Your First Android Apps 3rd, Corinne Hoisington, Cengage Learning, ISBN: 978-1305857995
- Interaction Design: Beyond Human-Computer Interaction, 5th, Helen Sharp, Jennifer Pearce, Wiley, ISBN: 978-1119547259

Recommended Materials:

- <https://developer.android.com/>
- <https://developer.apple.com/xcode/resources/>

COURSE DELIVERY

Instructional Approach

Every course, whether online or face-to-face requires interaction between students and the professor. It is the responsibility of the instructor to help students grow and learn by providing clear instructions for all activities and assignments, answering questions, identifying additional resources if necessary, providing rubrics and other criteria for evaluation of assignments along with feedback, and meeting for assistance whether in office or online. This is never a “static” course - referenced readings, software versions and hardware specifications can change quickly. In this environment, the instructor is always evaluating, revising and clarifying questions and problems. ***In every case, if you are having trouble, contact me immediately. Don’t wait. I am here to help you and I want you to succeed!***

Student Responsibilities

Assume an active role: To successfully complete the course, you will need to assume an active role in the learning process; ask questions, complete assignments, visit your professor during office hours, participate in discussion boards, etc. If you are taking an online course, active participation by reading and following directions are especially critical skills necessary for success in this course.

Regularly access Canvas: All pertinent course information is posted to the class Canvas site as the primary means of communication between students and the professor, thus, you must actively participate by regularly accessing Canvas to check for announcements, Discussion Board updates and complete assignments.

Expect to spend as many hours as necessary each week in order to successfully complete your assignments before the due dates. DO NOT wait until the last minute to start assignments, because you WILL run out of time if you don't plan properly. This time is different for each student, but a good rule of thumb is to spend an equal amount of time outside of class as you would inside class. For a 3 hours class you would spend about 6 hours per week on this course: 3 hours preparing/studying the material (as though you were in class listening to a professor) and 3 hours on homework and assignments.

Observe Classroom Etiquette, Netiquette and Academic Honesty: The following class policies are to ensure an environment conducive to learning for all students whether in the classroom or online.

- Professional appropriate behavior and constructive communication is expected in all classroom and virtual communications whether it is from student to student or student to professor. You may want to search the Internet for the word "Netiquette" to get more information about appropriate online communication. Let me know if you have any questions concerning this.
- Collaboration is not allowed during tests, quizzes, or on any graded assignment. Always complete your own work, do not share files! Failure to abide by this rule will result in a zero for the assignment and/or a failing grade for the class. See the College Policies section of this syllabus for more information about Academic Honesty.

Accessibility

Old Dominion University is committed to ensuring equal access to all qualified students with disabilities in accordance with the Americans with Disabilities Act. The Office of Educational Accessibility (OEA) is the campus office that works with students who have disabilities to provide and/or arrange reasonable accommodations.

If you experience a disability which will impact your ability to access any aspect of my class, please present me with an accommodation letter from OEA so that we can work together to ensure that appropriate accommodations are available to you.

If you feel that you will experience barriers to your ability to learn and/or testing in my class but do not have an accommodation letter, please consider scheduling an appointment with OEA to determine if academic accommodations are necessary.

The Office of Educational Accessibility is located at 1021 Student Success Center and their phone number is (757)683-4655. Additional information is available at the OEA website:

- <http://www.odu.edu/educationalaccessibility/>

Academic Honesty and Honor Code

By attending Old Dominion University, you have accepted the responsibility to abide by the ODU Honor Code. If you are uncertain about how the ODU Honor Code applies to any course activity, you should request clarification from the instructor. The ODU Honor Code is as follows:

- “I pledge to support the honor system of Old Dominion University. I will refrain from any form of academic dishonesty or deception, such as cheating or plagiarism. I am aware that as a member of the academic community, it is my responsibility to turn in all suspected violators of the honor system. I will report to Honor Council hearings if summoned.”

In particular, submitting anything that is not your own work without proper attribution (giving credit to the original author) is plagiarism and is considered to be an ODU Honor Code violation. It is not acceptable to copy written work from any other source (including other students), unless explicitly allowed in the assignment statement. In cases where using resources such as the Internet is allowed, proper attribution must be given.

Any evidence of an ODU Honor Code violation (cheating) will result in a 0 grade for the assignment/exam, and the incident will be submitted to the Department of Computer Science for further review. Evidence of cheating may include a student being unable to satisfactorily answer questions asked by the instructor about a submitted solution. Cheating includes not only receiving unauthorized assistance, but also giving unauthorized assistance.

Students may still provide legitimate assistance to one another. You are encouraged to form study groups to discuss course topics. Students should avoid discussions of solutions to ongoing assignments and should not, under any circumstances, show or share code solutions for an ongoing assignment.

Please see the ODU Honor Council’s webpage for other concrete examples of what constitutes cheating, plagiarism, and unauthorized collaboration. All students are responsible for knowing the rules. If you are unclear about whether a certain activity is allowed or not, please contact the instructor.

Communication

E-mail

Each student is assigned an Old Dominion e-mail account that is used for communication with your instructor and which also serves as your login for Canvas. Personal matters and grade questions should be sent to your professor via email. General questions about the class should be asked in class.

Students who e-mail the instructor Monday – Thursday will ordinarily receive a response within 24 hours. Students who e-mail the instructor Friday – Sunday may expect a response by 5 pm on Monday. To receive a timely reply, e-mail must be formatted as follows.

- ✓ In the subject field place your course and section number.
- ✓ At the end of your e-mail, include your full name. Create a signature in your e-mail program so this happens automatically!

✓ Write in the form of a letter, with complete sentences and language I can understand. Please do not use Instant Messaging language in e-mail communication.

✓ To send me e-mail, you must use your ODU-provided e-mail address.

Personal e-mail addresses will not be responded to for security reasons and often end up in the junk e-mail box.

COURSE POLICIES

Attendance

Regular classroom attendance is expected of all students. Course grades reflect not only performance on written assignments and exams, but also participation during class periods. As discussions cannot be reproduced, many times absences cannot truly be made up. Excessive absences therefore have a negative effect on the student's learning and performance. Students are responsible for all class work, and a student who misses a class is expected to have the initiative necessary to cover properly the material missed. Students must meet all course deadlines and be present for all quizzes, tests, and examinations.

Late Registrants

Students who enroll and/or enter a course after the first-class meeting should note that attendance records are being kept from the first day the class meets. All class days missed before and after the student's entry into the class will be considered absences. In addition, late registering students are responsible for the completion of all assignments by the due date. Due dates are planned such that late registrants will still have time to complete missed assignments.

Assessment

Grading: Your final grade will be determined by the following categories and percentages, no extra credit (tentative):

• Midterm Test	100 (10%)
• Final Test	100 (10%)
• Presentation	100 (10%)
• One Final Project	100 (10%)
• Four Assignments	400 (40%, each-10%)
• Eight Discussions	200 (20%, each-2.5%)
Total	1,000 points

You should do your own work on exams/projects and for computer assignments. Copying another student's work is not acceptable. Any indication of cheating and/or plagiarism on an exam/assignment/project will be an automatic 0 (zero) for the exam/assignment/project for all students involved. Yet, based on cheating and plagiarism activity in any section of class, instructor holds the right to give F grade to the identified student(s). Regarding codes in assignments / projects, you may be required to explain the code you submitted. In case of discursive explanation, the instructor holds the right to lower your grade.

Grading Scale: Assignments and tests will be graded using the same scale as the one used for the final course grade, grades are not rounded:

Scale	Letter Grade
93 – 100%	A
90 – 92%	A-
87 – 89%	B+
83 – 86%	B
80 – 82%	B-
77 – 79%	C+
73 – 76%	C
70 – 72%	C-
67 – 69%	D+
63 – 66%	D
60 – 62%	D-
59% and below	F

Late Work

You are required to keep up with the Course Schedule posted in Canvas. Any assignment is considered late after 11:59 pm of the due date. Begin work early, do not wait until the last minute to begin any assignment, and always have a Plan B when technology is involved.

- **In general, late work will not be accepted** unless it is an unavoidable officially excused and documented emergency absence. Work that is submitted after the announced deadline will be considered late. Expect you may encounter problems and allocate enough time to complete your work early so that you will not be penalized. Under special condition, late work can gain partial credit upon the following policy. As per University requirements, assignments submitted within 2 days after the deadline can receive up to 20% deduction, assignments submitted between 3-7 days after the deadline can receive up to 50% deduction. After **ONE week** over the due date, however, **I will not accept the assignments/projects.**
- If you have official/verifiable documentation of mitigating circumstances (such as an accident report, court records, doctor's note covering the due date) you may submit late without penalty if you contact the instructor within 5 days of the due date to provide the documentation of mitigating circumstances. If approved the assignment must be submitted within 5 days of the approval.
- During the last week of the class, NO assignments will be accepted late, and the Final Exam cannot be taken late.
- Technical difficulty that results in a late submission is not considered extenuating circumstances. If you encounter technical difficulty, it must be cleared up before the due date. You have the option of completing work on campus or on a friend's computer if needed.

Course Schedule

Week	Starting Date	Lecture Topic	Assignments	Other Note
1	08/25 ~ 08/29	Introduction to Mobile Devices	Discussion #1	
2	09/01 ~ 09/05	Mobile User Interfaces	Discussion #2	
3	09/08 ~ 09/12	Mobile Application Design Tools	Assignment #1	
4	09/15 ~ 09/29	Mobile Application Architecture	Discussion #3	A#1 Due 11:59pm, 09/22
5	09/22 ~ 09/26	Mobile Infrastructure Information Access	Assignment #2	
6	09/29 ~ 10/03	Navigation Methods	Discussion #4	A#2 Due 11:59pm, 10/06
7	10/06 ~ 10/10	Class Review Midterm Exam	Discussion #5	
8	10/13 ~ 10/17	Menu Structures	Assignment #3	
9	10/20 ~ 10/24	Innovating Approaches	Discussion #6	A#3 Due 11:59pm, 10/27
10	10/27 ~ 10/31	Product People	Discussion #7	
11	11/03 ~ 11/07	Mobile Usability Testing and Evaluation	Assignment #4	
12	11/10 ~ 11/14	Design Prototype Review Final Project	Project	A#4 Due 11:59pm, 11/17
13	11/17 ~ 11/21	Evaluation and Experimental Results	Discussion #8	
14	11/24 ~ 11/28	Prototype Presentation I Thanksgiving Break	Presentation #1	
15	12/01 ~ 12/05	Prototype Presentation II Class Review	Presentation #2	Project Due 11:59pm, 12/08
		Final Exam		

Note: Due to the nature of this class, including delivery mode, weather events and potential technical glitches, problems may occur that will affect the actual schedule. Additionally, course adjustments may be based upon on-going class progress assessments. Revisions will occur at the instructor's discretion. Students are required to complete

assignments based on the due dates in Canvas. When any due date changes are made, the instructor will notify students by email and posting an announcement in Canvas.

COLLEGE POLICIES

Please see the Old Dominion Undergraduate Catalog for University policies and procedures:

- <https://catalog.odu.edu/undergraduate/policiesprocedures/>

Code of student conduct

- <https://www.odu.edu/content/dam/odu/offices/bov/policies/1500/BOV1530.pdf>

Academic integrity violations include:

- Cheating is defined as unauthorized access to or use of assistance, or collaboration in an academic exercise (including, but not limited to unapproved resources or assistance on an assignment, quiz, or exam; submission of the same or similar paper more than once without permission, etc.).
- Plagiarism is defined as using someone else's language, ideas, or other material without a proper citation in an academic exercise (including but not limited to submitting work of another person, making minor changes to borrowed materials, taking credit for group work without participating, etc.). For more information about plagiarism, please visit the Academic Integrity Tutorial.
- Fabrication is defined as. Inventing, altering, or falsifying data, citation, or information in an academic exercise (including but not limited to citing a secondary source as primary; or inventing or altering data).
- Facilitation is defined as helping a student commit an academic integrity violation (including, but not limited to sharing course materials without permission)