



Oregon State University
Ecampus

Course Name: Mobile Software Development

Course Number: CS 492

Credits: 4

Instructor name: Nauman Chaudhry

Instructor email: chaudhrn@oregonstate.edu

Teaching Assistant name and contact info: TBD

Course Description

Introduction to concepts and techniques for developing mobile applications. Students will become familiar with modern mobile structure, implementation, development tools, and workflow. Prerequisites: CS 311 or CS 344.

Communication

Please post all course-related questions in the Q&A Discussion Forum so that the whole class may benefit from our conversation. Please contact me privately for matters of a personal nature. I will reply to course-related questions within 24 hours. I will strive to return your assignments and grades for course activities to you within five days of the due date.

Course Credits

This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

Technical Assistance

If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Service Desk for assistance. You can call (541) 737-8787 or visit the [IS Service Desk](#) online.

Learning Resources

Windmill, E. (2020) *Flutter in Action*. Manning. ISBN 9781617296147. Available in print in February 2020, but digital versions are available for purchase online. In addition, the full content of the book may be online for free as a "live book."

<https://livebook.manning.com/book/flutter-in-action>

Official [Flutter Documentation](#).

This course requires a development environment with VSCode, the Flutter SDK, and either Android Studio or XCode.

Note to prospective students: Please check with the OSU Beaver Store for up-to-date information for the term you enroll ([OSU Beaver Store website](#) or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Measurable Student Learning Outcomes

Upon completion of the course, students will have demonstrated the ability to:

1. Design and create applications on one or more modern mobile platforms.
2. Use mobile development tools, such as device emulators, for developing and testing applications.
3. Apply appropriate design principles to create an effective mobile application interface.
4. Employ elements of responsive design to create mobile applications that work on different screen sizes.
5. Use other apps on a mobile device to perform operations such as mapping and content sharing.
6. Employ different kinds of on-device data storage, such as preferences, on-device databases, and file-based storage.
7. Evaluate mobile application performance and apply appropriate optimization techniques to allow the application to scale.
8. Use analytics tools to understand in-app user behavior.

Evaluation of Student Performance

Final grades consist of the following weighted components:

- Discussions: 5%
- Quizzes: 5%
- Projects
 - Project 1: 10%
 - Project 2: 10%
 - Project 3: 10%
 - Project 4: 10%
 - Project 5: 15%
- Final Exam: 35%

Letter Grade

Grade	Percent Range
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76

Grade	Percent Range
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	Below 60

Course Content

- Mobile application development tools and workflow
- Mobile application structure and implementation
- Mobile application performance and scaling
- Asynchronous operations
- On-device mobile data storage
- Mobile interface design principles
- Mobile application analytics and user activity tracking

Week	Topic	Reading Assignments	Learning Activities
1	Introduction, Write Your First App	Appendix A Chapter 1.0 – 1.5	Explorations Discussion Quiz Project 1
2	Programming Language I	Chapter 2	Explorations Discussion Quiz Project 2 (start)
3	Programming Language II	Chapter 2	Explorations Discussion Quiz Project 2 (due)
4	Mobile Development SDKs	Chapter 1.6 – 1.12 Chapter 3 Appendix D Appendix E	Explorations Discussion Quiz
5	Themes, Layouts & Widgets	Chapter 4 Chapter 7	Explorations Discussion Quiz Project 3 (begin)
6	Advanced Layouts & Responsive Interfaces	Chapter 7	Explorations Discussion Quiz Project 3 (due)
7	Interactions, Event Handling & State	Chapter 5 Chapter 8	Explorations Discussion Quiz Project 4 (begin)
8	Device Services & Sensors		Explorations Discussion Quiz

Week	Topic	Reading Assignments	Learning Activities
			Project 4 (due)
9	Local & Remote Data	Chapter 9 Chapter 10	Explorations Discussion Quiz Project 5 (begin)
10	Runtime Analytics & Performance	Chapter 11	Explorations Discussion Quiz Project 5 (due)
Finals			Final Exam

Course Policies

Discussion Participation

Students are expected to participate in all graded discussions. While there is great flexibility in online courses, this is not a self-paced course. You will need to participate in discussions on at least two different days each week, with your first post due no later than Wednesday evening, and your second and third posts due by the end of each week.

Communication

All questions seeking technical help should be posted to Piazza so all students may benefit from the answer. If you have a question that is personal in nature, send an email with [492] in the subject.

Late Work Policy

Assignments submitted after the due date will not be accepted without a documented medical or family emergency and will receive a grade of 0.

Proctored Exams

This course requires that you take exams under the supervision of an approved proctor. Proctoring guidelines and registration for proctored exams are available online through the [Ecampus testing and proctoring website](#). It is important to submit your proctoring request as early as possible to avoid delays.

Makeup Exams

Makeup exams will be given only for missed exams excused in advance by the instructor. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.

Incompletes

Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final project). If you

are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let the instructor know right away.

Guidelines for a Productive and Effective Online Classroom

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval, please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Accessibility of Course Materials

All materials used in this course are accessible. If you require accommodations please contact [Disability Access Services \(DAS\)](#).

Additionally, Canvas, the learning management system through which this course is offered, provides a [vendor statement](#) certifying how the platform is accessible to students with disabilities.

Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the [Student Conduct Code](#). Students are expected to conduct themselves in the course (e.g., on

discussion boards, email postings) in compliance with the university's regulations regarding civility.

Academic Integrity

Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit [Student Conduct and Community Standards](#), or contact the office of Student Conduct and Mediation at 541-737-3656.

OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:

- a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.
- b) It includes:
 - i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.
 - ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
 - iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).
 - iv) TAMPERING - altering or interfering with evaluation instruments or documents.
 - v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.
- c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

Tutoring and Writing Assistance

[NetTutor](#) is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online

writing suite where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.

The Oregon State [Online Writing Suite](#) is also available for students enrolled in Ecampus courses.

TurnItIn

Your instructor may ask you to submit one or more of your writings to Turnitin, a plagiarism prevention service. Your assignment content will be checked for potential plagiarism against Internet sources, academic journal articles, and the papers of other OSU students, for common or borrowed content. Turnitin generates a report that highlights any potentially unoriginal text in your paper. The report may be submitted directly to your instructor or your instructor may elect to have you submit initial drafts through Turnitin, and you will receive the report allowing you the opportunity to make adjustments and ensure that all source material has been properly cited. Papers you submit through Turnitin for this or any class will be added to the OSU Turnitin database and may be checked against other OSU paper submissions. You will retain all rights to your written work. For further information, visit [Academic Integrity for Students: Turnitin – What is it?](#)

Student Evaluation of Courses

The online Student Evaluation of Teaching system opens to students during the week before finals and closes the Monday following the end of finals. Students receive notification, instructions and the link through their ONID. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the online learning experience for future students. Responses are anonymous (unless a student chooses to “sign” their comments, agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.