DALHOUSIE UNIVERSITY

THERE WILL BE NO CONVERTING OF FINAL GRADES TO PASS/ILL THIS SEMESTER.
ALL LETTER GRADES WILL BE FINAL!

CSCI 5708 – Mobile Computing
Course Syllabus

Instructor Information

Instructor:	juliano.franz@dal.ca		
E-mail:	csci4176-5708@dal.ca	**Office Hours:**	TBA
Class Meeting Time:	TR 10:05-11:25	**Room No:**	LSC-PSYC P5260
Lab Meeting Time	Consult the timetable	**Room No:**	Consult timetable
Course Homepage:	https://dal.brightspace.com/		

Important Dates

- Final Exam Period (yes, we will have a final): TBA by the Registrar's office
  - Between Dec 9 – 20, 2022
- Last Day to Change and Add Classes: Sept 16, 2022
- Final Withdrawal Date without academic penalty: Oct 3, 2022
- Final Withdrawal Date with a "W": Nov 1, 2022
- Reading Week: Nov 7 – 11, 2022
- Deadlines:
  - Lab Assignments (11pm AST): Sept 25th, Oct 9th, Oct 30th, Nov 06, Nov 20
  - Readings: Oct 09th, Oct 30th, Nov 27th
  - Tests: Sept 22nd, Oct 06th, Oct 27th, Nov 3rd, Nov 25th
  - Project Milestones:
    1. Proposal, Oct 02 11pm
    2. Design, Oct 23 11pm
    3. Code, Nov 27 11pm
    4. Presentation & Demo, Nov 28 – Dec 04
    5. Final Report, Dec 07 11pm
- Holidays:
  - Labour Day– Sept 5 (Monday)
  - National Day for Truth and Reconciliation – Sept 30 (Friday)
  - Thanksgiving – Oct 10 (Monday)
  - Remembrance Day – Nov 11 (Friday)

Course Description

This course will introduce students to mobile application development. Mobile applications will be discussed from three perspectives: mobile technology, application development practices, and user interaction. Labs and assignments will be used to develop and practice programming skills using Android Studio while an individual term project will develop and practice skills for application design, development, implementation, and testing. Emphasis will be given to the application of sound development practices that are applicable to real-world industrial settings.

Class Format and Course Communication

- Course announcements will be posted to **Brightspace**. It is the student's responsibility to check both their Dalhousie e-mail and Brightspace on a daily basis. To access your Dal e-mail account please see: https://www.dal.ca/dept/its/o365/services/email.html
- Lectures will take place on LSC PSYCHOLOGY P5260
- Labs will take place on **CHEB**; consult the timetable for the room specific to each lab
- Students **must** use GITLAB (CS hosted) for the Project and Lab codes
    - **Students must set-up a .gitnore for their repos**
    - **You will lose marks if you do not set it correctly (20%)**
- Text submissions, such as project reports, will be done through Brightspace
- Labs PDFs will be available via Brightspace
- We will use **Brightspace** for the Q&A forum. Please post all Android/Kotlin related questions to the Q&A forum, so that other students can benefit from your questions as well.
    - **DO NOT SHARE LAB CODE IN THE FORUM**
    - Doing so will be consider plagiarism.

Students must ask the instructor permission before recording any presentations.

Prerequisites

CSCI 5100, CSCI 53089 and CSCI 5408

Course Rationale

This is a course on the mobile application development process. The course is intended to produce application developers. While Kotlin programming will be taught, it is only part of the course and not the primary focus of the course. It is known that most mobile applications fail because of process-oriented faults (e.g., poor usability, wrong target audience, poor de-sign) and thus, this course will work to create developers that can avoid these pitfalls. I want you to consider this course as an opportunity to explore, experiment, and try new things without fear. Your grade will be based as much on your use of the development process as it is on the outcome of the process (i.e., your mobile application).

You are encouraged to explore techniques (e.g., prototyping, UI design) and try new tools (e.g., version control). You will be rewarded for your efforts as well as for your results. My goal is to see you learn, which often comes from making mistakes. This course is a safe place to make mistakes before you get a job where mistakes are not as easily forgiven (since they cost people money). Of course, better results earn better marks, but effort is valuable and will be considered during project evaluation. Project marks will consider what you learned and not solely what you produced.

High-Level Course goals

The course tries to simulate a real-world development environment in order to practice and develop your skills for:

a. effective application planning, design, and development,
b. applied problem solving,
c. performing effective written technical communication, and
d. creating high quality code that is understandable and maintainable.

While most of you are likely focused on achieving Goal d., the companies that employ Dalhousie students have mentioned that they require employees to have strong problem solving, development, and communication skills. Thus, to improve your employability, we are going to work on developing these skills.

Learning Outcomes

Upon successful completion of the course, you will be able to:

- Successfully design, implement, and test Android applications.
- Program at a rudimentary level using the Kotlin programming language.
- Effectively apply techniques from the mobile environment (e.g., communication technologies, APIs, application architectures, design patterns).
- Identify and avoid or mitigate issues encountered during mobile application development, such as usability, connectivity, and performance.
- Apply a user-centric development process (e.g., click-streams, wireframing, prototyping) to create an effective application.
- Write effective technical documentation to support the development process (e.g., proposals, specifications, progress reports, and project summaries).

Evaluation Criteria

ITEM	COUNT	EACH	TOTAL	ACCESS VIA TOOL
Tests (Quizzes)	5 (drop lowest)	5%	20%	In Person Brightspace Lock-down or Paper
Labs	5 (drop lowest)	5%	20%	GIT and Brightspace
Project	1	25%	25%	GIT and Brightspace
Required Readings	3 pairs	3.33%	10%	Brightspace
Final Exam	1	25%	25%	In Person Format TBD
FINAL GRADE			100%	

Passing requirements

- **To pass this course, a student must achieve a grade of C or better in the overall course. Students must also pass each listed component to achieve a grade of C or better:**
  - **Quizzes:** Students must achieve at least an average of 50%
  - **Project:** Students must achieve at least an average of 60%
  - **Final Exam:** Students must achieve at least an average of 60%
  - **Overall Grade:** Students must achieve at least an average of 60%

- The instructor reserves the right to adjust a student's evaluation criteria, with the student's consent, if the instructor deems that an adjustment is warranted.

Notes

- A minimum B- grade is required in this course.
- The grade conversion scale in Section 7.7.2 of the Academic Regulations, Graduate Calendar will be used: https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=118&chapterid=7476&topicgroupid=33111&loaduseredits=False
- **It is up to the discretion of the instructor to use remote proctoring in online testing. Students may be required to download proctoring software onto their devices. Students who cannot meet system requirements for remote proctoring should contact the instructor for an alternate assessment. (Typical system requirements are: (i) Mac OS or Windows, (ii) a web-cam, and (iii) an internet connection.)**

Course Policies

Late Submissions: There are no late submissions**;** you may not ask for extra work to improve your grade.

Technology Use: You are computer science students and are expected to be comfortable and proficient with technology. Please use your laptops, tablets, and other devices responsibly and in a manner that does not disrupt or harm academic integrity or the learning environment. Also, ensure you back your work up to protect it against loss. **Hardware failure is not justification for late submission.**

Git use: 4th year students are expected to have familiarity with Git systems. **Do not** push object files and other temporary files (including binaries) to git. Use gitignores early. Examples of gitignores: https://github.com/github/gitignore or https://docs.gitignore.io/

Lockdown Browser: We might use lockdown browser for the tests. If you are on linux or cannot run it in your machine a I will provide a paper copy of the tests. You will have a chance to install and test lockdown before the test date.

Missed Tests: Should you know in advance that you will be unable an evaluation (e.g., because of surgery), contact me as soon as possible so that we can make alternative arrangements. If you miss an evaluation due to illness or accident, please contact me via email as soon as possible. Make-up exams or an alternative distribution of marks are all possible, depending upon the situation. A "one size fits all" approach rarely works well, so I prefer to deal with issues on a case-by-case basis and try to find a solution that makes everyone (mostly) happy.

Proctoring: In the event that we transition online, it is up to the discretion of the instructor to use remote proctoring in online testing. Students may be required to download proctoring software onto their devices. Students who cannot meet system requirements for remote proctoring should contact the instructor for an alternate assessment. Typical system requirements are: (i) Mac OS or Windows, (ii) a web-cam, and (iii) an internet connection.

Recommended Texts and Resources

There is no required textbook for this course.

Tentative List of Topics

Available on Brightspace alongside this syllabus

Student Declaration of Absence

Student Declaration of Absence **will not** be accepted for the labs or the project. SDAs are not tools for extensions of deadlines. Students are encouraged to start work early as soon as it is released.

If you are sick/feeling unwell before a test, please **message the instructor** and submit and SDA **via Brightspace**. Students who fail to message the instructor before submitting and SDA will have their SDA **voided**.

SDAs must be submitted **before** the assessment date. **There are no late accommodations**.

More information on SDAs: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/academic-policies/student-absence.html

Responsible Computing Policy

Usage of all computing resources in the Faculty of Computer Science must be within the Dalhousie Acceptable Use Policies (http://its.dal.ca/policies/) and the Faculty of Computer Science Responsible Computing Policy. For more information please see https://www.cs.dal.ca/downloads/fcs_policy_local.pdf

Use of Plagiarism Detection Software

All submitted code may be passed through a plagiarism detection software, such as Moss (https://theory.stanford.edu/~aiken/moss/) Software Similarity Detection System, or similar systems. If a student does not wish to have their assignments passed through plagiarism detection software, they should contact the instructor for an alternative. Please note, that code not passed through plagiarism detection software will necessarily receive closer scrutiny. https://cdn.dal.ca/content/dam/dalhousie/pdf/dept/university_secretariat/policy-repository/OriginalitySoftwarePolicy.pdf

Copyright Notice

Culture of Respect[1]

Every person has a right to respect and safety. We believe inclusiveness is fundamental to education and learning. Misogyny and other disrespectful behaviour in our classrooms, on our campus, on social media, and in our community is unacceptable. As a community, we must stand for equality and hold ourselves to a higher standard.

What we all need to do:

1. **Be Ready to Act:** This starts with promising yourself to speak up to help prevent it from happening again. Whatever it takes, summon your courage to address the issue. Try to approach the issue with open-ended questions like "Why did you say that?" or "How did you develop that belief?"

[1] Source: Speak Up! © 2005 Southern Poverty Law Center. First Printing. This publication was produced by Teaching Tolerance, a project of the Southern Poverty Law Center. Full "Speak Up" document found at: http://www.dal.ca/dept/dalrespect.html. Revised by Susan Holmes from a document provided April 2015 by Lyndsay Anderson, Manager, Student Dispute Resolution, Dalhousie University, 902.494.4140, lyndsay.anderson@dal.ca www.dal.ca/think.

2. **Identify the Behaviour:** Use reflective listening and avoid labeling, name-calling, or assigning blame to the person. Focus the conversation on the behaviour, not on the person. For example, "The comment you just made sounded racist, is that what you intended?" is a better approach than "You're a racist if you make comments like that."
3. A**ppeal to Principles:** This can work well if the person is known to you, like a friend, sibling, or co-worker. For example, "I have always thought of you as a fair-minded person, so it shocks me when I hear you say something like that."
4. **Set Limits:** You cannot control another person's actions, but you can control what happens in your space. Do not be afraid to ask someone "Please do not tell racist jokes in my presence anymore" or state "This classroom is not a place where I allow homophobia to occur." After you have set that expectation, make sure you consistently maintain it.
5. **Find or be an Ally:** Seek out like-minded people that support your views, and help support others in their challenges. Leading by example can be a powerful way to inspire others to do the same.
6. **Be Vigilant:** Change can happen slowly, but do not let this deter you. Stay prepared, keep speaking up, and do not let yourself be silenced.

University Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and the Senate.
https://academiccalendar.dal.ca/Catalog/ViewCatalog.aspx?pageid=viewcatalog&catalogid=69&chapterid=3457&loaduseredits=False

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.
http://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of: a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (NS, NB, PEI, NFLD). http://www.dal.ca/campus_life/student_services/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students dont follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal mannerperhaps through a restorative justice process. If an informal resolution cant be reached, or would be inappropriate, procedures exist for formal dis- pute resolution.
https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/student-life-policies/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2).
http://www.dal.ca/cultureofrespect.html

Recognition of Mikmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mikmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit the office in the McCain Building (room 3037) or contact the programs at elders@dal.ca or 902-494-6803 (leave a message).

Learning and Support Resources

- General Academic Support — Advising
  http://www.dal.ca/campus_life/student_services/academic-support/advising.html
- Fair Dealing Guidelines
  https://libraries.dal.ca/services/copyright-office/guidelines/fair-dealing-guidelines.html
- Dalhousie University Library http://libraries.dal.ca/