

SYLLABUS FOR CSCI 5115: UI Design, Implementation & Evaluation

What: CSCI 5115: UI Design, Implementation & Evaluation

When: Spring 2020, 4:00 – 5:15 PM, Mondays and Wednesdays

Where: Akerman Hall 319

Course Instructor

Instructor: [Lana Yarosh](#)

Contact me: lane@umn.edu or by following my “[Contact Me](#)” instructions

Office hours: Almost daily, with times and location posted on [my Office Hours Google Calendar](#). Any changes will be reflected on the calendar. The easiest way is either bookmarking it (in “Week” view) or adding it to your Google calendar to easily refer to it when you need it.

Graduate Teaching Assistants

Charles Chuankai Zhang (zhan6914@umn.edu) – office hours Keller 5-208, Tue and Fri 3-4:30 pm

Sabirat Rubya (rubya001@umn.edu) – no office hours until Lana goes on medical leave in April

Course Goals and Overview

Upon successful completion of this course, you will be able to: (1) identify basic principles of design psychology and apply them to analyze software user interfaces and other designed products; (2) apply user- and task-centered design methods, including techniques and methods to elicit and represent user needs, create low fidelity design prototypes, and evaluate designs, both without and with users; (3) identify and apply common user interface design principles and patterns; (4) design and implement user interfaces for the Android mobile operating system; and (5) identify and explain key foundational concepts and theories in Human-Computer Interaction.

Required Course Materials & Resources

There is no required textbook for this class and any readings will be available on Moodle. However, there are other digital resources required for class participation:

- You should bring a **computing device with at least basic word processing capabilities and a Wi-Fi connection** to class daily (e.g., laptop, tablet, smartphone with keyboard accessory). There is no textbook required for this course so that those costs may be applied towards purchasing such a device if you do not have one. Talk to Lana if you anticipate that this will be an issue for you.
- Daily graded course quizzes will be conducted via Google Forms. You should make sure to access the quizzes with your U of M Google account (not a personal account).
- For this course, you will be developing a mobile application. Any team may **check out (an) Android device(s) from “operator”** (1-201 Keller, Mon-Fri 7:00 AM - 6:00 PM). You can use these for development, evaluation, demonstration, and/or completing in-class quizzes. All members of a team will 'check out' these devices, and no member of a team will receive a grade for the course until all devices are returned.
- We may require you to download other free development tools, such as [POP App](#), which will always be announced and explained in class.
- Students may do their work using the CSE laboratory computers. By enrolling in this course (or by being a CSE student) you are charged the computing fee, and you are therefore entitled to an account. You can register that account through the web or in person in the CSE lab in KHKH 4-240, ME308, or any of the other labs (see <http://www.cselabs.umn.edu>). However, you may develop your software on any system with the appropriate software tools.
- This class is taught as a flipped classroom. Students will be required to **create an account with Coursera and enroll to “audit” (for free) four related courses** in order to have access to lecture videos. Lecture videos will be assigned through Canvas as the class progresses—you do NOT have to watch all the Coursera videos and Coursera weeks do NOT correspond to weeks in our course. The four courses to audit are:

<https://www.coursera.org/learn/ui-design/home/welcome>
<https://www.coursera.org/learn/design-research/home/welcome>
<https://www.coursera.org/learn/prototyping-design/home/welcome>
<https://www.coursera.org/learn/ui-testing/home/welcome>

Course Expectations and Grading

For this course, you will be expected to demonstrate your mastery of the course material through multiple evaluation metrics:

- **Course Content Quizzes (15%)**
 - In order to demonstrate your understanding of the video lectures, we will have a quiz for every video lecture. The quizzes will be administered via Google Forms. If something prevents you from completing a quiz (e.g., excused absence, tech trouble, etc.), you are expected to inform the professor or one of the TAs before the end of that day's class.
- **Summative Exam (12% total):**
 - There will be a single exam in the course given during regular class time. The exam will be multiple choice. The exam will evaluate your understanding of course content and will be similar in nature and difficulty to the daily class quizzes.
 - **Note: This class does not have a "final" during finals week. Only a single summative exam on the last day of class (May 4th) during regular class time.**
- **App Development Homework (8% total):**
 - There will be four homework assignments during the first half of the semester to get everybody up to speed with mobile app development before milestone 2. Each homework will be worth 2%, essentially 1% for attempting it and 1% for completing it.
- **Course Project (45% total – grade given per team):**
 - *Milestone 1 (15%):* You will design, conduct, and analyze a user research study. You will generate and select technology ideas based on your findings. You will present your work to classmates in a poster presentation. See rubric for more grading details.
 - *Milestone 2 (15%):* You will implement your idea in an iterative way by completing a low-fidelity prototype, testing it, and implementing it as a functional prototype. You will demonstrate your prototype in a demo presentation. See rubric for more grading details.
 - *Milestone 3 (15%):* You will evaluate your prototype by designing, conducting, and analyzing a user testing study. You will present a summative overview of your entire class project in a 10-minute oral presentation. See rubric for more grading details.
- **Teammate Evaluations (15% total):**
 - You will be evaluated by your teammates (based on the attached rubric) after each project milestone (5% per post-milestone evaluation). If you feel that some team members are not being fair in their evaluations, please talk to Lana about it as soon as the situation occurs.
- **Participation & Professionalism (5% total):**
 - At three points in this course, you will be asked to provide critiques for other classmates' work (each time asked to review 3). You will lose a percent point (up to 5% total) for each missing critique. We also reserve the right to penalize low-quality critiques if this becomes a problem.
 - Active participation is critical to success in this class. We reserve the right to penalize students who are not engaging during class (e.g., your whole team is working but you're doing homework for another class or playing videogames on your computer or just staring off into space).
 - Professionalism in the context of this course means respect for your teammates and the teaching team. One way you demonstrate this respect is by following instructions. If you continually act counter to expectations cited in this syllabus, we reserve the right to penalize your grade.

This course is not graded on a curve. The nominal scale awards an A or A- for 90% and better, B+, B, or B- for 80% and better, etc. **I do not respond to [special requests or make special exceptions](#) for anyone, so please do not ask.**

Your Interaction with the Teaching Team

This is a large class, so to make it run smoothly, we must set up consistent policies and divide responsibilities between members of the teaching team. Just as you wouldn't come up to a random stocker in a grocery store or the store manager to pay for groceries, you should follow our policies in terms of whom to ask for help, how, and when. Here are some issues that may come up for you:

- **You need special accommodations for this course:** email Lana your documentation and we'll work together to make sure you have what you need to succeed.
- **Informing about an excused absence:** email Lana *before* the end of class on the day of your absence.
- **Malfunctioning technology during an in-class quiz:** email Lana *before* the end of that class or talk to her *immediately following* that class.
- **Android Studio coding questions for homework or project:** go in-person to Charles' office hours with your computer so that you can replicate the problem and work on it together. Do NOT email screenshots of your issue as a way of seeking debugging help from Charles. Unlike other Computer Science classes, you are also ***allowed and encouraged to look for help from each other and online*** to solve technical problems you encounter. As long as the work you turn in is your own (and appropriately credits others if you borrowed code), you are not committing academic dishonesty.
- **Question about the intellectual content of the course:** asking during class is great because chances are other people were confused by the same thing. If you're not comfortable asking in class, go in-person to Lana's or Sabirat's office hours to discuss.
- **Grade entered incorrectly into Canvas:** email Charles with documentation showing the issue and he will correct it. This only applies to incorrect grade entry, not to feeling that the grade is "unfair."
- **Questions about best directions / expectations / etc. for the team project:** You will have an opportunity to ask most of these in class during our activities but if you feel like you need more time to discuss or have issues that are unique to your team, you can also seek out Lana or Sabirat in office hours.
- **Dysfunctional teammate issues:** trying to resolve this within the team is good practice for the workplace, but if multiple teammates feel like none of the attempted resolutions are working, email or see Lana in office hours for advice.
- **You are experiencing some form of harassment in this course:** meet with Lana in-person as soon as possible. I want to help, and we'll be able to come up with some solution together.
- **Life, research, and career advice:** meet with Lana in-person during her office hours (including after this class is finished—my office hours are always posted on the calendar linked above and open to any of my past or present students).

In addition, it is important that you look for answers yourself (e.g., in the slides, on Canvas, on Google, in the rubrics, etc.) before you ask questions. There are few things that leave a worse professional impression than somebody emailing to ask a question (e.g., "When is this milestone 2 due?") that has already been answered in class and in three different places on Canvas.

How to Succeed in This Course

Regardless of prior background or aptitude for UI design, implementation, and evaluation, anybody can succeed in this course. Here are some strategies that may help:

- **Plan to spend 9 hours a week on this course**—according to university guidelines, a three-credit course should correspond to a nine-hour weekly workload for an average grade (i.e., "C"). The first thing you can do to succeed is put in that time.
- **Review the course "day-by-day schedule" weekly to make sure you don't miss anything**—every day of class will have something assigned (e.g., video lectures, project deliverables, questionnaires). These are all listed on Canvas and reviewing these regularly will ensure that you don't miss something.
- **Watch all assigned video lectures in a way that works for you**—the beauty of flipped classroom is that you may take in the lectures faster, slower, in multiple formats (written, audio, video), and/or multiple times. If you're watching the videos but not doing well on the quizzes, consider taking notes or using a slower speed while you watch.

- **Review the rubrics for each major assignment and try to grade yourself**—this will help you figure out if you missed something major and will help you direct your energy in ways that will most positively influence your grade.
- **Leverage skills and connections that you have**—HCI is inherently interdisciplinary, so let your team know if you have special skills (e.g., art) or connections (e.g., access to participants) that may be helpful to the project.
- **Use class time productively**—this class is designed so that efficient teams can complete most of their group work *during* class time, but it can be a challenge to keep focused. Not having to schedule a team meeting outside of class time is a concrete reward that's within reach if you can overcome the afternoon slump, avoid distractions, and keep on-task.
- **Be a good teammate**—the most common misconception that students have is that being a good teammate is about “doing all the work.” Actually, “work hogging” often leads to lower teammate evaluations because it frequently goes hand-in-hand with being controlling, distrusting, resentful, and having a poor attitude. Instead, plan to divide work fairly, maximize match between tasks and skills, and make sure that everybody's contribution has the potential to help the bottom line (*i.e.*, something that's part of the graded rubric). Then, do your part to deliver on your commitments, ask for and provide help as necessary, and check-in with each other frequently about progress and any unanticipated issues.
- **Communicate with your team early about challenges you may face**—while we expect that every student on the team contributes to every milestone, it's reasonable to divide those tasks in ways that maximize your team's success. So, for example, if you have no programming background, you may want to step up to take a bigger role on the lo-fi prototyping portion of milestone 2 or if you're planning to be out of town during milestone 3 presentations, you may want to volunteer to be the main presenter on milestone 1. Early communication is critical!

Standard Policies

This course follows the standard University of Minnesota policy on each of the issues below, please refer to the linked policy for more information:

- [Student conduct code](#)
- [Scholastic dishonesty](#)
- [Makeup work for legitimate absences](#)
- [Appropriate student use of class notes and course materials](#)
- [Grading and transcripts](#)
- [Sexual harassment](#)
- [Equity, diversity, equal opportunity, and affirmative action](#)
- [Disability accommodations](#)
- [Mental health and stress management](#)

If you have questions or concerns regarding any of the above policy, please let Lana know.

Academic Freedom and Responsibility

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom and conduct relevant research. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled. When conducting research, pertinent institutional approvals must be obtained and the research must be consistent with University policies.

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.