SYLLABUS FOR CSCI 5115: UI Design, Implementation & Evaluation

**What:** CSCI 5115: UI Design, Implementation & Evaluation

**When:** Fall 2015, 1:00 – 2:15 PM, Mon and Wed

**Where:** Mechanical Engineering 212

**Course Instructor**

Instructor: Dr. Lana Yarosh
Address me as: Professor Lana
Contact me: lana@umn.edu or by following my “Contact Me” instructions
Office hours: Keller 5-187 4:30–6:00 PM Mon–Fri (instructions and exceptions are posted online)

**Teaching Assistants**

Sabirat Rubya (Contact TBD)
Baris Unver (verxx003@umn.edu)

**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.

**Textbooks and Readings**

Readings will be assigned from several sources. The texts for this course are:

- Lukas Mathis, *Designed For Use.*

Periodically, I may also assign shorter sections of other books as well as published research papers. These will be available to you through the class Moodle website.

**Course Expectations and Grading**

This demanding course will require substantial and sustained effort. In accordance with standard university guidelines, students should expect to spend about nine hours per week on this course to meet the minimum requirements for a C-level grade. Students aspiring to higher grades will need to work harder, more efficiently, or both. A number of Moodle badges are available for students to earn for superlative work in the class and I encourage any students who would want a recommendation letter from me to try strongly to earn these badges.

Because of the integrated group activity in the course, students whose work or personal lives would lead them to miss more than one consecutive week of class or more than two weeks total should not enroll in the course. Much of the material covered in this class can be learned in other venues more suitable for students who are unable to commit a semester to the material.

For this course, you will be expected to demonstrate your mastery of the course material through the course project, the final exam, and your participation in the classroom. The following will determine your grade:

- **In-Class Participation Components (15% total):**
  - You are expected to be prepared for and contribute to class discussion. This portion may include unannounced quizzes testing that you have read the assigned reading for this class. For class
milestones, you will be expected to provide written feedback to your classmates. You will be evaluated on both completing critiques on time and the quality of the critiques.

- **Final Exam (25% total):**
  - The final exam will take place in class on 12/9 and will include content from lectures and readings covering the entire semester. The exam will consist of short-form and fill-in-the-blank answers.

- **Course Project (60% total):**
  Most project milestones grading will rely on multiple sources of feedback: 70% of the grade will come from TA evaluations of the work (average of two TAs), 30% will come from the evaluations of your classmates. I will provide feedback, but I will only be involved in the numerical grading if there are significant disagreements in the evaluations from the 3 sources.

  - **Milestone 1 (15%):** Project concept presentations. Based on your formative investigation with users and design ideations, you will be expected to present your initial project concepts to the rest of the class in a poster session presentation. The grading for this milestone will be as follows (graded out 100 and scaled to be 15% of your total grade):
    - __/20: Quality of your formative work with users
    - __/40: 10 points per diverse design idea presented to address user needs
    - __/10: Quality of your poster and ability to articulate your ideas to the audience
    - __/15: Peer critique evaluations of the quality of your presentation
    - __/15: Peer critique evaluations of the quality of your content

  - **Milestone 2 (15%):** Prototype presentations. Based on the feedback you get from your users and your classmates on your conceptual ideas, you will be expected to develop one prototype and be prepared to demo it in a class demo session. You must have a demo but may also have supporting materials such as your formative process prototypes, a poster explaining the process, etc. The grading for this milestone will be as follows (graded out 100 and scaled to be 15% of your total grade):
    - __/20: Quality of your formative process, such as evidence of getting early feedback, etc.
    - __/40: Quality of the prototype in terms of implemented features and visual design
    - __/10: Documentation prepared for delivery to your community partner
    - __/15: Peer critique evaluations of the quality of your presentation of prototype
    - __/15: Peer critique evaluations of the quality of your design and prototype

  - **Milestone 3 (15%):** Final presentations. You will give a 7-minute presentation “pitching” your final product to the class. This should include the results of your evaluations with users, showing that your product is “good” and/or pointing to changes that would improve it in future iterations. Think of this as pitching your idea to investors. The grading for this milestone will be as follows (graded out 100 and scaled to be 15% of your total grade):
    - __/10: Quality of your oral presentation
    - __/40: Quality and depth of your evaluation
    - __/20: Documentation and code prepared for delivery to your community partner
    - __/15: Peer critique evaluations of the quality of your presentation
    - __/15: Peer critique evaluations of the quality of your project content

  - **Teammate Evaluation (15%):** Each of your teammates will evaluate your participation in the group project throughout the semester.
The 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. That scale may be adjusted to lower numerical cut-offs if warranted, but will not be raised.

**Unite**

This course will be on UNITE. To keep things fair and consistent, all students will have access to UNITE lecture recordings (audio right away, video on a 10-day delay except before the exam). Access these resources through the UNITE Media Portal with your University of Minnesota Internet I.D. and password.

Please DO NOT ask the instructor or teaching assistants for technical or troubleshooting assistance with these streaming video archives – use the UNITE Troubleshooting FAQ or “Submit a Trouble Report to UNITE” link found on all pages within the UNITE Media Portal.

- UNITE Media Portal: [https://www.unite.umn.edu](https://www.unite.umn.edu) (note the “s” in https)

**Note to UNITE Students:** You are free to form project groups with students from either the face-to-face section, or in a group with each other (in which case we'll arrange synchronous teleconference TA meetings).

**Course Computing**

Students may do their work using the CSE laboratory computers. By enrolling in this course (or by being an 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](http://www.cselabs.umn.edu)). However, you may develop your software on any system with the appropriate software tools.

For this course, you will be developing a mobile application. Each project team will be provided with (a) device(s) they can use for development, evaluation, and demonstration. *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.*

**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:

- Use of personal electronic devices in the classroom
- [Student conduct code](http://www.cse.umn.edu/policies/student_conduct_code)
- [Scholastic dishonesty](http://www.cse.umn.edu/policies/scholastic_dishonesty)
- [Makeup work for legitimate absences](http://www.cse.umn.edu/policies/make_up_work)
- [Appropriate student use of class notes and course materials](http://www.cse.umn.edu/policies/student_use_of_notes_and_materials)
- [Grading and transcripts](http://www.cse.umn.edu/policies/grading_and_transcripts)
- [Sexual harassment](http://www.cse.umn.edu/policies/sexual_harassment)
- [Equity, diversity, equal opportunity, and affirmative action](http://www.cse.umn.edu/policies/equity)
- [Disability accommodations](http://www.cse.umn.edu/policies/disability_accommodations)
- [Mental health and stress management](http://www.cse.umn.edu/policies/mental_health)

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