CIS 4120/5120 Syllabus - Spring 2024

Course Basics

Description: In this course, you will learn the essentials of human-computer interaction (HCI). Over the course of a semester, you will learn how to design interactive systems that satisfy and delight users by undertaking the human-centered design process, from ideation to prototyping, implementation, and assessment with human users.

You will learn key tools in the HCI toolkit, including need-finding, user studies, visual design, cognitive models, demo'ing, ethical considerations, and writing about your designs.

To hone your craft as an HCI practitioner, during this course you will undertake a group project to design an innovative user interface. The final submission will include a working interactive prototype, demonstrations of the interface at a public departmental design showcase, and a written reflection on your design findings.

Instructor: Andrew Head (head@seas.upenn.edu)

Lectures: 2 classes per week, Monday/Wednesday 1:45 - 3:15 pm ET

Location: Towne Building, Room 217

Intended Audience: Undergraduate, Master's and PhD students interested in researching, designing, or evaluating interactive systems.

Prerequisites: Students should be comfortable enough with programming to be able to pick up a user interface implementation language (e.g., JavaScript) for their final project. We recommend a level of programming experience equivalent to taking CIS 1210.

In some cases, students from outside SEAS lacking these skills can enroll, taking care to choose a final project group with the requisite skills to undertake the project. If you're in the latter category, please discuss with the instructor at the start of the course.

Contact: To contact the entire instructional staff, post on Ed Discussion (for personal matters, email cis4120-tas@seas.upenn.edu or the course instructor).

Office Hours

Professor office hours are 11am-12pm in Levine 303 (help me manage office hour checking by booking a time first in my Calendly).

Head TA office hours are by appointment over Zoom:

- Samarth Chandrawat → email samarthc@seas.upenn.edu
- Stephanie Wang → email stephtw@seas.upenn.edu

TA office hours are held in Levine 255 (opposite the elevators on the second floor, it's the first door on the left after the ramp, glass door), and will be:

- Aishwarya Balaji → Mondays 3:15 - 5:15 pm
- Bailey Hirota → Mondays 3:30 - 5:30 pm
- Eli Nathan → Tuesdays 12 - 2 pm
- Michael Sun → Tuesdays 3:30 - 5:30 pm
- Manas Shankar → Wednesdays 3:30 - 5:30 pm
- Priya Deliwala → Thursdays 12 - 2 pm
- Cindy Xu → Thursdays 3 - 5 pm

Logistics

This course will require about 10 hours a week outside of lecture. The final project will likely require additional time outside of class, depending on the scope of your project.

Grading: This class uses a point-based system to calculate grades.

Across all assignments, you can receive up to 73 points. 40 points come from just completing the core assignments, the final project, and attendance. An additional 33 points come from *depth exercises*, where you invest in design skills that matter to you.

The grade cutoffs are as follows:

A+	47~~48~~ points
A	45~~46~~ points
A-	43~~44~~ points
B+	42 points
B	40 points
C	35 points
D	30 points
F	< 30 points

What this means is that you get an A if you (1) complete the main assignments and attend class and then (2) get 5~~6~~ (out of 33) points from depth exercises.

This particular grading format has a few advantages for you:

- It means we remove subjective grading format for design assignments — rather than getting marked as "A," "B," or "C" quality designs, you are simply marked as "complete" if you followed the process and took the assignment seriously, making your assignment scores more predictable.
- It recognizes you for investing in the parts of the content you find most interesting. You can get your depth points by studying up more, doing more design process, learning about tools, or helping your peers — it's up to you!
- This allows you to lift your score if something went awry on an earlier assignment. You can pick up a couple more solo depth exercises to make up the difference.

Depth exercises can only be done at certain times: see those times here. Early in the semester, plan out those depth exercises you think you might want to do, and spread them out throughout the semester. Around 1 point will take around 5 hours of your work — you will not be able to make up all depth points in the last week or two of class.

Depth exercises (with a few exceptions) are individual assignments. Your team does not get credit for the additional interviews, studying, or practice that you do — only you do.

To compute your grade, go to the "Grades" pane in Canvas, and look at your "Total" in the top right corner (the numerator). This is the number of points you have gotten. The table above will tell you how close you are to your desired grade.

A few notes about specific kinds of assignments:

- *Attendance*: Part of your grade comes from your attendance in class, and at the final project showcase. Attendance will also be measured with occasional (completion-based) pop quizzes in class.
- *Core Assignments*: The main assignments in this class are a sequence of design projects, to be done on an approximately bi-weekly cadence. In these assignments, you will practice HCI need-finding, prototyping, and evaluation methods. Some of these assignments will be solo assignments, though most will be group projects.
- *Final Project*: Final deliverables for the course, consisting of the implementation of a prototype of an novel user interface, grounded in user research, and posters, pitches, and demos demonstrating that interface.

- *Depth exercises*: Information about the depth exercises appear above. An overview of the available depth exercises and their point values can be found here.

Complete / incomplete grading: Most assignments — the core assignments and final project — are graded as complete / incomplete. Follow the process, take the work seriously, and you get all the points. The bar for completeness is higher for the final project — you must take clarity and design quality into account in your final project deliverables.

A note about groups: For group assignments, we will typically assign all group members the same grade. If you're having an issue with coordinating with your group, bring it up with the instructor (email or in person) sooner than later.

Ph.D. students: Ph.D. students are expected to complete all reading responses. Ph.D. students are also granted more flexibility in the core project sequence. First, a Ph.D. student does not need to work in a group. Second, they can petition to alter the core assignment sequence to be more conducive to an HCI research project they are working on. If a Ph.D. student wants to do this, they should review the core assignment descriptions and then **send the instructor and Ed message in the first two weeks, outlining where they want to diverge from the project sequence**. Petitions will often be approved, pending changes requested by the instructor.

Masking policy: Classes will be held in person, per university policy. In the spirit of keeping the class accessible to all, everyone in attendance will be required to wear a mask while in the classroom, at least for the first few weeks of the course. Masking policy will be revisited after the add / drop deadline passes.

Laptop policy: Unless required for in-class activities, laptops and devices are prohibited during lectures. We ask that you take notes on paper, tablets, or (less preferably) phones.

Attendance: You are expected to attend every lecture in person. There will be (completion-based) pop quizzes for approximately 1 of every 2-3 lectures; this is our primary way of keeping track of attendance.

Late Policy: You will have 2 slip days to use on individual assignments, and 2 slip days to use on group assignments (the group as a whole uses the slip day). Slip days can be split across assignments. After you have used your slip days, your assignment grade decreases by 20% each day it is late. To keep slip day tracking feasible, **slip days are automatically applied to your first late submission**. We make no exceptions.

Regrade Policy: If you want to submit a regrade request, make a private post on Ed with the title "Regrade Request for [HW#]." We will accept regrade requests up to two weeks after the grades for that assignment have been released. Please note that if you request a

regrade we will regrade the entire submission, so it's possible for your score to go both up and down.

Well-being: Your mental health and wellbeing are incredibly important to us and we recognize the stresses (both school and non-school related) that many of you may be under here at Penn. We encourage you to come speak to the instructor as well as the TAs if you have any extenuating circumstances as you progress through this course.

Studios and Showcase: About once per unit, we will hold **studio sessions, where you must be physically present** to receive feedback on your work and give feedback on others'. **You are also required to attend the final project showcase on Friday, May 3, 2024 from 2:30-5pm**. Book this time in your calendar now, and let the instructor know as soon as possible if you have any conflicts with that time.

Honor code: We expect the homeworks you submit to be your own original work, and the original work of your group. That being said, this is a different course than many you've taken, since we highly encourage you to use outside resources (including for writing code or generating ideas) as you develop your projects. You are still bound by the University Code of Academic Integrity; plagiarizing the work of others will result in failure.

Use of AI: We encourage the use of AI in ideation, programming, sketching, and even getting critiques of your designs. Your ability to use AI may well be pivotal to your success as a professional HCI practitioner. You might as well learn how to use it now.

That said, we prohibit AI for the following uses:

- To generate fake user data and present it to us as if it were real user data
- To use the AI as the sole critic of your design when we asked for human critics
- To write your design reflections for you
- To write your reading responses for you
- … or any other case where AI is used to get around assignments that are meant to bring you into contact with real users and have you critically reflect on your design.

While we do not expect to need to do so, we reserve the right to audit any of your assignments by calling you to office hours and asking to see your work if we suspect you used AI to skip the work that was intended by an assignment.

Schedule

The course schedule can be found here.