

CSC256: Human-Computer Interaction

Smith College [Spring 2024]

Instructor

Dr. Johanna Brewer
jbrewer@smith.edu

Office: Bass 106
Discord: ultraroxo

Place & Time

Bass 204

Mondays
Usually 1:40-4:20pm
Occasionally 7:00-9:30pm

Course Overview

All technology is created to serve people, but understanding and meeting the needs of users is no trivial task. In this course, students learn to put human-centered design principles into practice in order to build more meaningful interfaces. In CSC256 you will:

- Explore the past and present of HCI
- Compare data gathering methodologies
- Conduct preliminary user research studies
- Practice human-centered design and prototyping techniques
- Build an interactive prototype and evaluate it with user tests

Prerequisites: CSC210.

Format & Workload

Class meets weekly on Monday afternoons, except once a month when it is held in the evening. Those late meetings are indicated on the schedule and reminders will be given. Classes follow a **workshop format**. We begin with a short interactive lecture to unpack the readings, then switch to hands-on activities and group project work. You should expect to devote **9 hours per week outside of class** to complete your readings and assignments.

Reading Materials

Readings draw mainly from four books, all of which are recommended, none of which are required. You will be expected to reflect on **~2 chapters each week** in the first two months of the course. Readings will be **provided via Moodle** and thus you are not obliged to obtain them yourself. However, the books listed below are certainly worth reading in their entirety.

Alan Dix, Janet Finlay, Gregory D. Abowd, Russell Beale
Human-Computer Interaction

Helen Sharp, Jennifer Preece, Yvonne Rogers
Interaction Design: Beyond Human-Computer Interaction

Paul Dourish
Where the Action Is: The Foundations of Embodied Interaction

Don Norman
The Design of Everyday Things

Assignments

The majority of your work will be devoted to a five phase **group project** during which you design, prototype, and test an **interactive interface**. You will submit reports jointly and **present over the semester** as a team. To prepare for the project you individually complete **two trainings** (4+ hours) in prototyping techniques and share **nine brief reflections** (~100 words) on readings with each other. All assignments are **due Sundays at midnight**.

Weekly Schedule

Week	Date	Topic	Assignments
1	Jan. 29	Introducing Human-Computer Interaction (HCI)	
2	Feb. 5	Practicing Interaction Design Human-centered principles, double diamond process, inclusive/universal design	
3	Feb. 12	Gathering Meaningful Data Qualitative and quantitative methods, observation, surveys, social media analysis, semi-structured interviews	Team Prefs. Survey
4	Feb. 19	Making Sense of the Mess (of Data) Open/axial coding, grounded theory, statistical analysis, visualization, managing large data sets	
5	Feb. 26	Developing a Human-Centered Perspective Personas, scenarios, requirements, task analysis, storyboarding	Project Proposal
6	Mar. 4	Prototyping with User Participation Paper prototyping, participatory design	Prototyping Training A
7	Mar. 11	Faking It to Make It Wizard of Oz, mocks, hacks, proofs of concept	Prototyping Training B Midway Self Review
8	Mar. 18	[Spring Recess]	
9	Mar. 25	Testing Tech on Spec Interface evaluation, usability testing, case studies	User Research Report
10	Apr. 1	Scaling with the Times Heuristic evaluation, cognitive walkthrus, analytics, A/B testing	
11	Apr. 8	Struggling for (Design) Power Dark patterns, hostile design, design justice, Afrofuturism, Indigenous futurism, universal design revisited	Design Provocations
12	Apr. 15	Cutting Edge Interfaces Speculative technologies, recent patents, conference prototypes, startup products	Inspiration Presentation
13	Apr. 22	Gearing Up for a Career in HCI UI/UX, product management, academia, startups, research	Interactive Prototype
14	Apr. 29	Presenting Your Projects!	Final Project Report

Communication

All online communication for this course will take place **via Discord**. If you do not already have an account, please create one. **Join our server**, then follow the instructions in the **#welcome** channel to set your nickname and pronouns.

CSC256-S24 Discord Server Invitation: <https://discord.gg/ksFWEUgMjf>

- **#announcements:** Important notices about class times, deadlines, office hours, etc.
- **#general:** Introduce yourself and discuss course-related material, off-topic ideas, etc.
- **#questions:** Ask any non-personal questions you have here. Use threads to respond.
And don't be shy; if you are wondering something, someone else is probably puzzled too!
- **#reflections:** Share your reactions, thoughts, or confusion about the weekly readings.
- **DMs:** Message me directly for matters that require individual communication.

I will **try to answer questions within 24hrs** during the work week, but please ask your peers and TAs for help first. They will generally assist you more quickly; also remember I'm **not available on weekends!** Sometimes I miss DMs, so don't worry about pinging me again if you're waiting on a reply. Lastly, please note that I'm terrible at responding to email. I'll read it, but you'll either get a reply right away, or between two days and two years later.

Office Hours

Office hours are a time when you can **ask me questions about... anything!** Weekly hours are for any student who would like to chat with me and I hold them on a rotating schedule. To see upcoming office hours and ensure you get a slot, please **book a time via Calendly**. Most office hours are **available in person** or virtually, but I will announce during class the weeks when appointments will only be held **remotely on Gather**.

Reserve Time via Calendly: <https://calendly.com/johannabrewer>

Virtual Meetings on Gather: <https://gather.town/app/NfY57eEoJJb22wzP/InclusiveDesignLab>

Grading

This course follows an **"ungrading" approach**. In keeping with how software is evaluated, you will primarily receive qualitative feedback and only be assessed on a **simple scale:** needs improvement (C); meets expectations (B); exceeds expectations. (B+/A-); distinguished (A/A+). Additionally, you will **review your own performance** and weigh in on your final letter grade. Your overall assessment will be weighted to reflect the workload.

- 50% Major project assignments
- 25% Reading reflections & trainings
- 25% Class participation & presentations

Your success in this class will depend on your **active engagement** with both the material and each other because human-computer interaction relies on communication. To do well, you must demonstrate that you are working to master both the **social and technical** sides of **interaction design**.

Academic Integrity

As computer scientists, we build on the innovations of those who came before us, and as honorable scholars, we credit their contributions. Whenever you work with others, either as teammates or peer reviewers, you must **acknowledge your collaborators**. Likewise, I expect you to always **cite all sources** used for your assignments. This includes not only reference readings but also blog posts, YouTube videos, StackOverflow pages, etc.

Participation & Absences

Though formal attendance will not be taken, you won't be able to participate in class if you are not there. We only meet thirteen times so **your presence in each class matters**. You should **tell me in advance** of a planned absence; and if you have an emergency, please inform me after you are safe. If you must isolate for health reasons, please use Discord to **ask your peers to stream class** for you via Zoom or Gather. Inform me ahead of time, but try to organize this yourself. Regardless, remember to **stay home if you feel unwell**.

Extensions & Lateness

It is important you **work in a timely fashion**. Project assignments and reading reflections are due by midnight on Sunday. But if you need additional time to complete your individual work, DM me to request it, **late is better than never**. Extensions on group assignments will only be given when a team member's Dean provides a written request.

Comfy Class Policies

Laptops and phones can be distracting, but they are important tools for us. Please avoid using your devices in class for purposes other than coursework. Hydration is essential, so bring beverages, but you must use **closed containers** to avoid spills. We have two breaks during which you can have a snack, but please **refrain from eating** during class. Everyone is welcome to use **concentration accommodations** like fidget toys, knitting, doodling, moving around, or sitting on the floor; just be mindful your focus doesn't disrupt others.

Fostering Respect & Inclusion

During this course we will be working closely together. When communicating with one another, I expect you to practice **active listening**. When someone is talking, focus on understanding what they are expressing rather than thinking of how you will respond. Additionally, keep in mind that our wide array of individual backgrounds shape our unique perspectives, so please **respect one another** when we have sincere differences of opinion.

Diversity Statement & Equity Commitment

As a mixed-race, Native, non-binary, neurodivergent person who was the first in their family to earn a doctoral degree, I have a stake in bettering, and first-hand knowledge regarding, the experience of marginalized folks in our society. I know that a welcoming learning environment can have a real impact, and so I am committed to making this **classroom a comfortable place** for all my students. Please let me know if you ever have thoughts, questions, or concerns about ensuring that we **treat one another equitably**.

Accessibility & Accommodations

Written course materials including readings, slides, and lecture notes will be provided as PDFs that are screen reader compatible and all audio/visual media will offer captions. If you have any issues accessing the materials, let me know as soon as possible and I will work to find a solution. Should you encounter barriers to participation in this or any other course, **contact Disability Services** via email at ods@smith.edu or by calling (413) 585-2071 to make an appointment to discuss support and accommodations.

Health Resources

College can be stressful, but you are not alone. Reach out for help if you are feeling unwell or overwhelmed. The Schacht Center on campus provides a variety of **free & confidential** health and counseling services. Email healthservices@smith.edu or call (413) 585-2250 for any medical concerns. To set up an appointment for mental health support you can email counselingservices@smith.edu or **call (413) 585-2840 if you are in crisis.**

Acknowledgments

Some of the materials used in this course are derived from previous classes at Smith, as well as similar courses taught at other institutions. Thanks to my academic colleagues for sharing their syllabi.