CS-410 Senior Seminar: HCI for Social Good
Fall 2023: Course Syllabus

Professor Sarah Morrison-Smith

- **Email:** smorriso@hamilton.edu
- **Office:** SCCT 2014
- **Office Hours:** Monday 3:00 – 5:00pm, Tuesday 10:00am – 12:00pm and 1:00pm – 3:00pm and by appointment. If you're sick or exposed to COVID-19, email me to arrange a Zoom office hours appointment. Feel free to visit during office hours, no prior notice needed, for project queries or chats.

Course Logistics

- **Lectures:** Mon/Wed/Fri 10:00 – 10:50am, Location TBD
- **Discord:** https://tinyurl.com/cpsci-410-23-discord-sms
- **Gradescope:** https://www.gradescope.com/courses/555535, **Entry Code:** G2D4WE

Prerequisites

Prerequisites: 210/230, 220 and 240. Open to senior concentrators only.

Course Description

Welcome to software development, a field riddled with challenges including planning, problem-solving, execution, and client needs. It also calls for ethical and equity mindfulness due to diverse software user communities. In this course, you'll undertake a software project for a local non-profit serving Central New York's underrepresented minorities, emphasizing social good. You'll employ Human Computer Interaction and Software Engineering tools to design user-friendly software. This involves user research, design, coding, iterative design, prototyping, documentation, user evaluation, and computing for social good. This course is designed to follow as closely as possible the experience of a software engineering position in industry. The elements include:

- Working in small teams of 3–5 developers, with a rotating team lead and scribe
- Weekly meetings with a (non-technical) client
- Weekly stand-up meetings with me
- Four substantial milestones throughout the semester, where each team:
    - Submits their milestone materials
    - Gives a presentation to the class on their progress
    - Completes a thorough design and code review with me
    - Submits 360 feedback for all team members
- A launch party, where each team presents their software to the department, campus community, and clients.

Projects and Teams

Clients from local non profits have proposed projects, and each project will be pitched on day one. After ranking your project preferences, 3–5 developers will be assigned to each project. A group of developers working on the same project forms a *team*. Each team has two specified positions, which rotate throughout the semester: a *team lead* and *team scribe*.

Rotating Team Lead.

At any given time, each team will have a *team lead*, who is in charge of driving the work for the current work period. This includes: setting agendas for meetings, leading meetings with the client, being the point of contact for the group, settling disputes, and breaking ties in group decision making. The team lead will rotate every two weeks. Everyone on the team will be the team lead at some point.

Rotating Team Scribe.

At any given time, each team also has a *team scribe*, who is in charge of documenting and organizing all things related to the project. This includes taking minutes at the team meetings, tracking the changing needs of the client, documenting my advice, maintaining the project tasks, and keeping project materials organized for milestones. This person must keep things on track, should the team lead lose sight of goals. This position rotates with the team lead.

Weekly meetings with the client.

Each team will meet with their client at least once weekly. The team drives these meetings, presenting the current state of the project, providing ideas to and seeking advice from the client. The client's needs come first, it is the team's job to meet those needs with the appropriate solution that is feasible both in terms of technology and time.

Weekly stand-up meetings with me.

Each team will meet at least once a week with me in addition to any developer-only meetings. The purpose of these stand-up meetings is to discuss: which tasks were accomplished since the last meeting, which will be taken up for the next meeting, and which obstacles are preventing progress. For obstacles persisting more than two days, further communication (in the form of an email or second meeting) is required. Twice-weekly meetings will be instituted if needed. Teams are always able to request additional meetings with me.

Communication via Discord.

The Discord workspace is for discussion of all things related to the course. Each team will have its own dedicated channel for project discussion, and developers are encouraged to use their channel for all communication related to their project. Discord communications intended specifically for me should mention **@sarahmorrisonsmith**.

Course Elements

Each team is working towards the same goal of making a successful solution to address its client's needs. Throughout the project development, there will be many checkpoints to ensure that the project stays on track. The semester is divided into 16 "work weeks", a standard term used at many software companies. The first full week of classes is work week 1 (WW1), Thanksgiving Recess is work week 13 (WW13), the last week of lectures is work week 15 (WW15), and finals week is work week 16 (WW16).

Reflections and 360 Feedback

When submitting a milestone, each developer will submit an evaluation reflecting on the activity for that milestone. This survey includes three components:

1. An assessment of the project status.
2. A brief narrative of what went right, what went wrong, and what you (personally) would do differently in the future.
3. 360 feedback for team members.

360 Feedback to Developers

After each milestone, each developer will receive a summary of the (anonymized) feedback from their team members together with an assessment by me. Comments by the client and professors may also be included in this feedback. 360 feedback will be given one of the following designations:

Rating	Description	Grade Equiv.
Exceeds Expectations	The developer contributed more than was expected by the team as a whole.	'A'
Meets Expectations	The developer contributed roughly what was expected by the team as a whole.	'B'
Below Expectations	The developer contributed "just below" what was expected by the team as a whole.	'C'
Needs Improvement	The developer contributed work that was significantly lower than needed in either quality or quantity.	'D'
At Risk	The developer contributed work that was significantly lower than needed in both quality and quantity.	'F'

I will have a one-on-one 360 feedback meeting with each developer after milestones 1-3 (and optionally, feedback after milestone 4), discussing the feedback as well as concrete ideas for improvement. I will also meet as soon as possible with any developer who is at risk of receiving the Needs Improvement or At Risk designation, as determined by 360 feedback.

Milestones

There are four milestones throughout the semester. For each milestone, each team submits their current code, gives a presentation to the class, and undergoes a code review with me. Grading is partly based on team performance (for the current state of the project and whether it is meeting the needs of the client), and partly on individual performance (for their completed tasks, their portion of the presentation, their reflection, and 360 feedback from fellow developers.)

The milestones are due on Sundays. The four milestones are described as follows:

- **Draft Proposal:** (End of WW2) In this milestone, the team submits and presents their initial proposal for the work with buy-in from the client. They present their client-approved solution, a preliminary design, draft mock-ups of any user interface, discuss tools considered, and needs that might be met with software libraries. It is expected that the design and tools will change as the work progresses.

- **Alpha:** (End of WW5) In this milestone, the team submits and presents their initial software system. Each team has a version of the software that is "on its way": it may look rough, but has some necessary visual elements and functionality, with concrete plans for more. Teams demo their barebones software to classmates and present the design and trajectory.

- **Beta:** (End of WW10) In this milestone, the team submits and presents their functionally-complete software that has some bugs.

- **Release v1.0:** (End of WW14) The team submits and presents their completed software system.

After completing all the milestones, the department, clients, and entire campus is invited to a launch party in WW16.

Launch Party

After the final milestone, teams have a week to prepare for the campus-invited launch party. Each team will give a 20-minute presentation to present their work to the campus community. The presentation includes a demonstration of the full system given either in real-time or via video.

Notable Dates

Please note that this is subject to change. Students will be notified of changes in a timely fashion.

Week	Date	Event
WW0	Aug. 24	Introduction and Project Pitch
WW1	Aug. 28	Ethics and Equity in Software Design
WW2	Sep. 4	Draft Proposal Milestone Due
WW5	Sep. 25	Alpha Milestone Due
WW7	Oct. 9	Fall Recess
WW10	Oct. 30	Beta Milestone Due
WW13	Nov. 20	Thanksgiving Recess
WW14	Nov. 27	Release v1.0 Milestone Due
WW16	Dec. 11	Launch Party

Grading

Your grade will be comprised of the following weighted components:

Category	Percentage
Draft Proposal Milestone	15%
Alpha Milestone	20%
Beta Milestone	30%
Release v1.0 Milestone	25%
Launch Party	10%

At semester's end, I'll calculate your average based on the stated weights. Grades round to the nearest whole number (92.4 to 92, 92.5 to 93). No grade bumping or extra credit is allowed. Your grade reflects mastery of course content and meeting or exceeding assignment/exam criteria. Effort isn't a grading factor. We'll use Gradescope for assignment submission and grade posting.

Course Policies

Communication

The preferred means of communication depend on the purpose of the discussion:

- **Personal requests:** should be sent via email or discussed one-on-one during office hours.
- **Questions and discussion of projects:** should happen during meetings, and via the Discord workspace. Discord communications intended specifically for me should mention **@sarahmorrisonsmith**.
- **Course announcements and assignments:** will be regularly posted through Discord. It is your responsibility to check Discord regularly for announcements. Missing an announcement, for example, due to absence or not checking Discord, is not an acceptable excuse for incomplete or incorrect work or missing a deadline.

Attendance

Attendance is mandatory. Only college-sanctioned absences are excused, which you should notify me of immediately. This covers religious, athletic, or academic conflicts. If you are sick or have health or counseling appointments, email me prior to class to make arrangements for missing class. For long absences, contact me to arrange catching up.

Late Assignments and Makeups

Late work is not accepted without prior approval. If you contact me at least one business day before the due date with appropriate requests for an extension, you will automatically be given an additional amount of time to make up late assignments equal to the time lost due to the unforeseen circumstance.

Incompletes

Incompletes will be granted for only the most extreme circumstances. To be considered for an incomplete you must 1) let me know at in advance that you are seeking an incomplete, and 2) provide documentation to support the request. This decision is also made in consultation with the Dean of Students.

Re-Grade Requests

If you believe I have made a genuine error when grading your assignment, submit a grade review request on Gradescope, referencing the rubric, within one week of posting. After this period, no grade changes can occur. Note that the whole assignment will be reassessed and your grade may decrease. Similarly, any concerns about absent grades must be raised within a week of grade publication.

Code Headers

All code, regardless of the must have a commented header at the top with your name(s), team name, and date. Code without this header will have points taken off. Here is an example of a header for a program written in Python:

```
"""
Name: Sarah Morrison-Smith
Team: Coding is Fun!
Date: 3/8/23
"""
```

Academic Integrity & Collaboration

All project code must be written by your group. However, exceptions are made for

1. Starter code provided by the client
2. Any necessary software libraries (necessity is at the sole discretion of me)
3. Small code snippets found through StackOverflow or generated by AI programs such as Chat-GPT and CoPilot.

All such code should be documented with its origin and its usage and is considered separate from the main body of the work. Any such code will not be considered in grading code and design elements of the project and must be cited appropriately. In milestone reports, specify what percent

of the codebase belongs to each category (i.e., team-written, starter code, existing libraries, AI-generated). Respect copyright laws and appropriately license project code. Sharing or receiving code, typing code into others' editors, or allowing someone to type into yours, is not allowed. Write in your own words. If you are unsure about collaboration rules, ask me.

Citation

Always cite any external help in your projects to acknowledge their contribution, except class notes or professor discussions. This includes peers, TAs, tutors, and internet sources. Any non-self-written part must be cited. Code citations should appear in comments, documents, and when discussed, listing author and location. A mere acknowledgment isn't enough; citations must identify the source and help received. Here is an example of proper citations:

```
# CITE: Stephen Greenfield
# URL: http://www.math.rutgers.edu/~greenfie/gs2004/euclid.html
# HELP: Source of Euclid's method for determining GCD.
```

Cite all non-original images, facts, and information in documents or presentations using MLA, APA, Chicago, or IEEE styles (https://pitt.libguides.com/citationhelp)

Public Code Policy

All code written in this course must be provided to the client in the form of open-source code (MIT License) and may be posted publicly (e.g. GitHub, your blog, etc.) after the semester ends.

Consequences for Academic Dishonesty

Academic integrity is important, and I will not tolerate violations. Any violation of these rules will result in a final grade of 'F' for the class.

Seeking Help

Accommodations

If you believe you may need accommodation for a disability, contact me privately within the first two weeks of the semester to discuss your specific needs. If you have not already done so, please contact Allen Harrison, Assistant Dean of Students for International Students and Accessibility at 315-859-4021, or via email at aharriso@hamilton.edu. He is responsible for determining reasonable and appropriate accommodations for students with disabilities on a case-by-case basis.

Mental Health and Wellness

If you are feeling isolated, depressed, sad, anxious, angry, or overwhelmed, you aren't alone: we all struggle sometimes. Don't stay silent! Talk to a trusted confidant: a friend, a family member, a professor you trust. The counseling center offers completely confidential and highly professional services, and can be contacted at 315-859-4340. If this seems like a difficult step, contact me. We can talk and call or walk to the counseling center together.