HUMAN-CENTERED DESIGN (HMC ENGR 180)

General course information
3 Credits (one course unit)
Tues & Thurs   2:45 - 4:00 PM   Fri Lab 10:00 - 11:50 AM
Class Location   Studio 1, The Hive, 130 E. 7th Street

Hello and Welcome
This course introduces students to human-centered design approaches for innovative problem solving. Human-centered design begins with a deep understanding of people and social contexts. The course will include interactive design methods and processes, hands-on projects, and engagement with fundamental readings and concepts in design and need finding. Students will learn how user research and prototyping can be integrated into different phases of the design process.

Course learning goals and mindsets

Learning goals
- Ability to articulate the principles and processes of design thinking
- Ability to uncover latent user needs through engagement and observation
- A working knowledge of a range of qualitative research skills, including structured and semi-structured interviewing techniques (in-depth interviews, intercepts), ethnographic immersion (participant observation), and writing and analyzing field notes
- Ability to determine the difference between an observation and an insight
- Ability to utilize insights in the design of products, services and experience
- Ability to apply the methods and mindsets developed in this course to major challenges and problems in the multicultural global context
- Ability to create a point-of-view to meaningfully reframe a challenge based on user needs
- Ability to generate a variety and volume of ideas
- Ability to use prototyping as a way to understand more about a problem space, not just about the solution itself
- Ability to communicate with visuals, prototypes and other non-traditional means, with a nuanced awareness for audience needs and dispositions

Mindsets
- A Focus on Human Values — with users, teams and other collaborators
- A Show-Don't-Tell Mentality — that prioritizes visual communication and prototyping
- The ability to Embrace Experimentation and Failure — by creating multiple possible solutions
- A Mindfulness of Process — that values a way of working before outcomes
- A Bias toward Action — that encourages doing as a way of thinking
- Radical Collaboration — that embraces and seeks diverse opinions and experiences

Course prerequisites

It is essential that students have a genuine curiosity about design methods and activities, and a willingness to learn experientially. The course does not require any prior design education (such as engineering, art or product development).

Teaching method

This course will be taught using applied, project-based learning (PBL). For PBL to be successful, it is not only necessary to complete all the assigned exercises and to come on time to class, but also to fully engage with the exercises and projects that we will do together. Students often will work in teams, and projects will range from simple activities to engaging with people from outside the college community with very real needs. Every member of the class must participate in these activities for the course to succeed.

Assignments

There will be regular assignments for this course, including interacting with people outside of the colleges, documenting those interactions and developing design responses to them. All assignments must be completed by the due date. You must be present for the launch and presentation dates for all design projects. In general, extensions for late work will not be approved.

Design Project (DP) 0.1 (Observation)   Week 1-2
DP 0.2 (Empathy Interview)   Week 2
DP 1 (Individual)   Week 2-4
DP 2 (Group)   Week 4-8
DP 3 (Group)   Week 9-15
                                           (dates may change slightly)

For DP1, DP2 and DP3, you will go through the 5-stage design process. These steps include (1) empathy interviews and observations, (2) unpacking interviews and reframing problem spaces, (3) brainstorming 50-100 wild to realistic ideas to solve reframed problems, (4) prototyping and testing select ideas, and (5) iterating to refine human-centered solutions. For each DP, you will create interactive presentations and written and visual process descriptions. More details will be outlined at the start of each DP.
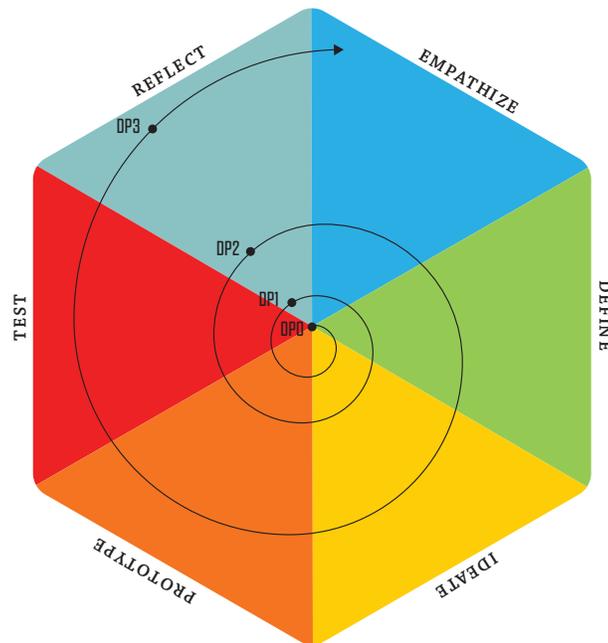
Figure: Spiral curriculum for HM ENGR 180 class

Grading

Grading in this course will prioritize students' learning of the human-centered design process over project outcomes. Grading is inherently a judgment rather than an algorithm. That means that we will watch and interact with you as you work, review intermediate and final work (notebooks, presentations, etc.) and assess the processes you try (even if they are not "successful"). We will grade each project and the process that went into it as well as the output and will ask you to help us by reflecting on your experience on a regular basis. As mentioned, class attendance is vital. Therefore, if a student misses more than three classes for unexcused reasons or is chronically late, your grade will be affected. Legitimate excuses include: medical emergencies, personal emergencies, family emergencies, and required courtroom appearances.

***Note: Due to the project-based learning curriculum, this class cannot be taken Pass/Fail.

Grading Breakdown

Showing Up (Participation and Attendance)	10%
Generous Collaboration (In Class/Groups)	10%
Notebooks (Visual and Written Content)	10%
Design Project (DP) 1 - Individual	15%
DP2 – Group	25%
DP3 – Group	30%

Expectations

- Project grades will be based on the ambition, failure with iteration, execution, clarity and story telling
- Journals will be graded on commitment, playfulness and communication of the process.
- Reflections will be graded on clarity, insight, wondering and noticing.
- Participation is graded on being present in mind, body and spirit.

Journals

Each student is responsible for keeping a journal in which you will record your research, develop ideas, respond to prompts and record reflections. We will provide a supply of blank journals for you to use. (Wow, really? That's nice!) We will collect (and return) the journals during the semester to check on your process. It is your responsibility to maintain, deliver and not lose your journal if you want to get credit for your work.

Attendance

It's clear that students who come to class get the most out of it, so attendance is mandatory. As in much of life, showing up is half the battle.

We also respectfully require everyone to be on time. A creative and supportive space of enthusiasm for design and working together functions best when there is a strong sense of community toward a shared pursuit. We strengthen that feeling by collaborating with each other, giving constructive feedback on classmate's work, helping those around us, and being present with each other. Being late for class undermines this. It sends a message that the individual's time is more important than the class pursuit, and makes those who are on time wonder why they rushed over only to wait for class to begin. Arriving late or missing class disrupts the *esprit de corp* of us working together.

Three or more unexcused absences or excessive lateness will have a negative affect on your final grade. If you are experience COVID symptoms, please inform us before class and we will work with you. If you are able to attend class virtually, please log onto the class zoom link.

Our class sessions, or portions of class sessions, will be video or photo recorded by the instructor for educational purposes and will be available to the class during the semester. If you do not want your likeness during class participation included in the recorded class session, please notify the instructor.

COVID Safety and Universal Learning Design

This year we are gathering in person for what we do best: create, generate, and share knowledge. During the past academic year, we built community remotely, and this year we will build on the pedagogical improvements we acquired last year. For example, we might meet on zoom from time to time, or hold discussions asynchronously.

Our health, both mental and physical, is paramount. We must consider the health of others inside and outside the classroom. All Claremont Colleges students have signed agreements regulating on-campus behavior during the pandemic; in the classroom, we will uphold these agreements. We need to take care of each other for this course to be successful.

Please adhere to the following principles throughout the duration of the semester. The pandemic is ever-evolving, and we might have to adjust these principles as the semester evolves:

- Wear a mask for the entire class. Your mask must cover your mouth and nose.
- Class attendance is required, but if you need to miss class for health reasons, concerning symptoms, suspected COVID exposure, unexpected dependent care, technology issues, or other emergency reasons we will work with you. Make your decisions always based on health, safety, and wellness—yours and others. Take any potential symptoms seriously. Email us before class and log onto Zoom to take part virtually.
- If you, or a family member, are experiencing hardship because of the pandemic, talk to us, your friends, your family or someone in your Dean of Students office. You are not alone. We are here to support your learning, and to learn from and with you.

Academic Accommodations

Students who wish to request a temporary or permanent disabilitie accommodation, please contact your college's disability coordinator with help to receive your accommodation. The disability officers at the Claremont campuses are:

CMC: Julia Easley (julia.easley@cmc.edu)

HMC: Deborah Kahn (dkahn@hmc.edu)

Pitzer: Gabriella Tempestoso (gabriella_tempestoso@pitzer.edu)

Pomona: Jan Collins-Eaglin (jan.collins-eaglin@pomona.edu)

Scripps: Leslie Schnyder (lschnyde@scrippscollege.edu)

In addition to official accommodations, we realize that things come up in all of our lives, especially with the ongoing health and societal upheaval. If you are experiencing difficulties of any kind with getting the work done, coming to class on time, collaborating with your colleagues, or attending class at all, please talk to us and let us know sooner rather than later so we can help ensure you are able to get as much out of the class as you can.

Recommended Resources

Steal like an Artist (book) - Austin Kleon

Creative Confidence (book) - David and Tom Kelley (Chapters 2-3)

A More Beautiful Question (book) - Warren Berger (Chapter 3 selection)

Stephen Johnson "Where good ideas come from" TED talk:
https://www.youtube.com/playlist?list=PLAnPS9Rw2EErTYdjr-UzCJEXXLwMpo7Wg