



Advanced Topics and Project in Human-Centered Design

ENGR190BAHM

Course Description and Syllabus:

This is an opportunity for up to five, 5C students who have completed and excelled in Human-Centered Design (HMC E180), taught at the Hive.

We will meet once a week as a group on Wednesdays 3:00-5:45pm PT pm and hold a lab for group work on Fridays 10:00am – 11:50am PT , with some additional meeting times to be scheduled. Students will discuss advanced readings in human-centered design and design thinking. After a warmup project, the bulk of the semester will be spent with the group collaborating on a large real-world design project. The team will collaborate in research, definition, idea generation, prototype creation, testing and iteration. After a series of experiments, the class will culminate with students putting something real out into the world.

Design Project(s):

This is a course designed for students who have taken Human-Centered Design (E180) and ask, “what’s next?” It is a semester-long independent study for a group of 4 to 5 students. Together, they will tackle one real world or sponsored project. The class will begin with a group warm-up project and then dive in to the large scale semester initiative. There will be interim prototype presentations at the mid-point and $\frac{3}{4}$ point in the semester with a final presentation at the end of the semester for sponsors and five-college invitees. The final deliverable must be usable and provide tangible benefit to its users. Post semester next steps should also be developed.

Additional requirements:

Students will be required to attend select Hive workshops and develop a workshop for Hive participants. Students will also be required to keep an individual independent study journal that will be graded.

Meeting Times:

This study will meet at least twice a week to discuss readings and/or design project. These meeting are tentatively scheduled from 3:00 – 5:45 pm on Wednesdays and tentatively 10:00 am – 11:50pm on Fridays . Additional meeting times will be established by the group.

Reading List:

The reading list listed below will serve as additional materials to help dive deeper into the realm of design with the Field Guide to Human-Centered Design serving as the "textbook."

- The Field Guide to Human-Centered Design by IDEO.org
- 101 Design Methods: A Structured Approach for Driving Innovation in Your Organization by Vijay Kumar
- Creative Confidence: Unleashing the Creative Potential Within Us All by Tom Kelley and David Kelley
- The Design of Business: Why Design Thinking is the Next Competitive Advantage by Roger L. Martin
- The Achievement Habit: Stop Wishing, Start Doing, and Take Command of Your Life by Bernard Roth
- Frank Lloyd Wright on Architecture, Nature, and the Human Spirit: A Collection of Quotations by Galison
- Dear Data by Georgia Lupi and Stephanie Posavec
- HBR's 10 Must Reads on Design Thinking (with featured article "Design Thinking" by Tim Brown)
- Designing the Invisible by Lara Penin

Learning Objectives and Outcome For This Study

The main learning objectives of this independent study are:

- Master advanced Human-Centered Design and Design Thinking skills
- Work as a group to put something real into the world and get feedback
- Develop as a strong collaborator
- Design learning exercises and projects
- Develop generative skills
- Develop synthesis skills

Evaluation/Assessment/Grading

Grade breakdown as follows:

- Class participation - 20%
- Notebook - 20%
- Teamwork – 20%
- Project 40%
 - The final product of the design project demonstrates knowledge in design thinking (the entire process is well documented)
 - Problem definition
 - Synthesizing user needs
 - Idea generation
 - Creation of multiple prototypes
 - Readings and required Hive workshops participation (and reflections)

- Showing up at agreed meeting times
- Reflecting and keeping an individual journal and sketchbook