The course is organized as a design practicum, where student teams complete a user-centered design project, from initial research to iterative design of prototypes, to testing of those prototypes. This year’s theme is based on the CHI 2014 Student Design Competition: “BodyData: Designing for Qualities of the Quantified Self”. In-class and out-of-class activities are organized around topics that will teach students, step-by-step, how to establish user needs, derive design ideas, assess tradeoffs, and report results. Students will develop and iterate prototypes and evaluate their designs with representative and real users.

**Course Components**

- “Technoculars” Weekly Assignment (10%)
- Homework Assignments (5 total) (20%; 5% each for H1-H4. H0 goes to Participation)
- Mid-Term Exam (20%)
- Participation (Attendance, in-class participation) (10%)
- Term Project (40%)
- Readings (will prepare you for exam and project)

**Technoculars (10% of grade)**

“Technoculars” is a fun, weekly assignment meant to change the way you look at the artifacts in the world with which you interact. In this context, we assume technology includes virtually anything “designed”—anything human-made is up for grabs. You will look critically at the world around you, first with an eye toward things designed with “bad usability.” This can include a digital interface of some sort, but it can also include other kinds of mechanical equipment—coffeemaker, stovetop, and car dashboard controls; confusing signage; even door handle design. In time, you will also discover items that are elegantly designed, and support natural human interaction with it. You will have opportunities to share these as well.

You are to use screen capture and/or your cameraphone/digital camera to capture at least one image a week and upload to the photo section of the course web site (which you can also do right from your mobile phone). You will explain in text (attached to the photo) using sufficient detail to describe what the problem is or insight you have. Please note that you are NOT to simply grab images of known usability problems already identified as such on “usability problem” websites. Technoculars are due by the start of every Friday class.

**Homework (20% of grade)**

There will be 4 main homework exercises during the first half of the course (H1, H2, H3, H4). H0 is due at the second week meeting and is not counted as homework, but is required for completion for you to continue in the course (it should take about 1-2 hours). H0 counts toward Participation, as it prepares for you partaking in basic mechanics of the course.

The four remaining homework activities will be in the form of written reports, and are important because they will help you develop specific skills you will be learning in class, and applying to your projects. These homework exercises will be completed individually and independently (not with your project teams). Homework exercises are due at the start of class meetings.

**Mid-Term (20% of grade)**

Students will be evaluated for their understanding of human-centered design concepts. The exam will be given during Week 9.

**Participation (10%)**

Your attendance in class is critical part of the success of your project—plus we enjoy seeing you! I look to the class to ask questions and give input during our meetings.

**Term Project (40% of grade)**

This is a team-based project over the whole span of the semester, where teams will work on projects they devise to be competitive for the CHI 2014 Student Design Competition. Projects will begin the second week of class. The class is designed to support each stage of the term project. There will be 5 Project Deliverables in the form of presentations, demonstrations, and some writing. The aim of each project is to get in-depth experience in applying the ideas, skills and techniques from the course to a substantial design problem.
The course is organized around the CHI 2014 Research Design Competition. Student teams will develop a design project over the course of the semester, with the final deliverable being the submission materials for the competition. The best projects will be invited to submit their work. If selected, student teams will travel to the 2014 CHI conference in Toronto, Canada to present their work and attend the conference.

The competition is aimed at meeting three goals:

1. Provide an opportunity for students from a variety of design backgrounds to participate in CHI and demonstrate their problem-solving and design skills in an international competition against their peers.
2. Provide CHI attendees with refreshing perspectives on how design teams from different disciplines and different parts of the world approach a common design problem.
3. Provide CHI attendees with a chance to meet future professionals in our area, and provide competition participants with an opportunity to network with experienced HCI and Design professionals.

The theme for the 2014 design competition is “BodyData: Designing for Qualities of the Quantified Self.”
## TOPICS

### Monday

- **8/26**
  - Course & Topic Intro

- **8/30**
  - Course & Topic Intro

- **9/2**
  - Labor Day
  - NO CLASS

- **9/6**
  - Ethnography for Problem Definition & User Research

- **9/9**
  - Interviewing

- **9/13**
  - Themes Discuss in Class

- **9/16**
  - Team Dynamics
  - Groups meet in class
  - More Data Collection
  - Formulating Research Plans

- **9/19**
  - Project 1: Students Present Project Definitions & Research Plans
  - Meet with Professor instead of class
  - Research Design Recap; Data Analysis Affinity Diagrams

- **9/23**
  - Data Analysis & Design Tools
  - Personas & Scenarios
  - Lo-fi Sketching & Prototyping

- **9/26**
  - Design
  - Design

- **10/1**
  - Design
  - Design

- **10/4**
  - Testing with Users
  - Mid-term Review

- **10/7**
  - Design
  - Design

- **10/11**
  - Design
  - Design

- **10/14**
  - Testing with Users, Part 2

- **10/17**
  - Design
  - Design

- **10/21**
  - Continue Testing & Iteration.
  - In-Class Advising Available

- **10/24**
  - Continue Testing & Iteration.
  - In-Class Advising Available

- **10/28**
  - Thanksgiving Holiday
  - NO CLASS

- **11/1**
  - Project 3 Demo "Madness" Presentation
  - Midterm Return Testing with Users, Part 2

- **11/4**
  - Develop Usability Plan in Class with Instructor Guidance
  - Develop Usability Plan in Class with Instructor Guidance

- **11/8**
  - Continue Testing & Iteration.
  - In-Class Advising Available

- **11/11**
  - Continue Testing & Iteration.
  - In-Class Advising Available

- **11/15**
  - All-Team Status Report on Testing Progress and Iterative Design Progress

- **11/18**
  - Poster Development

- **11/22**
  - Continue working on projects, In-Class Advising Available

- **11/25**
  - Continue working on projects, In-Class Advising Available

- **11/29**
  - Thanksgiving Holiday
  - NO CLASS

- **12/2**
  - Short Status Report

- **12/6**
  - Instructions for Final Presentation

- **12/9**
  - Final Oral Presentation

- **12/16**
  - Project 4 Research Results
  - Meet with Professor

## PROJECT

### Deliverables

- **P1:** Problem Definition; Lay out Research Plan. Deliverables: Slides

- **P2:** Research Results. Deliverables: Slides

- **P3:** Demo Madness Presentation of Iterations to date & Future Plans Iteratively Generate Sketches-Wireframes-Mockups-Functional Prototypes Go from lo-fi to hi-fi during over this frame. Use "Testing Without Users" techniques until you bring in users in W11. Record your work. By demo madness, you should have finished your development and moved to hi-fi. Conduct Early (phase 1) problem evaluation. Research to evolve next phase:

  - **P1:** Research Plan. Present Results: Release of Phase D Demo
  - **P2:** Research Evaluation Results
  - **P3:** Demo Madness Plan
  - **P4:** Final Report Materials

### Team Work

- **W1:** 8/26 - 8/30
- **W2:** 8/31 - 9/4
- **W3:** 9/5 - 9/9
- **W4:** 9/10 - 9/14
- **W5:** 9/15 - 9/19
- **W6:** 9/20 - 9/24
- **W7:** 9/25 - 9/29
- **W8:** 9/30 - 10/4
- **W9:** 10/5 - 10/9
- **W10:** 10/10 - 10/14
- **W11:** 10/15 - 10/19
- **W12:** 10/20 - 10/24
- **W13:** 10/25 - 10/29
- **W14:** 10/30 - 11/3
- **W15:** 11/4 - 11/8
- **W16:** 11/9 - 11/13
- **W17:** 11/14 - 11/18
- **W18:** 11/19 - 11/23
- **W19:** 11/24 - 11/28
- **W20:** 11/29 - 12/3
- **W21:** 12/4 - 12/8

## HOMEWORK

- **CITI Certification; CHI Student Design Comp:** Due Fri
- **Project Ideas 1:** Due Mon
- **Interview & Observation 2:** Due Mon
- **Generating Multiple Sketches 3:** Due Fri
- **Think Aloud 4:** Due Mon

## READ

- W1: Ch. 14, 17, 18
- W2: Ch. 15, 16
- W3: Ch. 13
- W4: Ch. 19
- W5: Ch. 21
- W6: All Ch.
- W7: Ch. 2, 6
- W8: Ch. 9, 10
- W9: Ch. 11, 12
- W10: Ch. 1, 3
- W11: Ch. 4
- W12: Ch. 5
- W13: Ch. 7, 8
- W14: Ch. 12
- W15: Ch. 18
- W16: Ch. 2
- W17: Ch. 6
- W18: Ch. 9
- W19: Ch. 10
- W20: Ch. 2
- W21: Ch. 4