



▶ DEVELOP SKILLS TO INNOVATE NEW AND ADAPT EXISTING TECHNOLOGIES FROM A USER-CENTERED PERSPECTIVE



▶ DEVELOP PRACTICAL SKILLS IN THE DESIGN AND EVALUATION OF GOOD USER INTERACTION EXPERIENCES WITH TECHNOLOGY



▶ OBTAIN AN OVERVIEW OF ONGOING AND EMERGING RESEARCH TOPICS IN HUMAN-CENTERED COMPUTING

○ M/F 11:30-12:45

○ BUSINESS 322

○ [HTTPS://USU.STRUCTURE.COM/COURSES/255351](https://usu.instructure.com/courses/255351)

Human-Centered Design

CS6890 - FALL 2013

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OFFICE HOURS: M & F 1-2:30 PM (401F OLD MAIN)

Course Objectives & Structure



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.



Required Text

Designing for the Digital Age by Kim Goodwin

Designing successful products and services in the digital age requires a multi-disciplinary team with expertise in interaction design, visual design, industrial design, and other disciplines. It also takes the ability to come up with the big ideas that make a desirable product or service, as well as the skill and perseverance to execute on the thousand small ideas that get your design into the hands of users. It requires expertise in project management, user research, and consensus-building. This comprehensive, full-color volume addresses all of these and more with detailed how-to information, real-life examples, and exercises.

STUDENT DESIGN COMPETITION



Course Policies

Attendance Police

Attendance is mandatory (like at your job). To succeed in class, you must attend--personally, verbally, written, and socially. If you miss a class, it is your responsibility to find and complete all in-class work & assignments (on-time). More than **two** unexcused absences will seriously affect your final grade for the course.

Academic Integrity

Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to establish the higher level of conduct expected and required of all Utah State University students.

The Honor Pledge: To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

Plagiarism

Plagiarism includes knowingly "representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials."

The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

Students with Disabilities

The Americans with Disabilities Act states: "Reasonable accommodation will be provided for all persons with disabilities in order to ensure equal participation within the program. If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center (797-2444), preferably during the first week of the course. Any request for special consideration relating to attendance, pedagogy, taking of examinations, etc., must be discussed with and approved by the instructor. In cooperation with the Disability Resource Center, course materials can be provided in alternative format, large print, audio, diskette, or Braille."

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."

Human Centered Design Course & Project Management Plan – Fall 2013 (8.26.2013)

PROJECT	TOPICS		READ	HOMEWORK	
	Monday	Friday			
<p>Team Work</p> <p>Deliverables</p> <p>Conduct Usability Tests</p> <p>Conduct Early (Phase I) Research to Evolve Problem Definition</p> <p>Iteratively Generate Sketches-Wireframes-Mockups-Functional Prototypes Go from lo-fi to hi-fi during over this time frame. Use "Testing Without Users" techniques until you bring in users in W11. Record your work. By demo madnness, you should have finished lo-fi development and moved to hi-fi. W10 & W11 will be a peak time to finalize prototypes for usability testing.</p>	8/26 8/30	Course & Topic Intro	Intro, Ch. 1, 4	<p>CITI Certification: CHI Student Design Comp</p> <p>Project Ideas</p> <p>Interview & Observation</p> <p>Generating Multiple Sketches</p> <p>Think Aloud</p>	
	9/2 9/6	Labor Day NO CLASS	Ch. 5		<p>H0 Due Fri</p> <p>Technoculars</p>
	9/9 9/13	Interviewing	Ch. 7, 8		<p>H1 Due Mon</p> <p>Technoculars</p>
	9/16 9/20	Team Dynamics Groups meet in class	Ch. 2, 6		<p>H2 Due Mon</p> <p>Technoculars</p>
	9/23 9/27	P1: Students Present Project Definitions & Research Plans Meet with Prof instead of class	Ch. 9, 10		<p>Technoculars</p>
	9/30 10/4	Data Analysis & Design Tools Personas & Scenarios	Ch. 11, 12		<p>Technoculars</p>
	10/7 10/11	Design	Ch. 14, 17, 18 optional Ch. 15, 16		<p>Technoculars</p>
	10/14 10/17	Design	Ch. 21		<p>H3 Due Fri</p>
	10/21 10/25	Testing with Users Mid-Term Review	Ch. 19		
	10/28 11/1	Testing with Users, Part 2			
	11/4 11/8	Develop Usability Plan in Class with Instructor Guidance			<p>H4 Due Mon</p>
	11/11 11/15	Continue Testing & Iteration. In-Class Advising Available			
	11/18 11/22	Poster Development	Ch. 13		
	11/25 11/29	Continue working on projects, In-Class Advising Available			
	12/2 12/6	Short Status Report Instructions for Final Pres.			