

I300: HUMAN-COMPUTER INTERACTION DESIGN

Summer Session I (May 6th-June 12th)

Logistics:

- Meeting Location:** Informatics 107
Meeting Times: Tues, Weds, Thurs 10:20 AM-12:25PM
- Instructor:** William Ryan (wnryan@indiana.edu)
Office Hours: Informatics Lobby (M W 12:30-2:30)
- AI:** Kevin Makice (kmakice@indiana.edu)
Office Hours: Informatics Lobby (T 12:30-2:30)
- Blog Website:** www.wordpress.com

Course Aims and Objectives:

Human-Computer Interaction Design is intended to introduce Informatics undergraduates to the fields of Human-Computer Interaction and Design. Human-Computer Interaction Design focuses on the users of computing technology. From this perspective, we can fit technologies into their current practices more effectively and can extend their cognitive capabilities by providing new experiences for them through our designs. The course will introduce you to the design process that accompanies software development. The course will be split across two main activities of interaction designers, the practitioners of the field. The first activity deals with the design of software and hardware technology and the relation of our designs to the user. Examples of design include investigating software users, developing prototypes, and designing your design process. The second important activity is evaluation of the generated designs. Examples of evaluation include usability studies and field studies.

I hope that over the course of the semester you will gain a new understanding and appreciation for the users of your software. This appreciation then can be used to help generate design insight. This course is primarily intended for students wishing to become designers of interactive software and media; however, it is also applicable for students who wish to learn more about the user of software that they develop. The course will focus on design activities including design and concept generation, argument building, critique, user modeling, low fidelity prototyping, and so forth.

What to expect from the course:

As a summer course, this course may feel fast paced. We will be trying to cover an entire semester's material in less than half the time. I will adjust the pace of the class to the overall class, but I expect you all to keep up with the readings and give honest attempts on the work in class and outside of the class. Your expected workload outside of class will be approximately 50-60 pages of reading per week, reading responses, and one final design project. In-class workload includes participation in activities and discussions and one midterm examination over the course material. If you make an honest effort in the class, it *will* pay off.

I will use a variety of methods to help engage you with the material. The class will be structured with a lecture for that weeks' readings' topics, but we will often break up for an in-class activity based on the lecture and readings. These in-class activities will include design problems, critiques of actual computer software systems, opportunities to practice evaluation techniques, or discussions of the material. In the last 10-15 minutes of class, I will review what we discussed in class that day, provide motivation for the topic we will discuss in the next class, and administer a "minute paper" based on class that day. The "minute paper" will be a short paper that will describe the most important thing that you learned in class that day and what questions remain to be answered.

Learning Objectives:

By the end of this course, you will:

- Be able to critically evaluate designs of all kinds.
- Be able to participate in the process of design as well as integrate design into a software development process.
- Be able to construct a well-reasoned argument supporting decisions in a design process.
- Be able to identify what tools and techniques exist for interaction designers to scaffold the process of design as well as their limitations.
- Be able to balance values, needs, and requirements from multiple stakeholders in a design project and generate a list of viable and innovative concepts that fit the design space.
- Be able to collect information from potential users that give evidence to what user's needs are as well as how potential designs could fit into their daily habits.
- Be able to conduct basic usability studies and field tests that evaluate a prototype as a proof of concept.

Course Text

Sharp, H., Roger, Y., & Preece, J. (2007). Interaction Design: Beyond Human-Computer Interaction. *John Wiley & Sons, Inc. New York.*

We will also have a selection of readings that I will provide online from:

Harper, R., Rodden, T., Rogers, Y., & Sellen, A. (Eds.) (2008). *Being Human: Human-Computer Interaction in the Year 2020.* Cambridge: Microsoft Research Ltd.

Course Policies

Classroom Policies

You are all expected to show up on time to every class. Attendance is extremely important because in-class activities are invaluable for achieving your goals for the course.

Furthermore, the activities will be practice for some of the material that we will have on the test and for the final project.

Attendance will be taken for each class. Absences due to illness, religious observation, and certain family emergencies will be excused if you provide prior notification and proper documentation (e.g., a doctor's note). All other absences are unexcused. If you need to miss a class, please notify me one week in advance when possible. If you miss the test, you will be given an opportunity to take a substitute test. You must notify me by the following class or you will receive a zero for the test.

Academic Integrity

You are expected to submit your *own* work for reading response, projects, and exams; however, finding other sources that support claims or design decisions that you are making are perfectly reasonable activities as long as you properly cite the source that you are using. If you do bring in other sources, you are expected to add your own insights in addition to the text, diagrams, or designs that you incorporate into your design. You are encouraged to consult with your classmates as you work on the assignments and evaluations (collaborations and cheating on exams will result in failure for all parties involved), but you are expected to turn in your own original work for each assignment.

If you would like to review your rights and responsibilities as set out by the university, please visit <http://dsa.indiana.edu/Code/>. Cases of academic misconduct will lead to disciplinary actions including failure of the test or assignment, failure of the course, or university level disciplinary action depending on the severity and intention of the misconduct.

Accommodations for Religious Observation

If you need to miss class for the religious observation please notify me in advance. It is your responsibility to obtain class notes from other students. Students who miss exams or

graded in-class activities as a result of their participation in a religious observation or school excused activity will be allowed to complete these substitute activities on an alternative date.

Grading

I. Attendance (10%)

II. Participation (10%)

Course attendance requires coming to class. Attendance will be collected by participation in the “minute” papers described above. Participation can range from participating in group discussion, participating in group activities, thoughtfully reasoned “minute papers,” commenting on other people’s blogs (described below), or generally showing your engagement beyond attendance (e.g., visiting during office hours).

III. Readings & Responses (20%)

Readings will be drawn from the Interaction Design textbook as well as the Being-Human selections. We will cover only a portion of the chapters from the book and jump around focusing on the excerpts that are the most important to the discussion at hand. A few of the chapters, I will summarize in lecture and are not added to the reading. (So, class attendance is very important!)

Each of you will be required to write two blog entries about readings over the course of the semester. You will be notified one week in advance if you need to write a blog entry for the reading that week. Those writing a blog entry will need to write a concise one paragraph summary of the readings and a concise one paragraph reaction to the readings. The reaction can contain questions about the reading, comments about the reading, or how the reading relates to what we are talking about in class. You can, of course, go beyond these requirements if you wish to do so. You will be graded on a basis of a 0, ✓-, ✓, ✓+. If you are not writing a blog entry that week you will be required to comment on the blog posts from those who did. Responses will be due at 5 PM on the days listed at the end of the syllabus.

VI. Exam (midterm 25%)

The exam will be comprehensive covering all material covered over the course of the semester. Test will consist of short answer questions, short problems, and one essay question. More details will be available during the review before the exam.

IV. Project (35 %)

The project will be a culmination of your work in the class. It will entail a design project that you can either do by yourself or in a pair. If you work in a pair, you will be expected to present a project that shows the work of two people. Each member of the pair will share the same grade for the project. You will be expected to proceed through all the steps of the design process, create several alternative designs to choose from, create a simple low-fidelity prototype, and finally do some very simple user evaluations of the prototype. There will be a check-in on every Wednesday to see how you are progressing. Your deliverables will be a small pamphlet documenting your design, and a final presentation of your design to the class for public critique. More details are to follow.

VII. Extra Credit

There will be one extra credit assignment announced after the midterm exam. The assignment will be an essay (3-5 pages) on a topic that interests you in HCI and is agreed upon by me. It will be worth 10% of the final course grade. The essay will be due on the Friday, June 13 at noon. You can also earn extra credit points by finding interesting examples and applications of HCI technology and writing a short blurb about it (with a link to a website or image) on your blog.

Important Dates: (Dates are subject to change, if deemed necessary by me.)

Date	Sample Topics	Student Responsibilities
T May 6	Syllabus Who am I? Course Introduction and HCI/D overview	
W May 7	Why HCI? User-Centered Design Process How to incorporate an HCI perspective	
H May 8	What is Interaction Design? Introduction to Design Qualities of interactivity Usability versus User Experience	
F May 9	--	ID Chapter 1 (5 PM)
T May 13	Design Process Roles & communication in a Design Team How are users involved?	
W May 14	Primer on Users and how we get to know them Learning about needs and requirements Tasks and Scenarios	Design Project Groups Email
H May 15	Cognitive aspects of users	ID Chapter 9

		Social aspects of users Affect & Emotion	ID Chapter 10 (5 PM)
T	May 20	How do we do Design? Innovation Paradigms of interactivity in HCI	
W	May 21	Why do we prototype rather than implement Iterative Design Constructing a prototype Review	Design Project Check-In ID Chapter 11 (5 PM)
H	May 22	--	Midterm Exam
T	May 27	Prototyping & Design Practice	
W	May 28	Prototyping & Design Practice	
H	May 29	Future HCI Future Interactivity Value-Centered Design	BH (pp. 10-63) (5 PM)
T	June 3	What is Evaluation & Why do it? Goals of Evaluation (Usability & User Experience) Laboratory & Field Studies	
W	June 4	How is an evaluation run?	Design Project Check-In
H	June 5	Evaluation Practice	ID Chapter 12 (pp. 584-595) ID Chapter 14 (5 PM)
T	June 10	Business of HCI Ethical Issues in HCI	
W	June 11	Summary Review	
H	June 12	In-class critique	Design Project Pamphlet Design Project Presentation
F	June 13		<i>Optional Extra Credit Essay</i>