

**COMM450 Principles of Human-Computer Interaction**  
Autumn 2010

Lecture:            [Location]  
                         [Times]

Instructor:        [Instructor name]  
                         [Instructor email]  
*Please include the "Comm450" in the subject line*

Office Hours:     [Times]

Website:           <https://carmen.osu.edu/>

Last updated:     1/7/10 kg

**I.        Rationale and objectives**

How many computer interfaces have you encountered that you would describe as fun and easy to use? Some products are known for their usability, such as Apple's iPod, Google's search, and Tivo's DVR, but these tend to be the exception, not the rule. Designers and engineers have long focused on creating interactive technologies that efficiently perform a set of tasks. Whether using them is enjoyable, or even feasible, has too often only been an afterthought.

The goal of this class is to help you learn how to design usable interactive technologies. To that end, we will consider what constitutes "good" design, we will study a variety of ways to conceptualize design problems, we will examine how users' cognitive abilities and emotions influence design, and we will learn about interfaces. Although effective interactive design depends on good visual design, we will not focus on these issues in this class. Instead, our understanding will be informed by social, psychological, and behavioral research. Ultimately, the goal is to help you develop an interactive-design process that allows you to utilize this knowledge effectively.

This class also sets the stage for conducting usability studies, which allow us to assess how easy and enjoyable an interactive technology is to use. This is the topic of the second class in this sequence, Evaluation & Usability Testing (Comm 650).

***Specific Learning Objectives:***

Students who successfully complete this course will have:

- An understanding of key concepts in human-computer interaction
- Familiarity with human capacities and limits, and with strategies for creating technologies that are well suited to their users
- The ability to develop novel and usability interactive technologies that address real design problems

## II. Format and Procedures:

Most class sessions will include a mix of activities, including lectures, interactive exercises, and project-related activities. We will typically begin with a brief review of the previous lecture's topics, and will end with a preview of what is coming next. My aim is to give you every opportunity to actively participate in the classroom.

## III. Course Requirements:

### 1. Class attendance and participation policy:

Regular class attendance is required. I expect you to have completed the assigned reading (typically 20-30 pages) and to be prepared to discuss them. *Doing the reading is essential*. This material is complex, and you will not understand every idea we cover the first time you encounter it. The readings, though short, provide an invaluable introduction to key concepts which will be reinforced and elaborated on in class. If you do not complete the readings, you will find it difficult to participate in class, to do well on the exam, and to complete the assignments.

### 2. Course readings:

Reading loads will typically be less than 30 pages per session

- (a) Some reading will be available online through Carmen (<https://carmen.osu.edu/>) (OL in schedule).

- (b) A textbook is also required:

Sharp, H., Rogers, Y., and Preece, J. *Interactive Design: Beyond Human-Computer Interaction*. West Sussex: John Wiley & Sons, Ltd. (ID in schedule)  
The text is available in many places, including at several campus bookstores and used through Amazon for about \$70 when I last checked.

(Note: You will want to hold onto this text book at the end of the quarter as you also will be using it in Comm650: Evaluation & Usability Testing)

### 3. Assignments:

- (a) *Discussion board/class participation*

Doing the readings and engaging with what you've read are a crucial part of preparing for this class each week. I recognize that these tasks require considerable effort on your part, and want to make sure that your grade reflects the time and energy you put into them. I also want to give you the opportunity to ask questions and to share your thoughts and reactions to the reading with me and your classmates. With those goals in mind, here is what I expect of you. Every student is required to post something about the readings to the class discussion board by midnight the day before each class session. This can be a question, an elaboration of a question posed by someone else, an observation about how the reading reflects on your own project, or a reaction to the research that you read, such as why you found it persuasive or what its limitations are.

**Note concerning attendance while having flu-like symptoms:** Students should NOT attend class while ill with influenza. Students with flu symptoms will be asked to leave class. The illness and self-isolation period will usually be about a week. It is very important that individuals avoid spreading the flu to others.

Most students should be able to complete a successful quarter despite a flu-induced absence. If you are absent due to the flu, you will be provided with a reasonable opportunity to make up missed work. The opportunity to complete all assignments and exams supports the university's desire to enable students to make responsible situational decisions, including the decision to avoid spreading a contagious virus to other students, staff, and faculty, without endangering their academic work.

Students with the flu do not need to provide a physician's certification of illness. However, ill students should inform me (but not through personal contact in which there is a risk of exposing others to the virus) as soon as possible that they are absent because of the flu.

**(b)** *Assignments*

There are six short assignments in this class, each of which is designed to reinforce the course material covered in earlier readings and class sessions. Detailed descriptions of each assignment are provided in the textbook on the page listed in the course schedule. Each assignment is due by the start of class on the date listed on the schedule, and should be submitted electronically via the Carmen dropbox.

**(c)** *Exam*

The exam, which is scheduled near the middle of the term, will cover the lectures and readings due up until that point in the course. Roughly, that means that it will include questions about the design principles, conceptualization, collaboration, and users.

**(d)** *Final project*

For the final project you are to work in groups of two or three to design an interactive website for booking tickets online for events such as concerts, plays, or movies. You will need to assess users' needs, construct user personas, analyze a key task, produce a use case, and write up the requirements of the system. Based on this work, you will then need to suggest several conceptual models, and produce a prototype. More details about the assignment can be found in the textbook on pages 519 and 575, *but there will be some important differences*. More information will be provided in class.

In the last two class sections, each group will be required to give a 10 minute presentation describing their user personas, conceptual models, and prototype. A more detailed written report, including both text and visual material, will also be required.

**IV. Grading Procedures: Grades will be based on:**

Discussion board/class participation	5%
Exam	25%
Assignments (7.5% each)	45%
Final project presentation	10%
Final project write up	15%

**V. Academic Integrity**

The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Academic misconduct on any assignment will result minimally in receiving a zero on that assignment and may also lead to further disciplinary action. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action. Each student in this course is expected to demonstrate academic integrity and to abide by the Code of Student Conduct ([http://studentaffairs.osu.edu/info\\_for\\_students/csc.asp](http://studentaffairs.osu.edu/info_for_students/csc.asp)).

**VI. Accommodations for students with disabilities**

I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances. You can also contact the office for disability services at 292-3307 in room 150 Pomerene Hall to help coordinate reasonable accommodations (telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>).

## VII. Tentative Course Schedule

Note: Many readings are excerpts of longer chapters. In these cases, I have provided page numbers. You can generally start reading at the top of the relevant section beginning on that page.

Date	Topics	Readings	Assignment
Session 1	<b>Introduction</b> Syllabus, overview of course material, introduction to HCI	ID 1.1-1.3, pp. 0-15	
Session 2	<b>Goals and principles</b> Usability and the user experience, design heuristics	ID 1.4, pp. 15-38	
Session 3	<b>Conceptualization</b> Problem space & metaphors	ID 2.1-2.3, pp. 44-61	<b>Assignment, ID p. 37</b>
Session 4	<b>Other conceptualizations</b> Instructing, conversing, exploring & more	ID 2.3-2.4, pp. 61-88	
Session 5	<b>Understanding users</b> Cognition and its implications	ID 3.1-3.3, pp. 92-115	<b>Assignment, ID p. 86, choose either part (a) or (b)</b>
Session 6	<b>Cognitive frameworks</b> Mental models, information processing, and more	ID 3.3, pp. 116-133	
Session 7	<b>Collaborative conversation</b> Mechanisms & designs	ID 4.1-4.2.2, pp. 134-160	<b>Assignment, ID p. 131</b>
Session 8	<b>Collaborative coordination</b> External representation & awareness	ID 4.2.3-4.3, pp. 161-174	
Session 9	<b>Affect and emotion</b> Expressive interfaces, user frustration	ID 5.1-5.4, pp. 180-195	<b>Assignment, ID p. 173</b>
Session 10	<b>Designing for affect</b> Persuasion, agents, & toys	ID 5.5-5.8, pp. 195-214	
Session 11	<b>Mid-term exam</b>	Covers all material up to exam	<b>Mid-term exam</b>
Session 12	<b>The design process</b> Applying principles	ID 9.1-9.3.4, pp. 412-443	
Session 13	<b>Lifecycle models</b> Software engineering & HCI	ID 9.4, pp. 444-465	<b>Assignment, ID p. 213</b>
Session 14	<b>Design process case study</b> The MS Office redesign	Video lecture: The story of the ribbon (1h 30m)	
Session 15	<b>Needs and requirements</b> What are user needs?	ID 10.1-10.4, pp.472-500	<b>Assignment, ID p. 464</b>
Session 16	<b>Data analysis &amp; presentation</b> Brainstorming, use cases, etc	ID 10.5-10.7, pp. 500-520	
Session 17	<b>Conceptual prototyping</b> From requirements to design	ID 11.1- 11.3, pp.528-551	
Session 18	<b>Physical prototyping</b> Storyboards, cards, mockups	ID 11.4-11.7, pp. 551-576	
Session 19	Final presentations		<b>In-class presentations due</b>
Session 20	Final presentations		
Exam date	<b>Final project</b>		<b>Write up of final project due</b>