

CSCI 4927 Human Computer Interaction

Writing Intensive

Credit hours: 3

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Office Hours: R 5:00 – 7:00

Corequisite: CSCI 3250

If you cannot come to see me during these hours, you may call or email to make arrangements for another time.

Course Purpose/Goals

Creation of human-serving technologies requires a deep understanding of computing technology – hardware and software – as well as an understanding of how people work, play, interact, and learn. Students will learn how to assess and improve the user experience between humans and electronic devices, and to design systems that enable individuals to make more effective use of computers by creating better user interfaces. Topics will include key concepts of human behavior as related to design, methodologies and processes for designing interfaces and interface prototypes, methods for implementing interfaces, techniques for evaluating and comparing interfaces including usability testing methods and software, and strategies for developing descriptive and predictive models of interaction.

Course goals:

- Students design, implement and evaluate effective and usable graphical computer interfaces.
- Students describe and apply core theories, models and methodologies from the field of human computer interaction.
- Students use a development methodology and a toolkit to prototype/implement user interfaces

Major Topics

Introduction to human computer interaction (HCI); user interface development; importance of good interfaces; usability; interaction models and dialog types for interfaces; user interface life-cycle; user-centered design and task-analysis; prototyping and the iterative design cycle; prototyping tools and environments; user interface implementation; and interface quality and methods of evaluation.

Learning Outcomes

At the completion of this course, the student is expected to:

- understand how human computer interface (HCI) relates to other aspects of software engineering. (Student Outcome(s) 5-a / IT-3)
- understand basic human and machine factors that influence the development of interactive computing systems. (Student Outcome(s) 2-a / IT-1b)
- gain basic skills and knowledge for user interface design. (IT Outcome(s) 1-a)
- acquire skills in integrating HCI into the system development life-cycle (analysis, design, implementation, evaluation). (Student Outcome(s) 5-a / IT-3)
- develop an appreciation for user-centered design. (IT-3)
- learn at least one development methodology and one toolkit for prototyping/implementing user interfaces. (Student Outcome(s) 5-c)
- gain awareness of other tools and methods available. (Student Outcome(s) 5-a)
- develop at least one user interface. (IT-3)

Academic Integrity Policy

Any violation of the terms and conditions under which work is assigned—in particular, excessive and/or unauthorized collaboration with other students ("cheating")—will be penalized according to the instructor's discretion. These penalties may include, but are not limited to, reduced credit on an individual assignment; a mark of 0 on an individual assignment; or a mark of failing for the semester, depending on the instructor's assessment of the severity of the problem.

Major Assignments

This class's objectives will be met through the following types of assignments:

- assigned readings from the text and supporting online resources
- homework (4) assignments
- quizzes (9) and exams (2) to assess students' understanding of the material

Grade Assignment

The grade will be calculated using:

40% homework- ~75% writing

20% quizzes ~50% writing

20% midterm ~30% writing

20% final ~30% writing

Grading Scale

Percentage	Letter
93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
60-66	D
0-59	F

Attendance Policy

Attendance at lecture, while not required, is strongly recommended. Class participation is encouraged, but is not a course requirement. There is no direct penalty for missing class, but quizzes may be unannounced.

Late Work Policy

Homework will be accepted late, with -10 points per business day, up to a 50 point reduction. From that point, it will be accepted at any time for 50% credit. The midterm and final cannot be made-up unless the instructor is notified prior to the test or the student can provide documentation of an emergency situation.

Recommended Textbook

Interaction Design by J. Preece, Y. Rogers, and H. Sharp © Wiley 2011

Tentative Schedule

Class	Date	Topics	Reading	In-class	Homework Due
1	Jan 12	Introduction	Preece 1		
2	Jan 19	Cognition	Preece 3	Q1 (1/2 page writing), Memory	
3	Jan 26	Visual Design	Preece 7	Q2 (1/2 page writing), Redesign	
4	Feb 2	User Research	Preece 10, Beyer 3	Q3 (1/2 page writing), Interview	
5	Feb 9	Prototyping	Preece 11	Q4 (1/2 page writing), Prototyping	HW1 - Field Interview (2 p writing)
6	Feb 16	Expert Reviews	Preece 15	Q5 (1/2 page writing), Cog. Walkthrough	
7	Feb 23	Midterm	-	Review and Midterm (3 pages writing)	HW2 - Prototype
8	Mar 1	User Testing	Preece 8	Q6 (1/2 page writing), Peer Heuristics	
10	Mar 15	User Testing	-	Library User Tests	HW3a - Heuristic (1 st half – 5p writing)
11	Mar 22	Accessibility	-	Q7 (1/2 page writing), Jaws demo	
12	Apr 29	Special Topics	Preece 9	Q8 (1/2 page writing)	HW3b – Heuristic (2 nd half – 5p writing)
13	Apr 5	Class Project	-	Q9 (1/2 page writing), Site Review, Tasks	
14	Apr 12	Class Project	-	Testing	HW4 - User Test (4p writing)
15	Apr 19	Class Project	-	Testing	
16	Apr 26	Review	-	5927 Presentations, Review	
17	May 3?	Final	-	Final (3 pages writing)	