COMM 440/ 640
Advanced Human-Computer Interaction Design

Teaching staff
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   Office hours: by appointment

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   Office hours: Thursday, 11:30-1:00, and by appointment

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   Office hours: by appointment

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   Phone: 5-5530
   Office hours: by appointment

Times and Locations
Lecture: Tuesday, 10:10 – 11:25, 211 Kennedy
Small group discussions: Thursday, 10:10 – 11:25
   Undergraduate students – large conference room, in IS building, 301 College Ave.
   Graduate students – 461 Mann Library

Course Overview
The objective of this upper-level and graduate course in advanced human-computer interaction design is to further develop in-depth skills in HCI research and design. This class will be project-oriented, and you will be working in small groups for much of the semester.

The course will be structured around a Tuesday lecture that includes undergraduates and graduates, and a Thursday session dedicated to small-group labs and research activities for undergraduates. For graduate students, the Thursdays will serve as seminar discussion and each graduate student will be responsible for leading discussion for one or two sessions during the course of the semester.

Course Learning Objectives
- To develop an advanced understanding of the principles and concepts in the study of human-computer interaction design and research
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- To enhance your skills as a researcher and author by developing a research project that will be submitted for public dissemination. Undergraduates will develop a project for exhibition at BOOM and graduate students will prepare a paper for submission to DIS, CHI, or CSCW conferences.

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**Required readings**  
All readings will be available on electronic course reserve and Blackboard.

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**Course Website**  
Announcements, course information, assignments, and links to external sources will be posted on the course website via blackboard (http://blackboard.cornell.edu). It is your responsibility to check the Blackboard website regularly.

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**Course Grading:**  
Course grades will be based on the following distribution:

- Participation and Attendance: 10%
- Graduates only: Leading discussion on selected readings and paper critique: 10%
  - Undergraduates: Weekly assignments: 10%
- Project proposal: 15%
- Progress report: 15%
- Final Presentation: 10%
- Final submission to BOOM (undergraduates) or DIS (graduates): 40%

*Participation and Attendance (10%):*

Class Attendance - On-time class attendance is required. Please e-mail the TAs if you are unable to attend class. Absences without satisfactory explanation will result in reduction of the participation portion of your grade.

Class Discussions - You are expected to complete all required readings before each class discussion. Active participation in class discussions is expected and will be reflected in your participation grade.

*Grads only: Leading a discussion on selected readings and paper critique (10%):*

During the course of the semester, each graduate student will be responsible for leading one or two seminar session on Thursday meetings. In the seminar, the students will present selected readings of the current week topic, and lead a
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discussion based on these readings. You are expected to clearly summarize the readings, introduce few questions for discussion, and moderate the discussion around those questions.

At one time you will be required to write a discussion paper responding to a given article. The discussion should go beyond a mere summary of the paper. For instance, you might discuss some weaknesses in the paper, and suggest alternative approaches; formulate different hypotheses than the paper and suggest experiments that could be used to validate the hypotheses; discuss related work from a different field that the authors were not aware of, or a potential application of the work to a different field.

**Undergrads only: Weekly assignments (10%):**

Short assignments will be handed out on a weekly basis on Tuesdays, to be submitted on Thursday of the same week. In these 1-page assignments you will summarize or reflect on the topic studied during that week.

**Project Proposal (15%):**

In order to ensure your success in completing your final submission, your team will be developing your group’s research or design proposal. The proposal should define your group’s plan to design and/or evaluate a technology.

The project proposal should include
1) A brief review of relevant literature and existing study as it relates to your group’s research topic,
2) An explicit description of the contribution and benefits of the proposed project to the HCI community,
3) A project plan, including a **timeline with major milestones** for completing your project in time for the conference and class deadlines, and
4) Graduate students only: a Human Subjects application.

The research proposal is due to the instructors on **Tuesday, October 4**.

**Progress Report (15%):**

Halfway through the project work, you team will be reporting on the steps you have accomplished in your project, as well as parts that have yet been completed.

The progress report should include
1) A thorough literature review, possibly in the form of an introduction section to a paper,
2) For design projects, an early prototype that will present the concept of your design, and
3) A description of the projects components that have been completed, and of the components that still require working on, with a plan on how to fulfill them.

The progress report is due to the instructors on Thursday, October 27.

Final Presentation (10%)

The last week of the semester will be dedicated to presenting the projects that were developed during the semester. You will present to the class and the instructors the work you have completed and be expected to answer questions from the audience.

Final Project Submission (40%):

40% of your grade will be the quality of the submission that you produce for BOOM or DIS/CHI.

FOR GRADUATE STUDENTS

Monday, December 5: Abstract and paper to the instructors for review and feedback. Your paper will adhere to the submission guidelines for DIS 2006 or CHI 2006. You will receive feedback in two days.

Thursday, 15 December: After completing any necessary revisions based on the instructors’ review, you will be responsible for submitting the final paper to DIS by its deadline of Thursday, December 15. Papers should be prepared in accordance with the conference submission guidelines. You are encouraged to request reviews from additional scholars, e.g. your advisors.

FOR UNDERGRADUATES

Monday, December 5: Your final project will be submitted to the instructors and shall include:
1) A final writeup in the format of a research paper,
2) A website with the project abstract, and
3) A scholarly poster for display. If applicable, a demo of your project will be exhibited as well.

You will receive feedback for the website and poster within a week. You will be responsible for submitting the final project to BOOM2006 according to the published deadlines and submission instructions.
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### Weekly Schedule

Note: Readings are subject to change. Please consult Blackboard for the most up-to-date assignments.

<table>
<thead>
<tr>
<th>Wk</th>
<th>Tuesdays</th>
<th>Thursdays</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td>Aug 25</td>
</tr>
<tr>
<td></td>
<td>Topic: Course overview/History of interaction</td>
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<tr>
<td></td>
<td>Readings: 1. Course Syllabus</td>
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<td>2</td>
<td>Aug 30</td>
<td>Sept 1</td>
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<tr>
<td></td>
<td>Topic: Iterative design</td>
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</tbody>
</table>
|     | Undergraduates  
- Receive group assignments  
- Brainstorm topics for project |   |
|     | Graduate student seminar  
- Focus on DIS  
- Bring one article from previous DIS / CHI / CSCW proceedings for discussion. |   |

**Due:** Background questionnaire

Reading:
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic:</th>
<th>Readings</th>
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</thead>
</table>
| Sept 8 | Undergraduates  
- Decide on Project  
- Begin general work plan  
Graduate student seminar  
| Sept 15 | Topic: Elaboration of HCI Theories | Undergraduates  
- Discuss Theories  
- Project team work  
Graduate student seminar  
Readings:  
<table>
<thead>
<tr>
<th>Topic: Theories of HCI, Part 2</th>
<th>Sept 20</th>
<th>Topic: Elaboration of HCI Theories</th>
<th>Sept 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readings: Required:</td>
<td></td>
<td>Due: Human Subjects test</td>
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<tr>
<td>Required:</td>
<td></td>
<td>Undergraduates</td>
<td></td>
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<tr>
<td>1. Preece, J. (2000) Online Communities, ch. 5-6.</td>
<td></td>
<td>- Discuss Theories</td>
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</tr>
<tr>
<td>Choose 1 of 3:</td>
<td></td>
<td>- Project team work</td>
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<tr>
<td>Topic: Social Networks</td>
<td>Sept 27</td>
<td>Topic: Social Networks</td>
<td>Sept 29</td>
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<td></td>
<td></td>
<td>- Implications for HCI</td>
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<td>Graduate student seminar:</td>
<td></td>
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Oct 4

Topic:
Social Informatics and Social Navigation as a Philosophy of Design

Due: Research Proposal and Human Subjects Application for graduate students.

Readings

Oct 6

Topic:
Social Informatics and Social Navigation

Undergraduates
- Recommender system analysis
Note: meeting at Stone computer classroom at Mann Library

Graduate student seminar

Oct 11

Fall Break

Oct 13

Topic:
Guest speaker: TBA
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic:</th>
<th>Readings:</th>
<th>Date</th>
<th>Topic:</th>
<th>Readings:</th>
</tr>
</thead>
</table>
- Website design analysis  
Note: meeting at Stone computer classroom at Mann Library |
| | | Optional readings: | | Graduate student seminar | Readings:  
Choose 2 out of 3:  
Undergraduates:  
- Questionnaire design  
Graduate Student seminar | Readings:  
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
</tr>
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<tbody>
<tr>
<td>Nov 1</td>
<td>Research and evaluation, part 2</td>
<td>Readings:</td>
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<td>Optional reading:</td>
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<td>Additional resource possibly relevant to group projects:</td>
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<tr>
<td>Nov 3</td>
<td>Evaluation</td>
<td>Undergraduates: Field research techniques</td>
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<td></td>
<td>Graduate Student seminar</td>
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<td>Readings:</td>
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<tr>
<td>Nov 8</td>
<td>CSCW – Computer Supported Cooperative Work</td>
<td>Undergraduates: Analyze project group collaboration and use of technology</td>
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<td>Graduate student seminar</td>
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<td></td>
<td></td>
<td>Readings (2):</td>
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<tr>
<td>Nov 10</td>
<td>CSCW</td>
<td>Undergraduates: Analyze project group collaboration and use of technology</td>
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<td>Graduate student seminar</td>
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<tr>
<td>Date</td>
<td>Topic:</td>
<td>Readings (choose 2 of 3):</td>
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<tr>
<td>13 Nov 22</td>
<td>Future directions and wrap-up</td>
<td>TBD</td>
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<tr>
<td>14 Nov 29</td>
<td>Project Presentations I</td>
<td>Project Presentations II</td>
</tr>
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**12 Nov 15**
**Topic:** Context-aware and mobile computing

**Readings (choose 2 of 3):**

**13 Nov 22**
**Topic:** Future directions and wrap-up

**Readings:** TBD

**14 Nov 29**
**Project Presentations I**

**12 Nov 17**
**Topic:** Context and Ubiquitous Computing

**Field trip to the Johnson Museum of Art**

**Graduate student paper critique (choose 1 of 2):**

**13 Nov 22**
**Topic:** Future directions and wrap-up

**Readings:** TBD

**14 Nov 29**
**Project Presentations I**

**15 Nov 29**
**Project Presentations II**

**Final deadlines:**

**Monday, Dec 5:**
Undergraduates: Final project submission
Graduates: Paper submission for review

**Thursday, Dec 15:**
Graduates: Final paper submission due to DIS and instructors