CS 352 – Introduction to Usability Engineering

Catalog Description: Basic principles of usability engineering methods for the design and evaluation of software systems. Includes the study of human-machine interactions, user interface characteristics and design strategies, software evaluation methods, and related guidelines and standards.

Credits: 4  Terms Offered:   On-campus:  Winter  
          Ecampus:  All  

Prerequisites:  CS 151 or ECE 151 or CS 161 or CS 165 or CS 295  

Courses that require this as a prerequisite:  None  

On-campus: Two 80-minute lectures per week.  
Note: Due to extensive programming assignments, this course has an implied, non-scheduled lab. The lab takes place in an EECS computer lab at various times, and is not part of the official course schedule. TAs are available to help the students with programming assignments at times announced in the syllabus.

Ecampus: Term totals: This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits (30 hours of online instruction, 10 hours of online participation, 2 hours of online quizzes, 30 hours of offline reading/study, 15 hours of offline homework/lab assignments, 30 hours of offline programming projects, and 3 hours of proctored exams).

Instructors: TBD  

Course Content:
- Requirements gathering and interpretation  
- Prototyping and iterative design  
- Usability testing methods, and legal and ethical requirements  
- Evolution of Interfaces  

Learning Resources: One or more of the following:
- Class slides (posted on class webpage)  
- The Design of Everyday Things by Norman (optional)  
- Steve Krug’s demo (pertains to both interviewing and prototype evaluation).  
- Example: An empirical study by some researchers in EECS. This one is an animation contest.
Nielsen’s heuristics for Heuristic Evaluation

Measurable Student Learning Outcomes:
At the completion of the course, students will be able to…

1. **Describe** the human centered design process and usability engineering process and their roles in system design and development. (ABET Outcomes: b, e, g)
2. **Discuss** usability design guidelines, their foundations, assumptions, advantages, and weaknesses. (ABET Outcomes: a, i)
3. **Describe** basics of human subjects research. (ABET Outcomes: e, g, m)
4. **Complete** a basic human subjects research certification form. (ABET Outcomes: e, g)
5. **Design** a user interface based on analysis of human needs and prepare a prototype system. (ABET Outcomes: a, B, d, f, I, N, K)
6. **Assess** user interfaces using different usability engineering techniques. (ABET Outcomes: C, d, f, i)
7. Make an **oral presentation** that justifies design decisions. (ABET Outcomes: c, f, J)

Evaluation of Student Learning:
- Participation: 3%
- Assignments and quizzes: 15%
- Midterm: 25%
- Final exam: 30%
- Project: 27%. This comes from:
  - Proposal: 10%
  - Description of your users and their tasks: 20%
  - Prototype: 20%
  - Evaluation plan: 20%
  - Evaluation: 20%
  - Presentation: 10%

Students with Disabilities:
Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Link to Statement of Expectations for Student Conduct, i.e., cheating policies [http://oregonstate.edu/admin/stucon/achon.htm](http://oregonstate.edu/admin/stucon/achon.htm)

Revised: 7/12/2012