

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

Prerequisites: CS 161 or CS 295 or CS 151 or ECE 151
Enforced prerequisites must have a C or higher grade.

Courses that require this as a prerequisite: None

Structure: Three 50-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.

Instructors: Carlos Jensen

Course Content:

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

Learning Resources:

- *Interaction Design* by Sharp, Rogers & Preece, 2nd Edition, 2007 (required)
- Class slides (posted on class webpage)
- *The Design of Everyday Things* by Norman (optional)
- “Realism in UI Design”, Ignore the Code, by Lukas Mathis, http://ignorethecode.net/blog/2010/01/21/realism_in_ui_design/, January 21, 2010
- Interface Hall of Shame, Isys Information Architects: Making Information usable, <http://homepage.mac.com/bradster/iarchitect/shame.htm>, February 5, 2010
- CogTool, <http://cogtool.hcii.cs.cmu.edu>, February 5, 2010
- [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)
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, 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)

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>