Syllabus for CS352: Introduction to Usability Engineering

- **Credits:** 4
- **Instructor’s name:** Amir Azarbakht
- **Instructor’s email and/or phone:** azarbaka@oregonstate.edu
- **T.A. contact information:**
  - Anahita Sanandaji <sanandaa@oregonstate.edu>
  - Dilruba Showkat <showkatd@oregonstate.edu>
  - Ayda Mannan <mannanu@oregonstate.edu>
- **Office Hours:** By appointment only, over Google Hangouts at cs352su16@gmail.com
- **OSU catalog course 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.
- **Prerequisites:** CS 161 or CS 295 or CS 151 or ECE 151

**Course overview**

**Overall goals:** This class will give you hands-on experience with usability evaluation and user-centered design. In this class you will not learn how to implement user interfaces, but rather how to design these based on the needs of users, which you will determine, and learn how to evaluate your designs rigorously. This is a class for those who wish to know more about usability, human-computer interaction, the psychological aspects of computing, evaluation, and/or experimentation.

**Your project:** Much of your work will be done collaboratively (online) on group projects (~4 person groups). A significant portion of your grade will be based on that team project, where you will propose, prototype (using a special prototyping tool called "myBalsamiq"), and evaluate your own solutions. There will be no programming: everything you need to prototype will be done using myBalsamiq.

**Readings:** It is best to do the reading before viewing the lectures. I may not go over all the reading material in the lectures, preferring to spend that time elaborating or discussing that material’s implications or usage. This does not mean the assigned reading is not important, or will not be covered in a test.

**Online discussions:** I expect to see a healthy class discussion over every topic. Participation in online discussion will count towards your final grade. Most of the class discussion is via our Piazza website: https://piazza.com/oregonstate/summer2016/cs352

**Canvas:** This course will be delivered via Canvas, your online learning community, where you will interact with your classmates and with me. Within the course Canvas site you will access the learning materials, tutorials, and syllabus; submit assignments; take quizzes; email other students and the instructor; and display your projects. To preview how an online course works, visit the Ecampus Course Demo. For technical assistance, Canvas and otherwise, see: http://ecampus.oregonstate.edu/services/technical-help.htm.
Learning objectives

At the completion of this 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.
2. Discuss usability design guidelines, their foundations, assumptions, advantages, and weaknesses.
3. Describe basics of human subjects research.
4. Complete a basic human subjects research certification form.
5. Design a user interface based on analysis of human needs and prepare a prototype system.
6. Assess user interfaces using different usability engineering techniques.
7. Make an oral presentation that justifies design decisions.

Course Schedule & Topics

Instructions: For each unit, do the readings for that week first, then the rest of the items according to the numbering. Most assignments are due Sundays. Assignments due Tuesday are shaded. Quizzes are due Sunday for the simplicity of deadlines but we recommend you start them Fridays.

Example:

- In Week 1, do the readings (according to the Weekly Reading Schedule)
- Do Unit 2.1 (View the lecture)
- Hand in Unit 2.2 (Do the activity)
- In Week 2, do additional readings for Unit 2
- Do Unit 2.3 (Take the Quiz)
- Do Unit 2.4 (View the lecture), and so on.

For due dates, refer to Canvas:
(Canvas -> Calendar)

For a list of required readings, refer to Canvas:
(Canvas -> Modules -> Week X -> Week X Overview)

Grading/Evaluation

This course requires that you take one exam under the supervision of an approved proctor. Proctoring guidelines and registration for proctored exams are available online through the Ecampus testing and proctoring website. It is important to submit your proctoring request as early as possible to avoid delays.
The grading scale for this class is demonstrated in the below table. Some assignments or exams might be curved, at the discretion of the instructor. At the end of the term, some borderline scores may also be adjusted due to participation quality.

<table>
<thead>
<tr>
<th>Area</th>
<th>% of your grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation (quality of participation in discussions &amp; interactions)</td>
<td>5%</td>
</tr>
<tr>
<td>Assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam (proctored)</td>
<td>35%</td>
</tr>
<tr>
<td>Project. This score is shared by the team and comes from:</td>
<td>30%</td>
</tr>
<tr>
<td>Proposal</td>
<td>4%</td>
</tr>
<tr>
<td>Formative research into your users and their tasks</td>
<td>6%</td>
</tr>
<tr>
<td>Prototype</td>
<td>8%</td>
</tr>
<tr>
<td>Evaluation Plan</td>
<td>4%</td>
</tr>
<tr>
<td>Evaluation</td>
<td>6%</td>
</tr>
<tr>
<td>Peer &amp; Self Evaluation</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Grade %**

<table>
<thead>
<tr>
<th>Grade</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 or greater</td>
</tr>
<tr>
<td>A-</td>
<td>90 - 92</td>
</tr>
<tr>
<td>B+</td>
<td>87 - 89</td>
</tr>
<tr>
<td>B</td>
<td>83 - 86</td>
</tr>
<tr>
<td>B-</td>
<td>80 - 82</td>
</tr>
<tr>
<td>C+</td>
<td>77 - 79</td>
</tr>
<tr>
<td>C</td>
<td>73 - 76</td>
</tr>
<tr>
<td>C-</td>
<td>70 - 72</td>
</tr>
<tr>
<td>D+</td>
<td>67 - 69</td>
</tr>
<tr>
<td>D</td>
<td>63 - 66</td>
</tr>
<tr>
<td>D-</td>
<td>60 - 62</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
</tr>
</tbody>
</table>

**Note:** Inordinately low or high participation in team projects will also cause grade adjustment. This will be determined by peer estimates of how much everyone on the team contributed to the project, and based on the student’s activity in the class.

**Specific Grading Policies**

- Online quizzes do not have time limits. The quizzes are intended to cover reading materials in the class. They are all multiple-choice questions.
- Final is proctored exam containing short answer questions. You are allowed to use a Word processor to compose your answers before transferring them to Canvas. While they do have a time limit, it is not intended to be a stress factor. Based on prior experience with the class, the time limit is set at twice amount of time that you would normally need.
• Electronic gadgets are not allowed during the exams. It's closed book, however, you can bring one double sided 3x5 note with you for the final exam. You will have 110 minutes for the final.

Learning resources

• The textbooks will be:

• myBalsamiq prototyping tool (available online, instructor will send invitations in week 3).
• Online lectures, demos, and web locations (all free)

NOTE to prospective students: Please check with the OSU Bookstore for up-to-date DVD, course packet, and textbook information for the term you enroll (http://osubeaverstore.com/ or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Course Policies

• Late Assignments: Plan ahead of time to avoid turning anything in late. Your assignments will receive a 20% deduction in points for each day they are late for up to 3 days. We will accept late work up to 5 days after the due date, but no later.
  o Example: The assignment is 10 points and is due on Sunday. You did a great job and would have gotten 10 points. If you turn it in on Monday, you receive 8 points. Tuesday, 6 points. Anytime between Wednesday and Friday, 4 points. On Saturday or any day after that, the assignment would not be accepted.

• Exam Policies: Preparing makeup exams requires a significant effort on the part of the instructor. Consequently, no makeup exams will be given; however, important excused absences, if arranged in advance, can cause an exam to be entirely waived. Waiving of exams will generally not be given after the absence has occurred, except under very unusual circumstances. Any requests for reconsidering/regrading an exam must be made within 3 class days of the day the exam is returned. Final exam is closed book, however, you can bring one double sided 3x5 note for the final.

• Incompletes: Take this course only if you can commit to finishing it this term. I assign an "I" or incomplete only when there is a strong and compelling case for doing so (e.g., health reasons, military commitment). If you are having any difficulty that might prevent you completing the coursework on time, please don’t wait until the end of the term; let me know right away.
Statement Regarding 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 541-737-4098.

Expectations for Student Conduct

Student conduct: In an academic community, students and faculty, and staff each have responsibility for maintaining an appropriate learning environment, whether online (e.g., on discussion boards, email postings) or in the classroom. Students, faculty, and staff have the responsibility to treat each other with understanding, dignity and respect, and refrain from harassing behavior, personal insults, and/or inappropriate language.

Disruption of teaching, administration, research, and other institutional activities is prohibited by Oregon Administrative Rule 576-015-0015 (1) and (2) and is subject to sanctions under university policies, OSU Office of Student Conduct. Student conduct, as governed by the university’s policies, is explained in the Office of Student Conduct: information and regulations.

Academic Integrity: Students are expected to comply with all regulations pertaining to academic honesty, defined as: An intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work. For further information, visit Avoiding Academic Dishonesty, or contact the office of Student Conduct and Mediation at 541-737-3656.

Ground Rules for Online Communication & Participation:

- **Tone:** Online threaded discussions are public messages, and writings in this area will be viewable by the entire class or assigned group members, so think through your posts. If you prefer that only the instructor sees your communication, send it to me by email, and be sure to identify yourself and the class.
- "Netiquette": All your online communications need to be composed with fairness, honesty and tact. Spelling and grammar are very important in an online course. What you put into an online course reflects on your level of professionalism. Here are a couple of references that discuss
  - Guidelines for our online classroom:
    - The discussion board is your space to interact with your colleagues related to current topics or responses to your colleague’s statements. It is expected that each student will participate in a mature and respectful fashion.
• Respect your peers’ thoughts and opinions; ask clarifying questions when appropriate and value your peers’ different knowledge that they’re bringing to the class.

• Value the diversity of the class.

• Disagree with ideas constructively (e.g., “have you thought about how your UI supports a variety of age groups?”), but do not make personal attacks.

• Do not demean or embarrass others.

• Do not make sexist, racist, homophobic, or victim-blaming comments.

• Be open to be constructively challenged or disagreed with on your ideas or prejudices. Listening to constructive criticism usually makes your ideas, projects, and ultimately your grades, better than they would be otherwise.

• Posting of personal contact information is discouraged (e.g. telephone numbers, address, personal website address).

• Please check the Announcements area and the course syllabus before you ask general course "housekeeping" questions (i.e. how do I submit assignment 3?). If you don't see your answer there, then please contact me.

• **Online Instructor Response Policy:** I will check email frequently and will respond to course-related questions within 48 hours.

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**Student Assistance**

• **Technical Assistance:** If you experience computer difficulties, need help downloading a browser or plug-in, assistance logging into the course, or if you experience any errors or problems while in your online course, contact the OSU Help Desk for assistance. You can call (541) 737-3474, email [osuhelpdesk@oregonstate.edu](mailto:osuhelpdesk@oregonstate.edu) or visit the [OSU Computer Helpdesk](http://www.computers.oregonstate.edu) online.